# *Ockham's Conception of Logic as a Rational Science*

## *An Inferentialist Interpretation*

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# *Ockham's Conception of Logic as a Rational Science: An Inferentialist Interpretation*

## Thesis Abstract

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This thesis is a detailed examination of the logico-semantic system propounded by the English philosopher and theologian William of Ockham (c.1287 – c.1347). It provides a reinterpretation of Ockham's account of mental content and mental-language semantics, as well as of his theory of consequential goodness. It does so from the standpoint of an inferentialist theory of meaning, in rejection of previous attempts made from the standpoint of internalist and externalist theories of mental content.

Chapter 1 ('The Scientific Status of Logic') provides an account of Ockham's understanding of logic as a rational, practical, ostensive science. Chapter 2 ('The Received Interpretation') presents and casts doubt upon the arguments put forward by the defenders of both externalist and internalist construals of Ockham's semantic theory. Chapter 3 ('An Inferentialist Construal') presents the central tenets of a inferentialist theory of meaning. In order to show how Ockham's system can be understood within such a semantic paradigm, we will have to set out at least three things. First, Chapter 4 ('Ockham's Propositionalism') argues that the mature Ockham actually embraced a propositionalist theory of meaning. Second, Chapter 5 ('Obligationes and the Normativity of Asserting') seeks to prove that such a theory of meaning can only be properly understood against the normative background provided by his theory of *obligationes*. Finally, Chapter 6 ('Consequences') argues that Ockham's theory of consequential goodness is materialist, not formalist. That is to say, that the goodness of a certain kind of consequence ultimately depends upon the meaning of its propositional parts, rather than upon its structure. It is then shown that all remaining kinds of consequences (syllogisms included) are to understood with respect to these material inferences.

The main sources of this research are Ockham's *Ordinatio*, his *Summa logicae*, and his *Quodlibeta septem*. As regards the inferentialist theory of meaning, Robert Brandom's *Making it Explicit* (1994) and Wilfrid Sellars 'Inference and Meaning' (1953) were essential to this research.

Key-words: William of Ockham, logic, semantics, consequence, inference, inferentialism, normativity, obligationes.

*To Lucas and Ofelia, in spite of whom,*
*but mostly because of whom,*
*this work has finally seen light.*

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*Scholasticos agnosco abundare ineptiis;*

*sed aurum est in illo coeno.*

— G.W. Leibniz

# A NOTE ON THE CITED TEXTS

All translations from the Latin are mine unless explicitly stated in each case. As medieval authors did not use emphatic italics or any equivalent expedient, please assume that all such type variations are mine. Emphatic italics used by modern authors will be respected as in the original texts, unless explicitly stated in each case also.

# ABBREVIATIONS

## Works by Ockham

| | | |
|---|---|---|
| *OPh* | *Opera philosophica* | William of Ockham 1974–88 |
| *OPol* | *Opera politica* | William of Ockham 1956–97 |
| *OTh* | *Opera theologica* | William of Ockham 1967–87 |
| *Brev. Phys.* | *Brevis summa libri Physicorum* | *OPh* VI: 2–134 |
| *Exp. Elench.* | *Expositio super libros Elenchorum* | *OPh* III |
| *Exp. Perih.* | *Expositio in librum Perihermeias Aristotelis* | *OPh* II: 341–504 |
| *Exp. Porph.* | *Expositio in libros artis logicae, prooemium et expositio in librum Porphyrii de Praedicabilibus* | *OPh* II: 3–131 |
| *Exp. Praed.* | *Expositio in Librum Praedicamentorum Aristotelis* | *OPh* II: 135–339 |
| *Exp. Phys.* | *Expositio in Libros Physicorum Aristotelis* | *OPh* IV–V |
| *OND* | *Opus nonaginta dierum* | *OPol* I: 292–368, *OPol* II |
| *Ord.* | *Ordinatio* | *OTh* I–IV |
| *Phil. Nat.* | *Summula philosophiae naturalis* | *OPh* VI: 135–394 |
| *Praedest.* | *Tratatus de praedestinatione et de praescentia dei respectu futurorum contingentium* | *OPh* II: 507–39 |
| *Quodl.* | *Quodlibeta septem* | *OTh* IX |
| *Quaest. Phys.* | *Quaestiones in libros Physicorum Aristotelis* | *OPh* VI: 397–813 |
| *Quaest. Var.* | *Quaestiones variae* | *OTh* VIII |
| *Rep.* | *Reportatio* | *OTh* V–VII |
| *SL* | *Summa logicae* | *OPh* I |
| *TCB* | *Tractatus contra Benedictum* | *OPol* III: 165–322 |
| *TDC* | *Tractatus de corpore Christi* | *OTh* X: 87–234 |
| *TDQ* | *Tratatus de quantitate* | *OTh* X: 1–85 |

## Works by Other Authors

| | | |
|---|---|---|
| *AR* | *Articulating Reasons: An Introduction to Inferentialism* | Brandom 2000 |
| *MIE* | *Making it Explicit: Reasoning, Representing, and Discursive Commitment* | Brandom 1994b |

# INTRODUCTION

William of Ockham (c.1287 – c.1347), the *Venerabilis Inceptor*, enjoys the felicity of being one of the more widely known and discussed 14th-century philosophers nowadays. All of his theological and philosophical writings, as well as most of his political writings, have been edited using the highest standards of textual criticism. Moreover, many modern-day translations of his works, of relatively good quality, are actively being produced and are of easy access to the layperson; not to mention the overwhelming amount of secondary literature, ranging from high-quality, specialised publications—such as Adam's epoch-making, two-volume *William Ockham* (1987) and Panaccio's imposing *Ockham on Concepts* (2004)—to informative and general-public material—such as Spade's *Cambridge Companion* (1999) and Keele's *Ockham Explained* (2010), to name but a few.

However, even against the background of the accumulated and recently divulged knowledge and "information" concerning Ockham's life and intellectual stance, much is still uncertain; and, what is worse, much which is inaccurate is actually propounded as proven and firm. The present thesis can therefore be conceived of as a straightforward reaction against two of such ideas held by renowned Ockham scholars today.

According to the first idea, Ockham's philosophical enterprise can and ought to be understood independently from his theological stance. As one scholar has put it, Ockham's philosophy is proved 'rich and even stimulat-

ing' when separated from and expunged of his theological musings.[2] This hermeneutic motif finds different expressions and manifestations within the specialist community, ranging from scholars who shortsightedly focus on one sole aspect of Ockham's production—e.g. Part I of the *Summa logicae*, as P.V. Spade arguably did—to scholars who flatly disregard Ockham's theological interests and preocupations—as C. Panaccio has also done.

The second idea we want to reject here is less methodologically concerned, and more akin to the actual subject-matter of the present work. According to it, Ockham's semantic theory—his account of the *proprietates terminorum*—ought to be construed as theoretically prior and, to some extent, as independent of his theory of inferences.[3] This point of view stems from the contemporary contention which deems the semantics/logic dichotomy an absolute one.

We will accordingly claim, first, that Ockham's philosophy cannot be properly understood when his theology has been cut off and theoretically disregarded. And second, that the semantics/logic dichotomy is ill-founded and should be accordingly abandoned, and—what is more important to us—that Ockham himself had a definite and explicit stance *against* it. Thus we propose to read Ockham as conceiving of the theory of meaning and the theory of inference as essentially intermingled, in a very special sense.

Yet we will not rehearse here the bottom-up *semantic* explanation, according to which, since the theory of the properties of terms is the basis of the theory of the properties of propositions, and the latter in turn is the basis of

2. See Panaccio 1992: 21, cited in our n.99, p.81, below.
3. See e.g. Spade 2000a: xxi: 'More than one modern researcher, for instance, has tried to find in Ockham's purely logical views a theoretical foundation for his denial of universals in metaphysics. But once it is realized that Walter Burley, who was anything but a nominalist, held many of the same views, that he was one of the major contributors to formulating them, and that in some cases he was Ockham's direct source for those views, it becomes clear that the story needs to be rethought.'

the theory of consequences, it follows that logic and semantics are thus constructively related. As it will become clear, we find such an approach ill-suited to Ockham's purposes.

## Thesis Outline

We will begin, in Chapter 1, by expounding and discussing in as greater detail as possible Ockham's conception of logic as a *scientia rationalis practica ostensiva*. In doing so, we will first explain Ockham's general account of a *scientia*, both in the simple sense of a single veridical mental *habitus* with some special features, and in the aggregate sense of a well-ordered, structured collection of such *habitūs*. We will then notice how Ockham's construal of the second sense of '*scientia*'—described by him as being the most typical sense of the word, as held also by Aristotle and others—is the upshot of his consistent rejection of the realists' containment theory of science (as well as of truth and of causation), according to which the proper subject (the *subiectum de quo*) of a science virtually (intensionally, really, or otherwise) contains in itself the whole host of the science's *passiones*. We will thereby be able to grasp Ockham's rationale for distinguishing between rational and real sciences, between speculative and practical sciences, and amongst these latter ones, between prescriptive (*dictativae*) and ostensive sciences. And this will ultimately allows us to account for the possibility and specificity of the science of logic.

Having thus envisaged, at least from a structural vantage point, the whole enterprise of Ockham's logical system, we will proceed to discuss what has been taken to be his semantic theory, which, as we said, has been disastrously sectioned from his logical theory. We will argue in Chapter 2 that, as regards the proper interpretation of Ockham's views, the bottom-up semantic approach is doomed to failure from the very outset. The main reason is that

Ockham's theory of signification, construed under either internalist or externalist tenets, cannot provide a positive answer to the problem of the indeterminacy (or underdeterminacy) of reference of intuitive and abstractive cognitions, and thus of the ensuing semantic categories. We will claim that none of the current interpretations of Ockham's semantics, even the exacting and careful externalist proposal of Panaccio, do justice to the *Venerabilis Inceptor's* systematic intentions.

Our proposal, as expounded in detail in Chapters 3 through 6, is to reject the bottom-up semantic approach, ultimately founded upon an unsound account of mental-content representation, and to embrace instead a top-down *logico-semantic* approach like the one eminently propounded by Robert Brandom and the inferentialist semantic school. Put bluntly, the key tenet of this inferentialist, normative semantic theory is that meaning is nothing more, but also nothing less, than the inferential relations obtaining between normatively framed claim-makings. The reason is that in performing the very act of making a claim, one is thereby undertaking a commitment both to provide the reasons for it (the so-called 'circumstances of application') and to embrace all of its possible outcomes (the 'consequences of application'). We will describe Brandom's inferentialism in Chapter 3, while the remaining part of the thesis is devoted to deploying our inferentialist construal of Ockham's logico-semantic system.

Since inferential relation obtain mainly between propositional units, as they are the minimal unit of information one can undertake a normative attitude to, we will offer in Chapter 4 a propositional interpretation of Ockham's semantics, as opposed to the prevailing atomist construal. To be sure, other scholars have previously advanced such a propositionalist reading, but have failed in the following respect—that whereas they embraced a propo-

sitionalist account of *meaning*, they nonetheless subscribed themselves to an atomist account of *cognition*. As Panaccio has persuasively argued, one cannot be a semantic propositionalist while propounding an epistemic atomism, at least under the strict constraints imposed by Ockham's nominalist stance. Yet instead of embracing a relatively consistent, systematic atomism, we will commit ourselves to construing Ockham as a propositionalist *tout court*. This requires us, amongst other things, to reconstrue Ockham's account of intuitive cognition in a propositionalist, quasi-Gestaltic fashion, according to which human beings perceive, even *pro statu isto*, not singular things in themselves, but rather singular things-qua-related-to-other-things; that is, they perceived singular *facts*.

Thereafter, in Chapter 5, we will seek the foundations for the normative framework of claim-making. We will find them in the medieval theory of *obligationes*, on which Ockham wrote a short tract (in *SL* III-3.39–46). Yet instead of reading this treatise as a mere appendix, of at most incidental importance to the overall enterprise of Ockham's *Summa logicae*, and more generally, instead of construing the theory of *obligationes* as theory of consistency maintenance, or as a theory of counterfactual thought, or as any one of the many ways that contemporary interpreters have envisaged, we will follow a quite recent proposal made by Catarina Dutilh-Novaes. According to it, the medieval theory of *obligationes* ought to be construed as a theory of commitment management, in much the same way as Brandom's 'deontic scorekeeping' is thought to work. We will go a step further, however. We will displace, with the help of the scholarly work on the history of ideas by E. Kapp, C.H. Hamblin, and most recently J. Woods, the core normative tenet of Ockham's theory of *obligationes* to the very centre of his logico-semantic system.

Finally, in Chapter 6, we will present our proposal regarding content-endowing inferences—Ockham's *consequentiae formales per medium intrinsecum* (PMI). In doing so, we will be opposing to two interpretative currents regarding such consequences. The first one, notably defended by Otto Bird, construes PMI consequences as topical arguments, thereby deeming the rules governing them (dubbed in this thesis 'non-syllogistic extrinsic means' [NSEMs], for reasons which will become clear) as roughly equivalent to traditional Topical maxims. This proposal, which enjoyed of some popularity for some time, suffers from several shortcomings. The most salient one is that, in all appearances, Ockham's classification of NSEMs does not seem to be isomorphic to the classification of topical Maxims offered by the traditional topical theory.

As a consequence of this failure, other scholars have propounded the second interpretative current. Marilyn Adams thus rejects Bird's Topics – Consequences mapping, and defends what we will call a thoroughgoing formalist interpretation of PMI consequences. According to it, PMI consequences are in the last analysis defective syllogisms—*enthymemes*—the goodness of which ultimately depends upon being properly reduced to valid syllogistic schemata (which, in Ockham's account, are classified as *consequentiae formales per medium extrinsecum* [PME]).

Of course, this formalist construal of Ockham's theory of PMI consequences is at odds with the inferentialist semantic theory we claim Ockham subscribed to. For if—as the formalist claims—inferential relations are altogether based upon structural, i.e. contentless, features, then meaning, i.e. *content*, can*not* ultimately be a function of the inferential relations obtaining to and from propositional units, as the inferentialist has it. Our solution to this problem will be to invert—nay, to subvert—the order of logico-semantic ex-

planation and justification. It is not, as the formalist claims, that PMI consequences depend upon PME consequences to be good; it is the other way around. In doing so, we will closely follow Wilfrid Sellars' pioneering account of material inferences (which is also one of the foundations of Brandom's inferentialist system). Accordingly, the goodness of PMI consequences stems from the very meaning of their propositional parts—and in an inferentialist, derivative way, from the categorematic terms contained therein—without recourse to any formal principles of inference. This is, we will argue, what Ockham means when he claims that PMI consequences are immediately and sufficiently good by virtue of a proposition composed of the categorematic terms taken from the consequence. He claims as well, however, that PMI consequences are mediately and insufficiently good by virtue of a proposition composed of terms *not* taken from the consequence (a NSEM, in our terminology). In our view, the role of these NSEMs is confined to what inferentialism dubs 'logical expressivism'—their function being to make explicit the material–inferential relations obtaining between different sentence tokenings. Equivalently, their function is to explicate (in this expressivist fashion) the discursive commitments undertaken by the participants of the 'game of giving and asking for reasons' (as Brandom dubs the social intercourse of linguistic practice) as regards a certain sentence tokening.

We will thereafter offer a normative-dialogical construal of the two logical principles governing syllogistic inferences—the *Dici de omni* (DDO) and the *Dici de nullo* (DDN), as well as of all remaining kinds of rules governing PME inferences (synecdochically dubbed by us 'syllogistic extrinsic means' [SEMs]). The upshot if this construal is that, as we claim, all SEMs and NSEMs perform an expressive, logical role as regards propositional contentfulness and, by the same token, as regards attribution of discursive normative statuses.

If our overall description of Ockham's logico-semantic system is sound, we have thus provided the theoretical grounds to properly grasp his characterisation of logic as a *scientia rationalis practica ostensiva*. The role of logic is, as the inferentialist claims, to make explicit the host of material – inferential relations which are implicit in ordinary (i.e. non-formal, pre-logic) claim-making; and by making them explicit, to provide the theoretical and, most crucially, the *practical* assets needed to aptly discuss, evaluate, criticise, reformulate, and ultimately put forward further inferences. It is in this sense that logic, both for Ockham and the inferentialists, is *the* science of discourse (*scientia sermocinalis*).

# Part I

# Ockham's Logic and Semantics

CHAPTER 1

# THE SCIENTIFIC STATUS OF LOGIC

## 1.1 Introductory

The aim of this first chapter is to provide an understanding of Ockham's conception of logic as a *scientia rationalis practica ostensiva*. We will begin by examining the problem of the ontology of science, focusing on the two main senses in which Ockham uses the term '*scientia*' when discussing the issue (§ 1.2)—'*scientia*' understood as a single veritative mental habit (*habitus veritativus*) (§ 1.3), and '*scientia*' understood as a well-ordered collection of such mental habits (§ 1.3). We will then address the non-trivial problem of the unity of a *scientia* in the second sense, which will lead us to the questions concerning the subject, object, and order or structure of a science. In doing that, we will take into account several arguments for and against Ockham's stance on those issues. Next, we will consider the way he traces the distinctions between real and rational sciences (§ 1.5), speculative and practical sciences (§ 1.6), and prescriptive and ostensive sciences (§ 1.7). Finally, we will put forward an answer to the question, What is Ockham's understanding of logic? (§ 1.8)

## 1.2 What Does Ockham Understand by '*Scientia*'?

The standard contemporary conception of a science—an abstract, structured, self-consistent set of nomological propositions—may seem to be *prima facie* quite different from its medieval antecedent. Medieval philosophers did not conceive of propositions as components of sciences. Instead, they talked of such concrete things as mental cognitions (*notitiae*), mental acts, and mental

habits (*habitus*). There were, to be sure, sundry positions concerning the ontological status of sciences. On the one side of the spectrum, committed to the rationale of his conceptualism, Ockham defended a thoroughly psychologistic construal of science, according to which a science is nothing else than a well-ordered collection of mental entities.[1] On the opposite side, some realist philosophers like Thomas Aquinas, Henry of Ghent, and Duns Scotus, as different as their philosophical stances could be, sought also to go beyond the private realm of the mind, by claiming that the unified complexity of a science unfolds itself out of the natures of really existing universal entities. However irreconcilable these two positions may be, both agreed on the minimal Aristotelian conviction that a science always requires a *subiectum in quo*; that is to say, that it always occurs *in* a subject of inherence—a human mind, for instance. Accordingly, the medieval discussion on the status of a science—as Durandus of Saint-Pourçain recorded in the first part of the 14th century—was really about its *subiectum de quo*,[2] that is, about its very aboutness. (Hereafter we will use the term 'subject' to refer to the latter sense of *subiectum*.)

Hence we will minimally assume—as all involved parties did—that a science is a psychological, intellectual feature of the soul. The interesting question is indeed what kind of feature it is, and how it is related to its object or objects.

1. Even so, this is not to say that knowledge, for Ockham, is not ultimately about the mind-independent reality—as many interpreters have wrongly charged him of having posited. In both his so-called *fictum-* and *actus*-theories, Ockham construes concepts as mental entities that are natural signs, causally rooted on non-conceptual realities (at least for the so-called 'concepts of first intention' [*conceptus primae intentionis*], which we will discuss in § 1.5, below). See Boehner 1992; Leff 1975: xiii–xv, 6; Adams 1987a: 547–50, 588–601. On Ockham's *fictum-* and *actus*-theories of the nature of the concept, see esp. p.42, n.14, below.
2. Durandus of Saint-Pourçain, *In Sent.*, Prol., q.5, n.6: 'Est … sciendum, quod nunc non quaeritur de subiecto in quo est scientia. Sic enim omnium scientiarum est unum subiectum scilicet intellectus. Sed intendimus de subiecto scientiae, de quo est scientia'. (Quoted in Forlivesi 2009: 9.) On Ockham's distinction between '*scientia in quo*' and '*scientia de quo*', see esp. *Exp. Phys.*, Prol., § 2 (*OPh* IV: 8s).

## 1.3 Science as a Single Habit

In the Prologue to the *Expositio in octo libros Physicorum* (c.1322), Ockham discusses two different, though related, senses in which '*scientia*' is said. He writes:

> . . . *scientia* is either certain quality subjectively existing in the soul, or is a collection of such qualities that inform the soul. And I speak only about the science of a man.[3]

Ockham's view is that, singly or collectively, '*scientia*' refers to a real quality, inhering in the soul as its subject *in quo*. Just as whiteness is a real existing quality inhering, say, in a white wall, in the same way *scientia* is a real quality inhering in the soul. The allusion to the 'science of a man'—the subjective genitive being used here—is to reflect on the fact that metaphysically simple, rational beings (viz. God, angels, and disembodied, beatific human souls) cannot have a science in any one of these senses. This is because, due to their lacking any psychological complexity, their intellectual acts and habits are not qualities inhering in their souls.[4]

But exactly what kind of quality is that which may individually or collectively be dubbed '*scientia*'? In the Prologue to the *Ordinatio* (c.1318), where Ockham distinguishes the two senses of '*scientia*' alluded to above, he makes it clear that, in both cases, he is referring only to veridical, intellectual habits (*habitus veritativi*) endowed with a special set features.[5]

Ockham conceived of *habitūs* as durable mental dispositions, initially caused by one mental act, and reinforced by further occurrences of acts of the

3. *Exp. Phys.*, Prol., § 2 (*OPh* IV: 4s$^{1-4}$): ' . . . scientia vel est quaedam qualitas exsistens subiective in anima vel est collectio aliquarum talium qualitatum animam informantium.' See also *Ord.*, Prol., q.1 (*OTh* I: 8–11).
4. See *Ord.*, Prol., q.2 (*OTh* I: 83).
5. See *Ord.*, Prol., q.1 (*OTh* I: 8–11); q.7 (*OTh* I: 198s); q.8 (*OTh* I: 224s); *Phil. Nat.*, Procem. (*OPh* VI: 138); *Quodl.* V.1: 475s; *SL* III-2.20: 537.

same species.[6] Moreover, habits can themselves cause mental acts of the same species as the acts they originated from. This conception thus allows for a robust explanation of cognition. For it serves to explain the fact, amongst others, that someone can be said to cognise something, even when not actually thinking of it all the time. In this account, habits also help to explain knowledge and memory without appealing to Aristotelian intelligible species.

Bear in mind, however, that Ockham is not dealing here with mental habits *simpliciter*. Rather, he is expressly referring to *intellectual, veridical habits*, which—in Ockham's mature account—are to be identified with certain kinds of mental propositions.[7] By portraying the habit of *scientia* as intellectual and veridical, Ockham excludes from his account both sensitive mental habits (which are produced by acts proper to the sensitive soul, naturally necessary for, but really distinct from, intellectual acts and habits[8]) and intellectual non-veridical habits (such as those of opinion, belief [*fides*], and error, which need not be true[9]). Ockham has in mind here, of course, Aristotle's theory of the five intellectual powers (*virtutes intellectuales*), to wit: experience, art or technique (*ars*), scientific knowledge (*scientia*), intelligence (*intellectus*), and wisdom (*sapientia*).[10]

In pursuing this Aristotelian tradition, Ockham declares that a scientific habit should feature necessity, universality, demonstrability, and causality.[11]

6. See *Rep.* III, q.7 (*OTh* VI: 192–219); *SL* I.55: 179–82; *Quodl.* III, qq.20s: 234–9. See also Adams 1987a: 515–62; Panaccio 2004: 21–3; Leff 1975: 552–60; Fuchs 1952.
7. On Ockham's intellectual development regarding the ontological and semantic status of mental propositions, see § 4.3, pp.148ss, below.
8. See *Ord.*, Prol., q.1 (*OTh* I: 22, 27).
9. See e.g. *Ord.*, Prol., q.7 (*OTh* I: $200^{19-22}$): '…fides secundum totum ambitum suum non est habitus veridicus, quia ita potest esse respectu falsorum sicut respectu verorum …'.
10. See Arist., *Eth. Nic.,* VI, c.3 ($1139^{b}$ 16s). Cf. Ockham, *Ord.*, Prol., q.2 (*OTh* I: 98); q.7 (*OTh* I: 200).
11. See *Ord.*, Prol., q.2 (*OTh* I: 87s): 'Dico quod scientia, secundum quod distinguitur contra alios habitus intellectuales de quibus loquitur Philosophus VI *Ethicorum*, est notitia evidens veri necessarii, nata causari per praemissas applicatas ad ipsum per discursum syl-

### 1.3.1 *The Specificity of the Scientific Habit*

We have already mentioned that science is one kind of intellectual habit. To have a science, in the sense of having *scientific knowledge*, is not merely to have an opinion or a belief. This is indeed the fundamental reason why, for Ockham, theology is not a science.[12] But to have a science is neither to have a cognition that something is the case (*quia est*), and in this respect is unlike experience or art.[13] Science proper is the cognition of a conclusion through syllogistic discourse from necessary, self-evident principles which have been previously cognised. Yet these principles need not be scientifically known, as that corresponds to the intellectual habit of intelligence (*intellectus*). Finally, science differs from wisdom (*sapientia*) in that the latter requires the adequate cognition of both the principles and the conclusion.[14] We have thus explained the specificity of the scientific habit.

But is science the cognition of a *conclusion* through a demonstration, or is it the cognition of that very *demonstration*? In Ockham's account, some conclusions can be independently reached both through demonstration and through direct intuitive apprehension. In any event, however, both occurrences of scientific knowledge will be of the same species.[15] It is thus false to

logisticum.' *Ord.*, Prol., q.2, a.3 (*OTh* I: 97[15]): '…omnis scientia proprie dicta adquiritur per causam illius quod concluditur de subiecto'. *SL* III-2.1: 506[28–33]: '…dicitur scientia evidens comprehensio unius veritatis necessariae per evidentem comprehensionem duarum veritatum necessariarum, in modo et figura dispositarum, ut illae duae veritates faciant tertiam veritatem evidenter sciri, quae aliter esset ignota'.

12. At least during this life (*pro statu isto*), for us, post-lapsarian wayfarers (*viatores*). As we shall see in a moment when discussing the collective sense of '*scire*', some of the habits contained in the collection we usually call 'theology' (*theologia nostra*) may be correctly deemed scientific. (For Ockham's arguments against the scientific status of theology, see *Ord.*, Prol., *passim*, and esp. q.8 [*OTh* I: 183–206].)
13. See *SL* III-2.23–5: 544–51.
14. See *Ord.*, Prol., q.2 (*OTh* I: 98), q.7 (*OTh* I: 200).
15. See *Ord.*, Prol., q.2 (*OTh* I: 90); *SL* III-2.11: 524s. This conclusion springs directly from the Ockhamist principle that states that effects of the same species can be produced by causes of different species. Ockham recurrent example is that of heat, which is caused both by fire and by the sun. On this principle and its implications regarding Ockham's semantic theory, see § 2.2.3.1, pp.66s, below.

state that science is only the cognition of the conclusion of a demonstration, as science is also possible without discursive reasoning. By the same token, it is also false to claim that science is solely the cognition of the whole demonstration. The point of Ockham is rather that if a proposition is cognised by someone, then it is scientific knowledge *only if* it is either produced directly by an intuitive cognition of some contingent reality, or produced by a piece of sound discursive reasoning from necessary premises (whether *per se* and self-evident, or cognised directly through sense experience). In the second case, science is the cognition of a conclusion of a demonstration, not of the whole demonstration.[16] Finally, science is neither the cognition of the conclusion *plus* the cognition of the premises *plus* the cognition of the demonstration of the latter by means of the former. For that is wisdom, as we mentioned previously.

## 1.4 'Scientia' as a Well-Ordered Collection of Habits

Having thus elucidated the first relevant sense of '*scientia*' as referring to a single mental veridical habit, the immediate question that now arises is, Why do we also dub physics, mathematics, psychology, and many other disciplines, '*scientiae*'? Is this second sense of '*scientia*' derived from the first one? If so, one may wonder whether the use of this broad, every-day sense of '*scientia*' should not be ultimately discouraged. Yet far from this, Ockham states time and again that it is this second sense of '*scientia*'—a well-ordered collection of habits—that which is most commonly used by Aristotle and other philosophers.[17]

'*Scientia*' (or '*scire*') in the second sense signifies a collection of intellectual veridical habits of the kind signified by '*scientia*' (or '*scire*') in the first one. To

16. See *Quodl.* V.6 (*OTh* IX: 501); see also *Ord.*, Prol., q.1, a.1 (*OTh* I: 16–47); *Quodl.* III.8; IV.16; V.5s; VI.6.
17. See *Exp. Phys.*, Prol. (*OPh* IV: 6[56]): 'Et isto secundo modo accipitur scientia frequenter a Philosopho.' See also *SL* III-2.20: 537; *Phil. Nat.*, Procem. (*OPh* VI: 138).

avoid further complications, we will hereafter use the English term 'scientific knowledge', or simply 'knowledge', to mean the same as the Latin term '*scientia*' in the first sense of Ockham's; and we will use 'science' to mean the same as '*scientia*' in the second sense. Thus, in Ockham's own words, a science

> … is a collection of different [habits] pertaining to the cognition of one or of many [things] that have a determinate order. And science taken in this way contains not only the non-complex cognition of terms, but also the cognition of the complex ones, [and] this, both of principles and conclusions; it also contains the refutations of errors, and the solutions of false arguments; it also contains the necessary divisions and the definitions, as it frequently [happens] …. And this science is not numerically one, but contains many habits, distinct not only in species, but frequently also in genera, having however some order amongst them; on account of that special order, which some other knowable or comprehensible [things] lack, it can be said and is said, according to the usual way of speaking, one [unique] science.[18]

According to this passage, then, a science is a special arrangement of all sorts of related "information" (broadly understood), covering not only propositions (complex terms), both apprehensive and judicative, but also incomplex terms.

The claim that science is *just* a collection of mental habits that display certain order is not innocuous at all. Indeed, Ockham's description of what sort of habits a science can comprise might appear to be somewhat vague and fuzzy. His account seems to be turning the task of determining both the content and the bounds of a science into a matter of arbitrariness, as almost anything and everything can be encompassed within such a collection.

18. *Ord.*, Prol., q.1 (*OTh* I: 8–10): '… pro collectione multorum pertinentium ad notitiam unius vel multorum determinatum ordinem habentium. Et scientia isto modo dicta continet tam notitiam incomplexam terminorum quam notitiam complexorum, et hoc principiorum et conclusionum; continet etiam reprobationes errorum et solutiones falsorum argumentorum; continet etiam divisiones necessarias et definitiones, ut frequenter …. Et scientia ista non est una numero, sed continet multos habitus non tantum specie sed etiam frequenter genere distinctos, ordinem tamen aliquem inter se habentes, propter quem ordinem specialem, qualem non habent aliqua alia scibilia vel cognoscibilia, possunt dici et dicuntur, secundum usum loquentium, una scientia.' See also *Exp. Phys.*, Procem. (*OPh* IV: 6$^{57ss}$).

To stress this objection, let us invoke Boethius' classical argument against collective nominalism—the theory that universals are nothing but collections or sets of singular entities—to have a grasp at what is really at stake here.[19] If universals were nothing but collections of individuals so denominated by a common name, then any old bundle of things could be said to "make up" a universal, and the essentialist's distinction between different species and genera would thus collapse. The realist denies the consequent of this consequence, and accordingly asserts the real distinction between the universal and the (collection of) individuals. The same argument, *mutatis mutandis*, works against the collective conception of science. Accordingly, the scientific realist argues that the distinction between sciences is not arbitrary, but rather that it stems from the universal natures that serve as subjects of each one.

The details of Ockham's rejection of the realist conception of science fall without the scope of this thesis, however. Still, a few words regarding his epistemological stance may help to clarify his position on the issue of the unity of a science and, accordingly, of the unity of its subject.

Ockham believes that, in this life (*pro statu istu*), we are downright incapable of cognising the intrinsic causal powers (*potentiae*), as well as the essence, of most things.[20] Whatever we may know of a thing, we know it through its accidents. It is precisely through these accidental features that we cognitively identify individuals (even if, from the point of view of Ockham's nominalist ontology, individual things are self-identified and self-individualised *per se*). When we first encounter a thing, we immediately and effectively form an absolutely simple intuitive cognition of it (a simple apprehensive act), which—in Ockham's mature epistemology—is the partial cause of the very specific

19. See Boethius 1906, I, c.10, pp.160s.
20. On the relation between this epistemic handicap and Ockham's theory of mental content, see § 2.2.4, pp.91ss, below.

concept of such a thing. This specific concept is proper to the individual that caused its cognition (as it is a partial cause in a complicated sensitive and intellectual process), and also, by maximal similarity, to all individuals of the same *species specialissima*. But notice that the concept, in being by necessity absolutely simple, does not contain in any manner (formally, virtually, potentially, or rationally) any "information", as it were, about the individuals that fall under it. In other words, the specific concept of a human being, which someone may form when she cognises for the first time a singular human being, does *not* contain anywhere or anyhow the *notae communes* 'rational animal'. It is, so to say, utterly empty of any structural content. It may perform perfectly well as a natural sign, signifying and standing for each and every individual human being in mental propositions. And whatever new things the knower may learn about her individual human being, or about any other beings of its same *species specialissima*, will serve to form scientific habits in which 'man' is the subject or predicate term. But then again, these habits are nothing but complex mental concepts, i.e. propositional units, which state in different manners relations between the metaphysical subjects and their various *passiones*. Hence the single concept of a human being remains pristine and empty, as on the day when it was first formed.

This explains why, in this account of knowledge, a simple absolute concept is void of any sort of complexity (intensional, etc.), in virtue of which the continence of all of the *passiones* of a subject may be explained. It is therefore senseless to claim, within this framework, that to each first subject there is but one science, which virtually or rationally contains all the *passiones* and all the truths necessarily dependent on it. The upshot of this, of course, is not only that there are as many sciences (in the first sense of '*scientia*') as there are conclusions of sound demonstrations, but that if we want to talk of sciences in

the aggregate way, the only unity we may ask for is the unity of order, or unity of aggregation, between its habits, as we will now see.

### 1.4.1 *The Order and Identity of a Science*

If there are as many sciences as there are known conclusions, there are, consequently, as many subjects as there are known conclusions.[21] And just as there is a diversity of scientific subjects, so too there is a diversity of scientific objects. Ockham's contention here is that whereas the *subject* of a single scientific habit is just the subject of the conclusion of a demonstration, its *object*, that which naturally terminates the intellectual cognitive act, is the very conclusion in its entirety.[22]

This is relevant to the dispute with the realists. For it establishes that a science—i.e. a single scientific habit—is not only that about which something is known (viz. the *subiectum de quo*), but also, and equally as important, the something which is actually known (viz. the *passio*) about it. Thus, if different *passiones* are known of one and the same subject, that entails that there are specifically different sciences, and not—as the realist argued—that there is only one science with regard to different *passiones*.[23] And this entails as well that sciences can be distinguished as regards different subjects, or as regards predicates, or finally as regards different subject-predicate compositions, since in all cases the known conclusions are distinct.[24]

21. *Ord.*, Prol., q.9 (*OTh* I: 247s): '… de ratione subiecti scientiae non est aliud nisi quod subiciatur respectu praedicati in propositione scita scientia proprie dicta, ita quod universaliter idem et sub eadem ratione est subiectum scientiae et subiectum conclusionis scitae'. See also *Exp. Phys.*, § 3 (*OPh* IV: 9).
22. See *Exp. Phys.*, § 3 (*OPh* IV: 9); *Ord.*, Prol., q.9 (*OTh* I: 265).
23. *Ord.*, Prol., q.9 (*OTh* I: 243$^{12-7}$): '… propter distinctionem passionum, sine omni distinctione a parte subiecti, possunt esse distinctae scientiae de eodem subiecto. Et per consequens scientia ita dependet essentialiter a passione sicut a subiecto, et ita continetur virtualiter, modo suo, in passione sicut in subiecto. Et ita subiectum non primo continet scientiam, quia dependet in continendo a passione'. See also *Ord.*, Prol., q.9 (*OTh* I: 261, 268); *Quaest. Var.*, II (*OTh* VIII: 41s); *Exp. Phys.*, Prol., § 4 (*OPh* IV: 14); *Brev. Phys.*, Prol., c.2 (*OPh* VI: 6s); *Phil. Nat.*, Procem. (*OPh* VI: 143).
24. See *Brev. Phys.*, Prol., c.2 (*OPh* VI: 6).

From this it follows that, strictly speaking, the question, 'What is the one subject of a science?', if asked of a science as, say, logic or physics, makes no sense at all. Ockham likens this question to asking who the king of the world is. There are as many kings, he says, as there are kingdoms, and there is no one king of kings (at least in the temporal world).[25] Still—to pursue this metaphor—we can and do talk about different kingdoms which in themselves have some relative cohesion, order, and independence. This is indeed the aggregate sense of '*scientia*'. As Ockham writes,

> … there is a similarity between the question that asks which is the subject of metaphysics or of the book of the Categories, and the question that asks who is the king of the world or who is the king of all Christendom; because just as diverse kingdoms have diverse kings, and no one is the king of the whole, and nonetheless these kings can have an order between them, namely when one is more powerful or more rich; so nothing is the subject of the whole metaphysics, but different parts have different subjects. And yet those subjects can have an order between them … .[26]

Ockham dubs the kind of unity which a *scientia* in the aggregate sense has, 'unity of order'. Different parts of one and the same science can have different subjects, though these ought to exhibit a certain *order* between them to count as belonging to one selfsame science.

Besides the order of subjects, a science may also obtain its cohesion in two other ways: through the order of predicates, and through the order of both (*utraque*) subjects and predicates.[27] As an example of an order of subjects, Ockham considers a science which studies the various *passiones* of animals,

25. See *Ord.*, Prol., q.9 (*OTh* I: 259); *Exp. Phys.*, § 3 (*OPh* IV: 10); *Phil. Nat.*, Procem. (*OPh* VI: 142). See also *Exp. Porph.*, Procem. (*OPh* I: 4).
26. *Ord.*, Prol., q.9 (*OTh* I: 259$^{5-13}$): '… est simile de quaestione qua quaeritur quid est subiectum metaphysicae vel libri *Praedicamentorum* et de quaestione qua quaeritur quis est rex mundi vel quis est rex totius christianitatis; quia sicut diversa regna habent diversos reges, et nullus est rex totius, et tamen aliquando hi reges possunt habere ordinem inter se, quia scilicet unus est potentior alio vel ditior, ita nihil est subiectum totius metaphysicae sed diversarum partium sunt diversa subiecta. Et tamen illa subiecta possunt habere ordinem inter se … .'
27. See *Ord.*, Prol., q.9 (*OTh* I: 219s); *Quaest. Var.*, II (*OTh* VIII: 51s).

deductively ordered to be predicated of the subject 'animal' (its proper subject), as well as of all the inferior predicates of that subject, viz. 'human being', 'lion', etc. In this manner, the following are instances of conclusions of that science: 'Every human being is an animal', 'Every lion is an animal', but more interestingly, 'Every human being can move himself or herself', 'Every lion can move itself', etc.

The second type of order concerns the predicates. For instance, one part of a science may know in a demonstrative, deductive order the various *passiones* of the one subject 'animal'; and this can be done not only with regard to superior predicates of its species—e.g. the *passiones* of 'body'—but also with regard to inferior predicates—e.g. the *passiones* of 'lion' or 'human being'—in which case, as Ockham notes, the conclusion ought to be particular as to its logical quantity. The following conclusions are thus proper to this science: 'Every animal is extended' (*passio* of 'body'), 'Every animal can move itself' (proper *passio*), and 'Some animals are rational' (*passio* of 'human being', which is an inferior).

Lastly, the third type of order concerns both the subjects and the predicates, known in a deductive order. Ockham states that this case holds, for instance, 'if the *passiones* of "animal" are predicated of "animal", and the *passiones* of the species contained [in the genus animal] are predicated of those species'.[28] We would then obtain such conclusions as, 'All animals can move by themselves', 'All human beings are capable of laughing', 'All donkeys are capable of braying', etc.

The relevant point to be made here is that in all three cases, the cohesion of the science is due only to a *deductive order* between the scientific propositions, and derivatively between the non-complex terms contained therein.

28. *Ord.*, Prol., q.8 (*OTh* I: 220[1–3]): '…si passiones animalis praedicentur de animali et passiones specierum contentarum praedicentur de illis speciebus'.

Hence against the realists' worst fears, the nominalist conception of science as an aggregate is not an unrestrained, unruly hotchpotch. There is, indeed, a distinctive demonstrative thread that ties up the sundry parts of a science.

Ockham speaks of the 'total habit' (*habitus totalis*) as that which encompasses the distinct, deductively related parts of one science,[29] which, as such, is a complex intellectual habit. Ideally, the total scientific habit should contain both the cognition of the first self-evident principles of the science and the cognition of the conclusions inferred from them. Yet that does not come about in partial or subordinate sciences—perspective, medicine, music, mechanics, etc.—whose first principles are contained in other sciences. Still, this fact does not bother Ockham at all, as long as there is some sort of deductive order tying up the various scientific habits.

As we saw in the quote at the outset of § 1.4, a total habit comprises a wide range of generically and specifically distinct single habits, not only scientific, but also of other veridical and non-veridical kinds; it also comprises incomplex and complex habits, apprehensive and judicative, and both contingent and necessary. It is in this sense that Ockham claims that the total habit of theology, for instance, despite not being in itself a total scientific habit—as it is for the most part a doxastic habit (*habitus fidei*)—may still contain several scientific habits proper.[30]

Not every total habit, therefore, is a science in the proper aggregate sense. The fact that the coherence of a science is due to the deductive relations obtaining between its components is no impediment to the distinction between sciences and non-sciences. Ockham is thus confident to have dissipated the realists' worries that, if there is not a transcendental unity (whether rational,

29. See e.g. *Ord.*, Prol., q.7 (*OTh* I: 206).
30. See *Ord.*, Prol., q.7 (*OTh* I: 205s); q.8 (*OTh* I: 220); q.9 (*OTh* I: 269s).

essential, virtual, or potential) comprising the single acts and habits of knowledge, then anything can count as a science—the medieval equivalent to the Feyerabendian 'anything goes'.

As we mentioned before, Ockham distinctively denies (the total habit of) theology the status of a science, since 'faith can be a veridical, non-evident habit, and such is theology for the most part'.[31] In point of fact, theology is not even a partial or subalternate science, as some Thomists claim when they declare that the first principles of theology are divinely revealed, just as the principles of music are 'arithmetically revealed', so to speak.[32] A subalternate science can only claim to convey knowledge, i.e. can only claim to *be a science*, if its first principles are evidently known within another actually existing science—the *scientia sulbalternans*—under whose subjects are the subjects of the subalternate science, that is to say, if there exists in the *scientia subalternans* a habit of science or of intelligence of such principles.[33] But that is not the case of theology, since 'for the most part' it is composed of non-veridical habits, and there is no *scientia subalternans* (for us, *pro statu isto*) that contains the principles by which those habits can be demonstrated. So, even if we are allowed to speak of the total habit of theology, we cannot do the same of the total science (*scientia totalis*) of theology, for there is none.[34]

31. *Ord.*, Prol., q.8 (*OTh* I: 206)$^{2-5}$: '…omnis habitus veridicus evidens respectu veritatis necessariae est sapientia vel scientia etc.; tamen habitus veridicus inevidens potest esse fides, et talis est theologia pro magna sui parte. '.
32. See Aquinas, *ST* I, q.1, a.2, co: 'Et hoc modo theologia est scientia quae procedit ex principiis notis lumine superioris scientiae, quae scilicet est Dei et beatorum. Unde sicut musica credit principia tradita sibi ab arithmetico, ita doctrina sacra credit principia revelata a Deo'. (Quoted by Ockham in *Ord.*, Prol., q.7 [*OTh* I: 184$^{16-20}$]. See also Aquinas, *In Boet. De Trin.*, q.2, a.2, co.)
33. See *Ord.*, Prol., q.1 (*OTh* I: 14s); q.7 (*OTh* I: 199); *SL* III-2, c.21.
34. On the distinction between partial and total sciences, see *Ord.*, Prol., q.9 (*OTh* I: 248); *Quaest. Var.* II (*OTh* VIII: 42); *SL* III-2: 21.

### 1.4.2 *Kinds of Order*

As we have seen, in Ockham's mind, the question regarding the unity of subject of a science makes no sense, for a science has as many subjects as it has conclusions. In spite of this, it is unquestionable that we do speak of *the* one subject of a science. For instance, we say that the subject of physics is being *qua* movable, or that the subject of metaphysics is being *qua* being, or that of the subject of logic is the consequence relation, and so on. Is this an improper way of referring to the subject of a science?

In a way it is, Ockham contends. Not only because of what has been said about the multiplicity of subjects within one science, but also because, strictly speaking, the subject a scientific habit is not a thing, but a universal concept, i.e. a mental term.[35]

Even if we grant this, the question still remains, though in a somewhat different formulation—Why can we speak of the subject of, say, metaphysics, as the concept that signifies being *qua* being?[36] Ockham replies that just as what identifies a science is its peculiar order, so it often happens that there is a primacy (*primitas*) of one subject within one science, according to its order. Therefore, the question about the first subject of a science—which is nothing else than the question, 'What is the science *about*?'—obtains its nominalist answer in the concept of subject-primacy. We could somewhat naïvely conceive of it, in quantitative terms, as 'the subject which appears most times' in a science, but this account would disregard two situations. First, that the unity of aggregation of a science is a unity of demonstrative order; and so, "a sub-

35. See *Ord.*, Prol., q.9 (*OTh* I: 266, 268); *Exp. Phys.*, § 4 (*OPh* IV: 11).
36. This phrasing is a bit inaccurate, in the light of Ockham's semantics. It should be along these lines: Why can we speak of the subject of, say, metaphysics, as the concept that signifies being, and that co-signifies (or connotes) the abstract part of being (which—translated into nominalist language—is just the qualification 'necessarily being' or 'being *per se*'). (See *SL* I, c.7; *Quodl.* V.9.)

ject is not just a statistic", due to its being deductively and necessarily linked to other subjects and predicates. Second, and as a consequence of the latter, that the inferior and superior predicates of a subject may still account for the unity of a science, and therefore for its aboutness.

Ockham contends that there may be three kinds of order- or subject-primacies within a science, to wit: the primacy of predication (*praedicationis*), the primacy of totality (*totalitatis*), and the primacy of perfection (*perfectionis*).[37] Let us briefly discuss each of these three orders.

The first one, the order or primacy of predication, concerns the parts of a science which are correlated with respect to the same subject or to its inferior predicates. Recall that this is the first type of identity and diversity of scientific habits we have already discussed. The point here is that a science may contain a subject (or an inferior to it), which, although it does not appear in each and every one of the conclusions, still recurs throughout the sundry parts of the science. For instance, Ockham states that the first subject of physics, according to the order of predication, is the natural being or natural substance; of metaphysics, the first subject is being in itself; of psychology, the soul. The first subject of logic, according to this order, is arguably the concept in itself (both of first and of second intention).[38]

Now this account of the primacy of predication does not imply that all the conclusions of—say—psychology necessarily ought to contain 'soul' as its subject. Even if distinct parts of that science deal with distinct kinds of souls—e.g. the vegetative soul, the animal soul, the intellectual soul—there may be some parts of psychology that do not deal at all with that subject. These parts may deal, for example, with the metaphysical constitution of animated beings, or with the refutations of other doctrines concerning such metaphysical

37. See *Ord.*, Prol., q.9 (*OTh* I: $255^{13-22}$).
38. See *Exp. Porph.*, Procem. (*OPh* II: $7^{116-8}$).

constitutions, and so forth. Indeed, Ockham's insight is to explain why and how we can still predicate some content-unity of collections of deductively linked propositions, without appealing to transcendent, universal entities. In this manner, he weakens as much as possible the essential and virtual links posited by the realists in order to account for the unity of science.

The second order or primacy envisaged by Ockham is that of totality. By this he refers to a whole, the parts of which are considered by the different parts of the science. The example he usually picks out in illustrating this idea concerns logic. As Ockham nominally defines 'logic', it is the science that demonstratively studies the syllogism, its subjective parts (sc. the kinds of syllogisms and consequences) and its integral parts (sc. the propositions and terms).[39] So the subject of logic under the primacy of totality is the syllogism. In this way, one part of logic (treated in Aristotle's *De interpretatione*) deals both with the propositions themselves and their substantial parts; another part (treated in Aristotle's *Topics*) deals with the different ways in which a *passio* may inhere in its subject; and so on.

Lastly, with the concept primacy of perfection Ockham seems to allude to the fact that, amongst the different subjects of a science, either under the primacy of predication or under the primacy of totality, one is absolutely more perfect that any other. Regarding metaphysics, for instance, he names God as its first subject according to the primacy of perfection. It is possible to insinuate, however, that in this particular case Ockham wants to fit in into his classification the opinion of many authorities, from Aristotle on, who have deemed God as the one subject of metaphysics. With respect to physics, he signals man as its first subject according to the primacy of perfection. We can conjecture that the first subject of psychology should be the intellectual soul,

39. See *SL* I, c.1 (*OPh* I: 7).

or the separate souls of non-composite beings. What could be the first subject of logic, also under this primacy? Perhaps the *demonstratio potissima*, the 'higher sort of demonstration', though Ockham never explicitly states it.

## 1.5 Real and Rational Sciences

There is a trivial sense in which, in Ockham's account, all scientific habits and thus all sciences are *real*. For they are real qualities inhering in the soul, really distinct from it. This leads to the not-so-obvious situation of having to conceive of concepts, and not of any non-conceptual reality, as the subjects of a science, if we are to speak properly (*proprie loquendo*). Therefore, even if all sciences are "real", in the sense we just alluded to, their subjects are nothing but subjective *accidents*, let alone contingent and ephemeral.[40]

Of course, that is not what Ockham—nor Aristotle, to that matter—had in mind when discussing the status of a science. Science is universal and necessary, contends Ockham, because the propositions of which it is composed are such. Moreover, some sciences are said to be '*scientiae reales*', because their subject terms supposit (*supponunt*) for non-conceptual realities; whereas some others are said to be '*scientiae rationales*' because their subject terms supposit for concepts and conceptual relations only. Sure enough, physics would make a good example of the first kind of science, as logic would be one of the second kind. But what about psychology—the '*scientia de anima*'? According to this semantic criterion, human psychology should be a rational science, at least partially, for, in Ockham's mature system, concepts are nothing but intellectual acts, and thus are real mental qualities. By the same token, logic should thus be subordinated to psychology. Nonetheless, we are actually more inclined to classify psychology and physics together, than to bundle psychology and logic in the same sack.

40. See *Brev. Phys.*, Prol., c.2 (*OPh* 5–7).

The distinction, therefore, between real and rational sciences begs for a much solid base, which Ockham is ready to provide through the distinction between two kinds of concepts (*conceptus, intentiones*) or mental terms. This is the semantic distinction between terms of first intention (*termini primae intentionis*), on the one hand, and terms of second intention (*termini secundae intentionis*), on the other. But in order to make perspicuous this distinction, we ought also to consider a couple of further distinctions.

The first one of these is that between mental language, on the one side, and conventional language, on the other.[41] Mental language is composed of two kinds of terms: (1) naturally signifying terms—the concepts that, in Ockham's mature system, are numerically identical to intellectual acts—which, due to their ability to signify in and by themselves, are called '*categoremata*' or 'categorematic terms'; and (2) terms which do not have signification in and by themselves, but require a propositional context to signify; they are called '*syncategoremata*' or 'syncategorematic terms'. Examples of *categoremata* are the concepts 'man', 'whiteness', 'Plato', and 'running' (*currere*). Examples of syncategoremata are the mental terms 'every', 'no', and 'except'.[42] Conventional language, on the other hand, can either be spoken (*prolatus*) or written (*scripsus*), and hence it is composed of spoken terms (*voces*) or written terms (*scripta*). These terms do not have by their own nature any signification at all, but are conventionally imposed by language-users to signify the same things which are signified primarily by mental terms. Therefore, their relation to the things signified is that of a derived or secondary signification, while to their corresponding mental terms is that of subordination.

41. See *SL* I.1–4: 7–16; *Quodl.* III.12: 246–50; IV.35: 470.
42. We will discuss in more detail, within an inferentialist framework, the semantics of categorematic and syncategorematic terms in §§ 6.4.1 and 6.4.2, below. For the externalist perspective, see § 2.2.2.2, below.

The second distinction we will discuss here is related to the first one. It is that between terms of first imposition (*primae impositionis*) and terms of second imposition (*secundae impositionis*).[43] For Ockham, terms of second imposition are those which signify conventionally-imposed terms (*voces* or *scripta*) or 'those [things] that follow from such signs, while they are signs'.[44] By this second condition he means the accidents or properties of conventional terms, such as grammatical gender (*genus*). He further distinguishes two senses of 'term of second imposition', a broad and a strict one, according to whether or not there are also naturally-signifying mental terms corresponding to the conventionally-imposed term, respectively. For instance, 'grammatical case' (*casus*) is a term of second imposition in the broad sense, since it is an accident not only of conventional, but also of mental terms; by contrast, 'grammatical gender' is of second imposition in the strict sense, since, in light of Ockham's semantics, mental terms do not have grammatical gender.[45] On the other hand, terms of first imposition are defined simply as 'all other terms', that is, any other term that is not a term of second imposition. These are also distinguished in a broad sense and a strict sense, according to whether or not one considers that syncategorematic terms count as terms of first imposition. For instance, 'man', 'whiteness', and 'any' may be terms of first imposition broadly, but 'any' would not be so in the strict sense. To sum up, then, a term of second imposition signifies conventional terms of first imposition, whereas a term of first imposition signifies everything else which is not a second imposition.

We finally reach the distinction between terms of first and second intention.[46] A term is of second intention only if it signifies 'intentions of the soul

43. See *SL* I.11: 38–41; *Quodl.* VII.10: 735–7.
44. *SL* I.11: 39[78]: '… et illa quae consequuntur talia signa, sed nonnisi dum sunt signa'.
45. See *SL* I.3: 11–4.
46. See *SL* I.11s: 38–44; *Quodl.* IV.35: 469–74.

that are natural signs',[47] or accidents of such natural signs. Ockham distinguishes here as well a broad and a strict sense, according to whether there exist terms of second imposition subordinated to the terms of second intention (e.g. 'name', 'term', 'syllogism', etc.), or not (e.g. 'genus', 'species', 'differentia', etc.), respectively. On the other hand, terms of first intention are those which do *not* signify intentions that are natural signs or accidents that follow thereof. As with the terms of first imposition, Ockham distinguishes a broad and a strict sense, according to whether or not *syncategoremata* are included, respectively.

Some comments are in order here. First, independently of whether a term is of first or second imposition, or whether it is of first or second intention, it is ultimately a mental rather than a conventional term; otherwise it would be meaningless. For instance, although the term 'grammatical gender' is of second imposition (in the strict sense) as it signifies an accident of conventional terms, it is nonetheless a mental term itself. This does not imply, however, that there cannot be conventional terms (vocal or written) that can be subordinated to the *concept* of first or second imposition, or of first or second intention.

Second, the three couples of semantic distinctions are meant to be exclusive. This means, first, that a term cannot be both mental and conventional; second, that a term cannot be both of first and second imposition; and third, that a term cannot be both of first or second intention. Recall, however, that the distinction between kinds of imposition pertains to the conventional language, whereas the distinction between intentions pertains to the mental language.

47. *SL* I.11: 40$^{54s}$: '… intentiones animae quae sunt signa naturalia ….'

Third, Ockham states that terms of first *imposition*, taken in the strict sense, are exhaustively divided into terms of first and second *intention*.[48] This ought not worry us, if we have in mind that terms of first imposition are defined by Ockham, *not* as conventional terms that do not signify conventional terms, but rather as any sort of term (whether conventional or mental) which does not itself signify conventional terms. (It is curious, though, that this kind of term is dubbed 'of first *imposition*', since, as we mentioned before, only conventional terms are imposed to signify.)

Having traced these distinctions, we can understand more thoroughly Ockham's way of discriminating between real and rational sciences. A *real science* is an ordered collection of intellectual habits, the majority of which display a special order (in one or more of the primacies we have previously examined) and contain mainly terms of *first* intention as their subjects. By contrast, a *rational science* is an ordered collection of intellectual habits, the majority of which display a special order (in some kind of primacy) and contain mainly terms of *second* intention as their subjects. As we shall explain in a moment, in both cases the subject terms must have personal supposition.

This agrees with the remarks at the beginning of this section, whereby physics was construed as a real science whose first subject (in the primacy of predication) is the natural body. In the light of the semantic distinctions we have just made, this is equivalent to saying that the subjects of the conclusions of physics are for the most part terms of first intention. As Ockham frequently reminds us, however, this does not imply that terms of second intention cannot sometimes appear in physical propositions, as, for instance, when physical terms are being defined. Rather, it means that if the identity and aboutness of

48. See *SL* I.11: 40[46–9]: 'Nomina autem primae impositionis, stricte accipiendo "nomen primae impositionis", sunt in duplici differentia, quia quaedam sunt nomina primae intentionis et quaedam sunt nomina secundae intentionis'. See also *Quodl.* VII.10: 737.

a science is given by its primary subject or subjects (in one or more of the primacies), then in the case of a real science the subject or subjects ought to be terms of first intention. As Ockham writes,

> … a real science is not about things, but about intentions that stand for things, because the terms of the known propositions stand for things. Whereby in the proposition, 'Every fire is capable of heating', the subject is an intention that is common to all fire and that stands for all fire; and therefore is said to be real cognition and science.[49]

On the other hand, a science like logic is rational because the subject terms of its conclusions are mainly terms of second intention.

> … logic is distinguished from real sciences, because real sciences … are about universals that stand for things: because the terms of real sciences, despite being intentions, nonetheless stand for things; but logic is about intentions that stand for intentions. Just as in the proposition, 'The species is predicated of several [things] that differ in number', the subject is an intention that only stands for intentions, and not for external things, because no external thing is predicated of many [things], except maybe a spoken or written term, conventionally imposed.[50]

Consider, for instance, the following propositions: 'Socrates is a man', 'Plato is a man', and 'Cicero is a man'. All the subject and predicate terms in them stand for real things, viz. men. So they would belong to a real science, perhaps metaphysics or physics. But, since man (or human being) is a *species specialissima* in virtue of which all men are essentially grouped together, it is then accurate to assert, 'Man is a species'. Now 'man' does not stand for singular, real men,

49. *Exp. Phys.*, Prol., § 4 (*OPh* IV: 12$^{41-5}$): ' … scientia realis non est de rebus, sed est de intentionibus supponentibus pro rebus, quia termini propositionum scitarum supponunt pro rebus. Unde in ista propositione scita "omnis ignis est calefactivus" subicitur una intentio communis omni igni et pro omni igne supponit, et ideo dicitur notitia et scientia realis.' See also *Brev. Phys.*, Prol. (*OPh* VI: 4).

50. *Exp. Phys.*, Prol., § 4 (*OPh* IV: 12$^{46-54}$): ' … logica per hoc distinguitur a scientiis realibus quia scientiae reales sunt … de universalibus supponentibus pro rebus: quia termini scientiarum realium quamvis sint intentiones, tamen supponunt pro rebus; sed logica est de intentionibus supponentibus pro intentionibus. Sicut in ista propositione "species praedicatur de pluribus differentibus numero" subicitur una intentio et non supponit nisi pro intentionibus, et non pro rebus extra, quia nulla res extra praedicatur de pluribus nisi forte vox vel scriptum ad placitum instituentium.'

but for a mental concept; for, according to Ockham's nominalist semantics and ontology, the *praedicabiles* (genus, species, difference, property, and accident) are nothing but universal, mental terms, albeit a special type of terms. This means, therefore, that the predicate term, 'species', is a term of second intention. It also means that the *suppositio* (sc. the manner in the term stands-for within a proposition) of 'man' is different in both propositions. In 'Plato is a man' it is said to have personal supposition, as it stands for that which its term primarily signifies, a singular man. Then again, in 'Man is a species' it is said to have simple supposition, as it stands for the selfsame concept of man.[51]

Ockham is clear that logic does *not* deal with propositions such as 'Man is a species', in the same way as it does *not* deal with propositions such as 'Plato is a man'—albeit only as illustrations or examples.[52] In other words, those propositions do not figure substantially within logic. Rather, logic deals with propositions such as 'The genus is predicated of the species universally', and 'The species is predicated of the genus particularly', whose subjects are terms of *second intention* having personal supposition. In other words, logic deals primarily with propositions whose subjects, if taken to stand for what they signify (i.e. taken in personal supposition), signify natural mental signs (which really means that they are terms of second intention).

What about psychology? Even if some terms of this science, when taken significatively, may stand for real existing qualities that inhere in the soul, they cannot be said to be terms of second intention. The reason is that psychology does not care whether these qualities have natural signification or not, and thus whether they are naturally-signifying concepts. (That is proper rather to the theory of the properties of terms, which is part of the science of logic.)

51. On the distinct kinds of supposition, see *SL* I.64–77: 195–238. For our inferentialist interpretation of the modes of personal supposition, see § 6.4.1.3, pp.198, below.
52. See *SL* III-2.22: 542s.

Therefore, the subject terms of psychological conclusions are not of second intention. From this it follows, according to the definition we have arrived to here, that psychology is not a rational but a real science.

## 1.6 Speculative and Practical Sciences

From the Aristotelian tradition, Ockham inherits a way of distinguishing sciences, not with respect to the kinds of terms that can occur as subjects of conclusions, but according to the *final cause* of the conclusions themselves. This is the distinction between speculative sciences (*scientiae speculativae*), on the one hand, and practical sciences (*scientiae practicae*), on the other. Roughly speaking, we can say that a science is practical if its final cause is concerned with the *practices* or activities of rational beings as such; by contrast, it is speculative if it is *not* concerned with them. Accordingly, then, physics would clearly be an instance of a speculative science, while mechanics (or engineering) would be an instance of a practical.

This way of tracing the distinction has some complications, though. For, if this distinction does *not* concern at all the subjects of scientific conclusions (since one and the same subject may pertain to a speculative and a practical science[53]), it seems then that, unless the meaning of the term 'actions of rational beings' has been rigorously established, all sciences turn out to be practical. The reason is that all cognising, independently of its object, can be said to be a rational activity; hence, the activity of scientifically cognising—say—physical, mathematical or metaphysical conclusions is also a rational activity, and therefore it should be considered a practical science.

Henry of Ghent argued against the previous reasoning.[54] He distinguished between the final cause of a science and the final cause of the knower (*sciens*),

53. See *Ord.*, Prol., q.11 (*OTh* I: 313).
54. See Henry of Ghent 1994, a.36, q.4, a.2; cf. Ockham, *Ord.*, Prol., q.11 (*OTh* I: 303s).

so even if the final cause of the knower may be the same when she deals with physics and mechanics, the final cause of the science is completely distinct in each case. Henry claimed, therefore, that the correct (and only) way of tracing the distinction between speculative and practical sciences is by appealing to their proper final causes.

Ockham, as we may imagine, rejects Henry's solution to the problem of demarcation between speculative and practical sciences. He contends that it is not possible to separate, as Henry pretends, the end of a science, on the one side, and the end of a knower *qua* knower, on the other.[55] In fact, it does not make any sense to speak of the final cause of an action as unrelated to the agent who performs it.[56] And, particularly in the present case, it is not possible to consider the final cause of an intellectual act or habit without, in doing that, considering the final cause of the intellect that cognises, and so of the knower *qua* knower, when having such intellectual act or habit. From this it follows that, strictly speaking, the final cause of a speculative cognition is identical in species to the final cause of a practical cognition.[57]

So, if practical and speculative cognitions are to be distinguished, and thus if there is to be a way of distinguishing physics and mechanics from each other—both of which are *scientiae reales*—then something else than a distinction between their subjects or between their ends is required. Ockham seeks the solution to this conundrum in the concept of practice (*praxis*), as construed by the 12th-century Aristotelian commentator Eustratius of Nicaea. Eustratius distinguished four different senses of the term 'practice' (*praxis*),

55. *Ord.*, Prol., q.11 (*OTh* I: 304): '…idem est finis scientiae et scientis; sed idem potest esse finis scientis propter quem adquirit scientiam tam speculativam quam practicam; igitur etc.'
56. *Ord.*, Prol., q.11 (*OTh* I: 305): '…finis nunquam respicit formam nec materiam nisi mediante agente, in quantum scilicet movet efficiens ad agendum, hoc est in quantum intenditur ab agente. Ergo non est causa finalis nisi quia intenditur ab agente.'
57. See *Ord.*, Prol., q.11 (*OTh* I: 311).

which Ockham arranges from the broadest to the strictest as follows.[58] First, as any operation, natural or free, of a faculty; in this case, even the involuntary movements of the bowels can be said to be practices. Second, as any operation that follows from an act of cognition; in this case, not only intellectual acts and habits may be counted as practices, but also any act of an agent (rational or not), of which she is aware, such as drinking or being hungry. Third, any operation that is under the will, and this implies, of course, that only rational, and thus voluntary, agents can be said to perform this kind of practices. And fourth, as any operation that follows both from the precept of the intellect and the election of the will. Notice that the difference between the last two senses of '*praxis*' is that, in the third one, only the practical intellect (*intellectus practicus*), which prescribes the end of an action, is in operation; while, in the fourth sense, the consiliative intellect (*intellectus consiliativus*), which cognises the means to an end, is also in operation. So, for instance, the intellectual and voluntary operation of deciding to be healthy would be a case of a practice in the third sense; but the intellectual and voluntary operation of exercising the body, so as to have good health, would be a practice in the fourth one.[59]

Having summed up these four senses of '*praxis*', Ockham declares that only the last two senses, in which both intellect and will are involved in an operation, are relevant to the distinction between speculative and practical sciences. So if we are to distinguish speculative cognitions from practical cognitions, since '*praxis*' in the relevant senses distinctively requires the intervention of the will, we may then declare that intellectual cognitions are those which *only* require the participation of the intellect, i.e. without the intervention of the will (and hence without being a consiliative or practical intellect); and that practical cognitions are those which require as well the intervention of the

58. See *Ord.*, Prol., q.10 (*OTh* I: 287–90).
59. See *Ord.*, Prol., q.10 (*OTh* I: 290s).

will. Another way of stating the same is by pointing out that speculative cognitions feature exclusively the pure intellect (*intellectus purus*), whereas practical cognitions feature the practical and/or consiliative intellect.

To grasp this idea, consider now the question whether pure speculation can be said a practice. Taking into account the aforementioned distinctions, Ockham replies that if the will has indeed played an effective role in the coming to being of the pure speculation, then it can be dubbed '*praxis*'; in any other case, it cannot. But how can that act of speculation be pure, if the will has intervened in its production? Ockham has in mind acts of pure speculation that come as a result of a practical deliberation. For instance, imagine that a person deliberates with herself as to whether she ought to start right now to think about a purely speculative subject, say, whether being is univocal; and imagine, furthermore, that she then starts to think about that topic. Here we have two numerically and specifically distinct acts. First, the act of deliberation, which involves the interaction of the practical and volitive faculties. And second, the ensuing act of effectively thinking whether being is univocal. Only the second is a purely speculative act, in the sense that, due to the will not having intervened in the operation, the practical intellect (as well as the deliberative intellect) is not required at all for it.[60]

This appears to be a solid base on which to establish the distinction between (purely) speculative cognitions and practical cognitions. For, as physics or metaphysics may seem quite clearly *not* to be practical intellectual operations (in the relevant senses of '*praxis*'), so it seems that mechanics or the moral sciences clearly seem to be such. Now even if this solves the problem of distinguishing between speculative and practical sciences, it does not yet explain the reason *why* a science is said to be speculative or said to be practical. As we

60. See *Ord.*, Prol., q.10 (*OTh* I: 296–300).

have seen, the answer to this question does not lie on the subject of a science, nor on its final cause. Where does it lie, then?

Ockham's answer is that it is the object of a science, i.e. its conclusion, that determines whether the science is speculative or practical. This stems from the fact that one and the same subject can belong to speculative or practical cognitions, depending on which *passio* is predicated of it. If the *passio* includes a reference to something that can be practiced by us, then the conclusion of a science, and hence its object, as well as the science itself, is said to be practical. If it does not, then it is speculative.[61]

Now the interesting thing of Ockham's account is that it allows both for speculative and practical sciences of our operations (*de operibus nostris*) to exist. The reason is that, even if the conclusion of a science has as its subject a term that stands for an operation of ours—'pleasure' (*dilectio*), for instance—the object of the scientific habit can only be dubbed as practical if its *passio* ultimately conveys an act of the will; otherwise is speculative. This is what Ockham means when he asserts that,

> … of our operations, i.e. of the terms or complexes that convey our operations, there can be a speculative science, because some things can be known about our operations, and that [complex] cognition does not direct [us] more than the incomplex cognition.[62]

Hence psychology—which as we saw is classified by him as a *scientia realis*—may be said to be a speculative science, even if it deals with the intellectual soul, the will, sensations of pleasure, and so on. And this is also the reason why logic, grammar, and rhetoric are practical, not speculative, sciences,

61. See *Ord.*, Prol., q.11 (*OTh* I: 315).
62. *Ord.*, Prol., q.11 (*OTh* I: 315$^{20-4}$): '… de operibus nostris, hoc est de terminis vel complexis importantibus opera nostra, potest esse scientia speculativa, quia de operibus nostris possunt aliqua sciri, et illa notitia non magis dirigit quam notitia incomplexa.'

> … because they truly direct the intellect in the operations that are in its power, by means of the will; just as logic directs the intellect in syllogising, discoursing, and so on.[63]

The fact that there exist, indeed, demonstrative sciences with regard to our operations, as logic, rhetoric, grammar are, and as mechanics and architecture may also be, is quite significant. In allowing for this, Ockham thus restores such disciplines the scientific status that some philosophers had taken away from them, in classifying them as arts or techniques (*artes*), not as sciences.

## 1.7 Prescriptive and Ostensive Practical Sciences

We still need to make one further distinction within the sciences. According to Ockham, practical sciences are divided into prescriptive (*dictativae*) and ostensive sciences (*ostensivae*).[64] Prescriptive practical sciences determine whether some course of action is to be pursued or not. Ostensive practical sciences, on the other hand, direct the intellect into pursuing such an action with the help of the sufficient means, once it has been decided to be pursued. Another way of making this point is by saying that, even though the will is required for both kinds of practical knowledge, only the practical intellect is operational in prescriptive practical knowledge, as it is concerned with pursuing an end; whereas only the consiliative intellect is operational in ostensive practical knowledge, as it is concerned with the means that lead to the enjoyment of the previously chosen end. Ethics, and also prudence (at least when it deals with the universal), are instances of prescriptive practical sciences. Logic, rhetoric, and grammar—the medieval *trivium*—are instances of ostensive practical sciences.

63. *Ord.*, Prol., q.11 (*OTh* I: 316$^{4-7}$): '…quia vere dirigunt intellectum in operationibus suis quae sunt mediante voluntate in sua potestate, sicut logica dirigit intellectum in syllogizando, discurrendo, et sic de aliis.' See also *Exp. Porph.*, Procem. (*OPh* II: 7); *Phil. Nat.*, Procem. (*OPh* VI: 149s).)
64. See *Ord.*, Prol., q.11 (*OTh* I: 316).

Recall, however, the Ockhamist notion that sciences are well-ordered collections of veridical habits, displaying one or more kinds of primacies. Accordingly, Ockham states that although a science may be speculative for the most part, it may still be practical regarding some of its conclusions; and also the other way round, *mutatis mutandis*. This is true also of the real/rational distinction, as we mentioned before. Thus, the total habit of theology, for instance, even if it is for its most part real and speculative, is also, in a much lesser degree, practical and/or rational. That is to say, some of the singular complex habits of theology may be practical and/or rational scientific habits. And so, more generally, in every science there are surely different kinds of scientific habits from those that constitute the core of a science—its first subject or subjects.

Finally, it must be noted that all combinations of the two principal couples of distinctions hitherto discussed are in principle possible. Thus, there may be (1) real, speculative sciences (e.g. physics and metaphysics); (2) real, practical sciences (e.g. mechanics, architecture); (3) rational, speculative sciences (e.g. psychology); and (4) rational, practical sciences (e.g. logic, grammar, rhetoric). The possibilities increase when we consider also the distinction between ostensive and prescriptive practical sciences. So we could also have (2.1) real, practical and ostensive sciences (e.g. mechanics, architecture); (2.2) real, practical and prescriptive sciences (e.g. urbanistic politics); (4.1) rational, practical and ostensive sciences (e.g. logic, grammar, rhetoric); and (4.2) rational, practical and prescriptive sciences (e.g. ethics, politics). All these combinations are possible in virtue of the distinction in the subject terms between those of first and those of second intention; and in virtue of the kinds of entities and/or relations conveyed by the *passiones* of the conclusions of a science.

## 1.8 The Science of Logic

So what is logic? As we have seen in this chapter, Ockham's contention is that logic is a rational, practical, and ostensive science. Our answer to this question can be spelled out in the following points. (1) Logic is a collection of (mainly) scientific habits, arranged in a necessary, demonstrative manner. The first subject of logic according to the primacy of totality is the syllogism, as well as its integral parts (e.g. the demonstrative syllogism, the expository syllogism, etc.) and its subjective parts (the propositions and the terms, and also their distinct kinds and divisions). However, the first subject of logic according to the primacy of predication is the concept of second intention, and its distinct varieties, by which this science can refer to all natural signs that do not signify themselves signs (the concepts of first intention). And just as the terms of first intention may be classified within the ten Aristotelian categories, so the terms of second intention may also be classified into the five predicables: genus, species, difference, accident, and property. It is through these 'logical categories', so to speak, that most logical propositions are expressed. Lastly, considered regarding the primacy of perfection, the first subject of logic arguably is the *demonstratio potissima*, as well as its integral parts and properties.

(2) Furthermore, logic contains the methods by which the logician can perform sound inferences, demonstrations, refutations, disputations, *obligationes*, and so on. And this is why logic is said to be the science of discourse (*scientia sermocinalis*). By being a science, as opposed to being an art, logic not only teaches *how* to perform these rational operations, but, most importantly, it explains *why* they function as expected.

Even if the science of logic is practical for the most part, it also has a few speculative parts, as, for instance, when it deals with the question of the different kinds of terms. Since these sorts of scientific habits do *not* require a

direction or instruction with respect any operation (at least not in principle), they may be construed as speculative.[65] However, it is not cogent to claim the same with respect to real conclusions, i.e. conclusions that belong to real sciences. Indeed, as we will try and show in the following chapters, the fact that logic is a *formal* discipline—in the sense that (*a*) it is concerned with the laws of correct thought, (*b*) it abstracts from the identity of the objects with which it deals, and (*c*) it abstract from the semantic contents of concepts[66]—is only possible because logic is a rational science, concerned with natural signs and the sundry suppositional relationships they can have.

Precisely, the fact that logic is concerned with mental qualities *qua* natural signs is what distinguishes it both from psychology, on the one hand, and with grammar and rhetoric, on the other hand. We have already explained the first part of this distinction. As to the second part, recall what we said about the division of conventional terms into those of first imposition and those of second imposition. Just as the terms that serve as subjects of logical propositions are mainly those of second *intention*, so the terms that serve as subjects of grammatical and rhetorical propositions are mainly those of second *imposition*. And just as what we have dubbed here the 'categories of logic'—the five *praedicabiles,* the most general terms of second intention—constitute the main conceptual scaffold of logic, so too the most general terms of second imposition, whatever they may be, constitute the conceptual scaffolds of grammar and rhetoric.

If this analysis of Ockham's view is correct, then no rational, practical, ostensive science *different from logic* is possible. And this very fact accounts both

65. *Exp. Praed.*, Procem. (*OPh* II: 137$^{61-4}$): 'Nec est inconveniens aliquam partem logicae esse speculativam et aliquam practicam, cum multa ex practicis ex speculativis dependeant et ipsa praesupponant'.
66. See MacFarlane 2000, c.3: 50–73.

for its possibility and its uniqueness. In the subsequent chapters, we will discuss in some detail the manner in which Ockham actually erects this peculiar science.

CHAPTER 2

# THE RECEIVED INTERPRETATION

## 2.1 Introductory

In this chapter, we will examine a feature of Ockham's semantics which has been widely discussed in the recent scholarship. This is Ockham's account of the natural signification of intuitive and abstractive cognitions. We will begin by providing an overview of the most salient interpretations of each of these two themes, and will then pose a series of objections to each of them. We will conclude by suggesting a new paradigm under which Ockham's logico-semantic theory might be successfully construed.

## 2.2 The Intensionality of Absolute Terms

### 2.2.1 *Internalist and Externalist Theories of Mental Content*

Before proceeding, however, it is proper for us to define as precisely as possible a couple of terms of trade widely used in contemporary discussions of philosophy of language. For although the expressions 'internalism' and 'externalism' are rather common in the specialised literature, it so happens that their meaning varies from context to context and even from author to author. We will here focus our attention on only one context of use, that of the theories of mental content. To be sure, there are other contexts which have been appealing to contemporary medievalists trying to make sense of sundry 13th- and 14th-centuries philosophical theories. Our main interest in mental content, however, springs from the well-known fact that Ockham and other

terminists identified mental content with meaning proper, privileging mental language over spoken and written languages.

The internalist/externalist debate on mental content is concerned with the question, How is mental content individuated—is it individuated by features only "within the mind", or rather by those "outside the mind"? As it is evident, the answer to this question will depend upon how 'within' and 'outside' are construed.[1] Let us take the (more or less) mainstream approach, and pursue the matter with the help of one of the celebrated Twin Earth thought experiments of Hilary Putnam.[2]

Suppose there exists a planet very much alike Earth. Twin Earth, as we will call it, is an almost exact duplicate of Earth—its 'metaphysical counterpart', as it were—as to what it contains, its geophysical history, the social history of its inhabitants, etc., with one small exception: the relative proportions of the metals aluminium and molybdenum are inverted in Twin Earth with respect to Earth. Hence whereas pans, pots, spoons, car rims, and so on are composed of aluminium in Earth, those same kinds of items are composed of molybdenum in Twin Earth, and hence have (more or less) the same mechanical, physical, and chemical properties than their Earthian counterparts in Earth. Let us next imagine that Oscar is an inhabitant of Earth living there before the rise of modern chemistry (say, 1750); and that Twin Oscar (or Twoscar, for short), his metaphysical counterpart or *Doppelgänger*, lives in Twin Earth at exactly the same time as Oscar did in Earth. Due to such metaphysical twinship, Oscar's and Twoscar's personal histories, skills, desires, thoughts, etc. are very much the same. But unbeknownst to both Oscar and Twoscar (and to that matter

1. On this issue, see esp. Fumerton 1988 and Farkas 2003b. In the latter paper, Farkas persuasively argues that there is no clear-cut way of distinguishing the internal from the external, as to the issues in question in the internalist/externalist debate.
2. Putnam 1975b. While Putnam's original thought experiments concerned only semantic (or 'linguistic') externalism, Colin McGinn (1977) and Tyler Burge (1979) noticed they could be thus construed so as to argue for mental content externalism.

to anyone else living at that time on Earth or Twin Earth), all of each other's intensional states (believes, desires, volitions, etc.) concerning the metal in which the local artefacts are made are qualitatively identical. Everything that Oscar believes, desires, etc. about such Earthian artefacts is type-identical to what Twoscar believes about the corresponding TwEarthian artefacts.[3]

Having thus designed the thought experiment, the content externalist will now argue as follows. It is the case that Oscar's intensional states about the metal in Earth which makes up sundry local artefacts are type-identical to Twoscar's intensional states about the metal in Twin Earth that makes up the counterpart local artefacts. Both of them think, for example, that the metal each one calls in his own idiolect 'aluminium' is white, stainless, lightweight, malleable, and so on. Since *ex hypothesi* modern chemistry has not yet been developed in either planet, all possible beliefs Oscar in fact has about the substance he calls 'aluminium' are absolutely indistinguishable from those Twoscar in fact has about the substance he also calls 'aluminium'. But of course, as *we* know, 'aluminium' in Oscar's idiolect refers to the metal Al, while 'aluminium' in Twoscar's idiolect refers to the metal Mo—the two being quite different substances. Hence the meaning of the word 'aluminium' in Oscar's idiolect, as well as the content of all of Oscar's intensional states about that substance and about the local things it makes up (spoons, pots, etc.) is *altogether different* from the meaning of the word 'aluminium' in Twoscar's idiolect, as well as from the content of all of Twoscar's intensional states about that substance and about the local things it makes up (spoons, pots, etc.). Meaning, therefore, and for that matter mental content in general,

3. The first of Putnam's (1975: 223ss) thought experiments describes a situation where the liquid that pours down as rain, fills lakes and oceans, etc., in Earth is $H_2O$, while in Twin Earth is a different substance abbreviated XYZ. This poses the complication that, strictly speaking, Oscar and Twoscar cannot be exact duplicates, as they are composed 65 % – 90 % of a different substance. The aluminium/molybdenum scenario, also in Putnam's original paper (225ss), avoids that problem.

is not individuated internally. In other words, mental content has an extrinsic relational dimension[4] which can only obtain through a direct or indirect causal interacting with the external world.

The Externalist Thesis with Respect to Mental Content can then be expounded in the following way:

> (T1) What a term, proposition, desire, volition, sensation, etc. is about, is determined in part, in a causal manner, by the causal relation the speaker holds to the external environment she lives in (and *not* solely by her mental states).[5]

An equivalent way of stating (T1), also very common in the literature,[6] is that mental contents do *not* supervene upon the speaker's internal properties. That is, mental contents of believes, desires, etc. are not entailed by the existence (or lack thereof) of internal properties.

The rival position, internalism with respect to mental content, is just the denial of (T1). In order to have a better grasp of it, we may briefly consider how the internalist can respond to Putnam's thought experiments. One way of doing so proceeds by denying the externalist's minor premiss, viz. that Oscar and Twoscar do have the same mental states—the same 'narrow psychological content'—when thinking about aluminium/molybdenum (or about the things composed of or somehow related to them).[7] This is the case, the internalist claims, since Oscar's intensional states about the local substance in question have an *indexical aspect*—one which the externalists have unlawfully claimed as theirs. Oscar's belief that, say, this pan is dirty, is about *this*

4. See Segal 2000: 5.
5. See e.g. Farkas 2003b; 2006, § 2; Brown 2007: 19; Besson 2009: 2; Lau and Deutsch 2010, § 1.
6. See e.g. Farkas 2003b: 288; McLaughlin and Bennett 2011, § 5.2; Gertler 2012.
7. See e.g. Searle 1983: 203ss; McKinsey 1991.

*very pan* he is holding right now. The same happens, *mutatis mutandis*, in Twoscar's case. Thus, the intensional states of each other are as a matter of fact type-different, against the externalist intuitions. Consequently, the mental or intensional content of each other believes are type-different.

We can accordingly state the Internalist Thesis with Respect to Mental Content in the following way:

> (T2) What a term, proposition, desire, volition, sensation, etc. is about, is completely determined by the mental state of the speaker (*not* by any relation to the external environment she lives in).

Note that the 'not'-clause in (T2) should be properly understood. It does not claim that a person's mental life is wholly abstracted from the external world, in a solipsist or occasionalist fashion. The internalist embraces the view that, at least some of the times, mental content is of or about the external world, and that as such, it necessitates a causal interacting between the intensional subject and the external world. Instead, what the internalist denies is that such interacting individuates mental content. This means that the identity of individual mental contents (the thought that *p*, the belief that *p*, etc.) is fully determined by what is 'inside the head' (as Putnam puns), and not in any way by external relations to the world. We can put the same point somehow differently.[8] The issue in discussion between internalists and externalists in not whether *actual* causal interaction with the world is partly needed for endowing some of our concepts with content; it is rather whether it is *possible* for us to have those same concepts without causally interacting in any way with the world. Internalists take the affirmative route; externalists, the negative.

8. See Farkas 2003a: 159s.

### 2.2.2 *Ockham's Alleged Externalism*

It has now become something of a fashion in philosophy to claim that previous thinkers were externalists with respect to mental content, meaning, knowledge, etc. This has been the case, for example, of Locke's philosophy of language, under such interpreters as John Mackie and Martin Lenz. Ockham himself has also been the focus of attention of several scholars who claim to have found in the *Venerabilis Inceptor* an externalist vein. Indeed one of them, Claude Panaccio, has even argued that Ockham was a 'full-fledged externalist' with respect to meaning, mental content, and knowledge.[9] In this section I will examine some of the most persuasive reasons for such externalist construal of Ockham's semantic theory.

#### 2.2.2.1 *Intuitive Cognitions*

In discussing the formation or grasping of intensional contents, Ockham stands at odds with the orthodox Thomistic, Aristotelian interpretation, as well as with the novel insights offered on that field by Duns Scotus. For on the one hand, Ockham repudiates Aquinas' recourse to intelligible (and to that matter, sensible) species as an explanation of how the mind perceives the external world and thinks about it. On the other hand, while also rejecting Scotus' commitment to intelligible species, Ockham overhauls Scotus' distinction between intuitive cognitions (*notitiae intuitivae*) and abstractive cognitions (*notitiae abstractivae*), distinction which Scotus produced in order to explain, amongst other things, the distinctive "phenomenological" feel that perception has in contrast with memory and imagination.[10] As we shall see, it

9. See Panaccio 2010: 243, and forthcoming. Cf. Panaccio 2004: 11–14 & § 9.3. For a sample of other externalist readings of Ockham's semantic and intensionality theories, see Adams 1987a: 133–41; King 2004, 2007, forthcoming; C. G. Normore 1990, 2003; Panaccio and Piché 2010.
10. Stump 1999: 177. On Scotus's treatment of the distinction, see Tachau 1988: 68–81; Pasnau 1997: 146–50; Pasnau 2003.

is this craving of Ockham's for the cognising of the *hic et nunc*, that has lead recent scholars into attributing him externalist inklings.

Ockham delineated the distinction between intuitive and abstractive cognitions in various places of his works—in the Prologue to Book I of the *Ordinatio*,[11] in several questions of Book II of the *Reportatio*,[12] and in several articles from the *Quodlibeta septem*.[13] Throughout his overall philosophical development, and particularly all through the evolution of his view on the nature of concepts,[14] Ockham was very much consistent in the presentation and defence of that distinction. We can thereby begin our investigation, leaving aside for the most part the details of the evolution of his thought.

According to Ockham, an intuitive cognition is a simple (non-complex) intellectual act of apprehension, by which the intellect can immediately—i.e. without any reasoning—judge whether (*a*) a singular substance exists, or (*b*) a singular quality inheres in a singular substance, or (*c*) whether two or more[15]

11. *Ord.*, Prol., q.1, (*OTh* I: 16–75).
12. *Rep.* II, qq.12–14 (*OTh* V: 251–337)
13. *Quodl.* I.13: 72–8; V.5: 495–500; VI.6: 605–7.
14. As has been thoroughly studied in the recent specialised literature, Ockham's account of the nature of the concept went through three distinct stages. (1) In the first stage, which took place during the first redaction of the *Ordinatio* and the writing of his *Expositio in Perihermeneias*, Ockham held that concepts were fictive beings (*ficta*) which lacked real being, having only what he and other scholastics dubbed 'objective existence/being' (*esse obiective*). (Most scholars now refer to this view as the '*fictum*-theory' of the concept.) (2) Later on, in the second stage, Ockham rejected that view and begun arguing for concepts being mental qualities, really distinct from the act of understanding. (3) Finally, from the definite redaction of the *Ordinatio* on, Ockham perfected that view into one that held that concepts were to be identified with the very act of understanding, being as such a special sort of mental quality. (Scholars now refer to this view as the '*actus*-theory'.) Specialists in the field have disagreed on the reasons Ockham had to abandon the *fictum*-theory in order to adopt in the end the *actus*-theory. Marilyn Adams, for instance, argued that it was under the fire of Walter Chatton's criticisms that Ockham was forced to alter his view. (See Adams 1987a, c.7, esp. pp.83s.) However, Claude Panaccio has claimed—convincingly, in my opinion—that Chatton's arguments would probably not have appeared acceptable to the mature Ockham; and that, as a consequence, he was independently moved into adopting the *actus*-theory by the rejection of the commitment to common natures that sprung from the *fictum*-theory. (See Panaccio 2004: 23–7.)
15. Though Ockham does not specify how many entities can be simultaneous apprehended by a single intuitive act, the question might be settled by experimental psychologists, and thereby it need not trouble us for now.

singular entities are spatially related (by contiguity, nearness, separateness, etc.). As Ockham is prompt to explain, however, the intellectual act of intuitively apprehending something is numerically and specifically distinct from the act of judging about it. Hence even though an intuitive cognitive act can normally be the immediate, partial cause of a contingent judgment of existence, inherence, or spatial relationship (the perceived object being the other partial cause), the former act can nevertheless be produced without the latter. This occurs in the case, for instance, of neutral propositions, i.e. propositions which are merely apprehended or formed by the intellect, but for which no assent or dissent is produced. Logically speaking, therefore, the intellect first apprehends one or more distinct entities at once, and then proceeds to judge about it or them.

Intellectual acts of apprehension of the second species, the so-called 'abstractive cognitions', are distinguished from acts of the first species in that their function is not to co-produce contingent judgments of existence, inherence, or spatial relationship. This is the case since, as they are identical—in Ockham's mature psychological theory[16]—with general, specific concepts, they thereby remain epistemically neutral regarding the *hic et nunc* of perception. From the mere formation of the concept it is therefore impossible to infer any contingent truth about the concept's objects. (E.g. by merely having or forming the concept of a human being, it is impossible to conclude that a singular human being exists right now, or that some quality inheres in it, or that it is spatially related to other substances somehow.) As Ockham notes,[17] they are called 'abstractive' because they abstract from both existence and singularity. Whereas intuitive cognitions are co-produced, in the natural order of things, by both the intellect's power and the perceived thing, work-

16. See n.14, above.
17. *Ord.* I, Prol., q.1 (*OTh* I:30s).

ing as partial, sufficient causes of the cognition, Ockham states that abstractive cognitions are produced by other sort of causal chains. Here he offers two non-exclusive explanations.[18] First, by the intellect's power and by an intuitive cognitive act. For in the natural order of things, Ockham believes, these two things are sufficient to jointly cause an abstractive cognition. However, pressed by an objection as to how an act of one species can cause an act of another species, Ockham is happy to acknowledge a second possible causal chain. In it, the intuitive cognition and the intellect jointly cause not an abstractive cognitive act, but an abstractive cognitive habit, which in turn causes the corresponding abstractive cognitive act. Ockham sees no problem, then, in that an act of one species, working in tandem with another partial cause, produces a habit of another species.[19]

As we said, in the natural order of things, that is, without the eventual intervention of God's absolute power, the object plus the intellect causally interact to produce an intuitive cognition of that object, cognition which in turn is naturally apt to produce a contingent judgment of existence, inherence, or relation. This interaction between partial causes gives rise to a series of interesting phenomena. To properly understand them, we need first to consider two metaphysical / theological principles embraced and frequently used by Ockham.

(T3) God's Primary Causation. God can directly produce by himself whatever he can produce by means of secondary causes.[20]

18. Cf. *Rep.* II, q.12–13 (*OTh* V: 264s).
19. Cf. *Rep.* II, q.14 (*OTh* V: 336s).
20. Cf. *Quodl.* IV.12: 632$^{80–2}$: '…omnem rem quam potest Deus facere mediante causa secunda efficiente, potest per se facere sine omni causa secunda efficiente.' See also *SL* I.50: 161$^{56–8}$.

(T3) might be described as the theological version of the 'cut the middle-man' principle. For instance, if this fire causes this heat, then God himself can create this very heat directly, even if this fire never existed.

(T4) Dependency of Secondary Causation. Every secondary cause requires God's primary causation in order to be effective.[21]

Even if some thing is the natural, total cause of another thing, it will still need God's primary causation in order to produce its effect. In other words, no creature can exercise its causal powers by itself, without God's concurrence. However, as Ockham, Aquinas, and most medieval thinkers acknowledged, the acceptance of (T4) does not lead into a causal occasionalism. That is to say, God needs not intervene whenever some natural thing produces some effect; or equivalently, natural things are legitimate causes of their effects—even though their causal powers ultimately derive from God's primary causality.

A corollary of this thesis is that God can prevent any thing from exercising its causal powers if he decides not to concur with them. For example, God can prevent this fire from producing any heat at all.[22]

Furthermore, it follows from both (T3) and (T4) that, if *C* is naturally causing *E*, God can stop concurring with *C* while at the same standing for *C*'s causal power in order to cause *E*. For example, if this fire is causing this heat right now, God can both block this fire's power and replace it with his, so that this heat continues existing undisturbed by the causal substitution.

We can now see how these two theses apply to the case of intuitive cognitive acts. For God can in principle cause the intuitive cognition—the mental

21. Cf. *Ord.*, d.45, q.un. (*OTh* IV: 668$^{18-20}$): '…nulla causa secunda potest in aliquem effectum nisi concurrente immediate causa prima simpliciter, scilicet Deo.'

22. Cf. *Rep.* II, q.3–4 (*OTh* V: 62$^{16-20}$): '…suspensio actionis ignis in camino non videtur aliud quam Deum non coagere immediate ad producendum calorem. Fuit enim substantia ignis ibi conservata. Sed quia Deus non concurrebat immediate cum igne ad causandum effectum ignis, ideo ignis non potuit agere.'

quality which is identical to the intellectual act of simple apprehension—in someone, or the cognition's object, or both. Or God could destroy or cease to conserve any or each of them. For instance, suppose God creates in someone currently located in Oxford the intuitive cognition of a rose that currently and really exists in Paris.[23] Because the rose is far away, and Ockham rejects action at a distance, in the natural order of things the intuitive cognition of that rose is not possible. But since God creates the intuitive cognition in the person currently located in Oxford, Ockham contends, that person would immediately form the true judgment, 'There exists a rose in London now'.

Also, if someone is currently seeing a present, existing rose, God can block the rose's causal power upon acting her, while instantly replacing it with his own causal power. And thus she will fail to notice any change in her perception of the rose, thereby truly judging that the rose continues to exist opposite her.

More interestingly, perhaps, is the widely discussed doctrine of the intuitive cognition of non-existents.[24] According to it, God can destroy (or cease to conserve) the thing which acts as partial cause of an intuitive cognition, or alternatively, God can cause in someone an intuitive cognition of a non-existing thing. This possibility had already been envisaged before Ockham by several thinkers, who inferred from it that God could make our intuitive apprehensive acts deceptive; for we could have intuitive cognitions about things that do not actually exist, while forming the judgments that they do.[25] By contrast, Ockham believes that even if God miraculously destroyed (or failed to conserve) the object of someone's intuitive cognition at the very moment that

23. Cf. *Rep.* II, q.12–13 (*OTh* V: 258s).
24. Cf. *Ord.* I, Prol., q.1 (*OTh* I:38s); *Rep.* II, q.12–13 (*OTh* V: 259s); *Quodl.* VI.6: 604–7. See also Boehner 1943; Adams 1970; Karger 1999, 2004; Panaccio and Piché 2010.
25. See e.g. Walter Chatton, *Sent.* I, Prol., 2.3 (Walter Chatton 1989, 102.120s). See also Peter Auriol, *Scriptum super primum Sententiarum*, Prol., § 2 (Petrus Aureolus 1956, vol. I: 204, § 111). Cf. Karger 1999: 212s. See also Karger 2004, § § 3s.

cognition is occurring, that person would nevertheless be causally compelled to form the corresponding judgment that the object does *not* exist. This does not mean, however, that God can*not* in his absolute power fool us into believing that some substance exists, or that some quality inheres in a substance, or that two or more substances hold a certain spatial relation; instead it means that he cannot fool us by means of our own intuitive cognitive access to the external world. If it be the case that God implants in someone the belief (*actus fidei*[26]) that there exists a rose opposite her, when no such rose actually exists, then she would indeed be fooled; but that false judgment would simply not be the product of an intuitive cognition, as the nature of such cognitions is to co-produce evident judgments of existence (or lack thereof), of inherence (or lack thereof), and of spatial relationship (or lack thereof).[27]

Having mentioned some of the key ideas in Ockham's theory of knowledge, we can now proceed to examine the externalist's reading of Ockham's theory of mental content. As we may recall from § 2.2.1 above, the externalist denies that mental content is internally individuated; rather, she claims, it is the external world that causally contributes in determining what intensional contents are about.

Interpreters who see in Ockham an externalist with respect to mental content begin by focussing on his rejection of the species-theory of cognition. In rebuking the species-theory, as championed both by Thomists and Scotists, Ockham argues that the likeness which purportedly exists between the intelligible species and the object of the cognition is neither necessary nor sufficient to individuate the cognition's content. For no maximal likeness, no matter

26. *Quodl.* V.5: 498.
27. A question we must leave open for the moment is whether there is a significant phenomenological difference between the two judgments, viz. that produced by a genuine intuitive cognition and that implanted by God.

how faithful it is, can determine reference to only one individual, as any likeness relation necessarily implies a potential infinity of similar individuals. In an often-quoted passage from the *Quodlibeta* I.13, Ockham declares:

> … an intuitive cognition is a proper cognition of a singular thing not because of its greater likeness to the one thing than to the other, but because it is naturally caused by the one thing and not by the other, and is not able to be caused by the other.[28]

As a result, a causal relation linking the cognitive act of apprehension with its object is needed to ensure determinateness of reference. Indeed, this qualification should apply not only to the species-theory of cognition, or to the *fictum*-theory of the young Ockham, but also to his mature account of intuitive apprehension. Ockham himself insists that both intuitive and abstractive cognitions hold a maximal similarity relation to their object or objects.[29] In this manner, then, although as a matter of fact all intellectual acts of apprehension hold through such similarity relations, nevertheless what makes intuitive cognitions proper only to one individual is the causal relation obtaining between the two.

Panaccio (forthcoming, § 2.1) offers a strong piece of textual evidence for his externalist reading. He presents what he deems a 'thought experiment' of Ockham's, whereby the *Venerabilis Inceptor* poses the following setting.[30] Taking for granted that angels have direct, transparent cognitive access to the mind's contents of any other rational being, suppose an angel $A_2$ is intuitively

28. *Quodl.* I.13: $76^{89-92}$: '… intuitiva est propria cognitio singularis, non propter maiorem assimilationem uni quam alteri, sed quia naturaliter ab uno et non ab altero causatur, nec potest ab altero causari.' (Trans. William of Ockham 1991: 66.) See also *Quodl.* I.13: 76; V.7: 506; *Rep.* II, q.12–13 (*OTh* V: 287); q.16 (*OTh* V: 378–81). Cf. Adams 1987a: 137; King 2007: 93s.
29. *Quodl.* IV.35: $474^{116-20}$: '… per actum potest salvari quidquid salvatur per fictum, eo quod actus est similitudo obiecti, potest significare et supponere pro rebus extra, potest esse subiectum et praedicatum in propositione, potest esse genus, species etc., sicut fictum.' (Ockham is speaking here of intellectual acts of apprehension in general, arguing against his previous *fictum*-theory.) See also *Rep.* II, q.12–13 (*OTh* V: 309).
30. See *Rep.* II, q.16 (*OTh* V: 378s).

cognising one of two things in front of him which are perceptually indistinguishable. In addition, suppose there is nothing in the "external" setting that hints as to which of the two things the angel is staring at (no head or eyes movements, etc.). Imagine now that another angel, $A_1$, is seeing this whole scenario—$A_2$, the two objects, and the internal and external setting of $A_2$'s perceiving one of the objects. Ockham concludes that, no matter how hard $A_1$ tries, he will not be able to infer from the available information which of the two things is being perceived by $A_2$.

> … that who sees [another one's] intuitive cognition of a singular [thing], does not intuitively see that singular insofar as that cognition has that singular thing as its *terminus*.[31]

A further assumption in this argument, indeed one which Panaccio underscores, is the absolute singularity of univocal causation. That is to say, if $E$ was actually caused by $C$, then there is no possible world in which $E$ could have been caused by anything but $C$ (numerically) itself. As Ockham puts it,

> … every naturally producible effect determines itself, by its very nature, so that it is produced by a unique efficient cause and not by other, just as it determines itself so that it is produced in a unique matter and not in another. For if not, it would follow that the same effect would be simultaneously and at once produced by different agents in two matters, which is impossible.[32]

Ockham provides a complicated example, in the style of the so-called 'Buridan's Ass' argument, to illustrate this point. And although Panaccio does not care to examine it, it will be useful for us to do so here. Suppose $\text{fire}_1$ produces $\text{heat}_1$ in $\text{matter}_1$, and that $\text{fire}_2$ produces $\text{heat}_2$ in $\text{matter}_2$. Suppose further (*i*)

31. *Rep.* II, q.16 (*OTh* V: $378^{15-7}$): '… videns cognitionem singularis intuitive, non videt illud singulare intuitive quatenus ad illud singulare terminatur cognitio.'
32. *Rep.* II, q.12–13 (*OTh* V: $288^{8-13}$): '… omnis effectus naturaliter producibilis ex natura sua determinat sibi quod producatur ab una causa efficiente et non ab alia, sicut determinat sibi quod producatur in una materia et non in alia. Quia si non, sequeretur quod idem effectus a diversis agentibus simul et semel produceretur in duabus materiis, quod est impossibile.'

that $\text{fire}_1$ and $\text{fire}_2$ are of the same intensity, so that $\text{heat}_1$ and $\text{heat}_2$ are qualitatively identical; (*ii*) that $\text{matter}_1$ and $\text{matter}_2$ are of the same kind (*ratio*); and that (*iii*) $\text{fire}_1$ and $\text{fire}_2$ are exactly at the same distance from both $\text{matter}_1$ and $\text{matter}_2$—a scenario of sorts, Ockham believes, quite likely to happen in reality ('hoc est bene possibile'). This being so, and assuming for the sake of argument that one and the same effect can be produced by two different causes, Ockham lays out the following dilemma. (1) Either both fires produce the very same heat simultaneously and once in both matters, (2) or no fire produces any heat at all. The reason is that if $\text{fire}_1$ is exactly at the same distance from $\text{matter}_1$ and $\text{matter}_2$, there would be no reason why a heat ($\text{heat}_1$ or $\text{heat}_2$) is produced in $\text{matter}_1$ and not in $\text{matter}_2$ (assuming, of course, that one self-same heat can only be produced in one self-same matter); and the same happens, *mutatis mutandis*, in the case of $\text{fire}_2$. But both horns of the dilemma are impossible, Ockham claims. Therefore, no single effect can be produced by two numerically distinct causes.

Applying to the case at hand the general principle of causation explained above, it follows that one selfsame intuitive cognition could not have been produced by a certain object had it actually been produced by another object. The fact that univocal causation is metaphysically rigid—so to speak—ensures that intuitive cognitions have singular entities as unique objects.

The moral Panaccio extracts from this argument of Ockham's is that 'what is in the head' is simply not enough to individuate the intensional content of intuitive cognitions. Or, to put the same point somehow differently, if intuitive cognitions were internally individuated, they would fail to grasp singular entities in their full individuality. And this is nothing else than the mental content externalist's creed. For it is the case not only that causal interacting is required for having intensional contents about the external world—as the

internalist might concede; more importantly, it is rather that such causal interacting is indeed necessary for the individuation of intensional contents. In Panaccio's words,

> The internal aspect of my intuitive grasping … is not in itself sufficient to uniquely determine the object of my particular intuition. *Causality* is required.[33]

However, as we will shortly see in some detail, some critics[34] have contended that there is indeed some content—some Fregean *Sinn*—essentially associated with intuitive cognitions. For these cognitions not only rigidly point at some existing substance, but also convey that it exists, or that some quality inheres in it, or that some sort of spatial relation obtains between it and other substances. If this is correct, there is more to the intensional content of intuitive cognitions that what the externalist claims there is.

Panaccio replies, just as we will see now in the case of abstractive cognitions, that although any such information (existence, inherence, contiguity, as well as the properties which are picked out by the similitude relations) can be said to play an epistemic or classificatory purpose, it is still not part of the cognition's semantic content.[35] Even if Panaccio does not explicitly mention the connection, we can notice how this associated information might be what Putnam calls 'linguistic stereotypes', i.e. pieces of information which any competent speaker is required to have about the referent of a term, but which are not part of its meaning.[36]

Let us wrap up this section. The externalist construal of Ockham's account of intuitive cognitions rests upon the claim that this type of cognitive acts fails to be individuated unless an external, causal link with the object takes place. The reason is that nothing within the mind is by itself sufficient to guarantee

33. Panaccio forthcoming: 10 (his italics).
34. E.g. Brower-Toland 2007a: 329–31.
35. See Panaccio 2010: 244.
36. See e.g. Putnam 1973a: 204–6; 1975: 230, 247–52.

the singularity of the intensional objects of intuitive cognitions. To explain how it is possible for the intellect to cognise singular objects in all their individuality, Ockham resorts to a metaphysically rigid conception of univocal causation, according to which no effect could have been produced by anything other than its actual, numerically one cause.

#### 2.2.2.2 *Abstractive Cognitions*

During the mature period of his psychological theory, after having rejected both the *fictum*-theory and the mental-quality theory of intellectual apprehensive cognitions, Ockham repeatedly stated that an abstractive cognition does *not* and can*not* have as its object a singular entity. Until recently scholars thought the reason for this was that, in Ockham's view, the reference of abstractive cognitions or, what is the same, of general mental terms, is fixated by means of a maximal similarity relation. To be sure, this account of how the intentional content of general concepts gets fixed was explicitly found in Ockham's *fictum*-theory.

> … a universal … only has objective being inside the soul, and it is something feigned that has in objective being a being such as the thing outside [the soul] has in subjective being. And it is because of this that an intellect that sees some thing outside the soul feigns a similar thing in the mind, in such a way that, if [that intellect] had a productive power just as it has a fictive power, it would produce outside [the soul] such a thing in subjective being, numerically distinct from the other thing.[37]

To explain the idea of maximal similarity, Ockham held that the *fictum* is so similar to its (subjectively-existing) object, that if it had subjective existence (instead of having only objective existence), it would be qualitatively indis-

37. *Ord.* I, d.2, q.8 (*OTh* II: 271): '… universale … tantum habet esse obiectivum in anima, et est quoddam fictum habens esse tale in esse obiectivo quale habet res extra in esse subiectivo. Et hoc per istum modum quod intellectus videns aliquam rem extra animam fingit consimilem rem in mente, ita quod si haberet virtutem productivam sicut habet virtutem fictivam, talem rem in esse subiectivo—numero distinctam a priori—produceret extra.' See also *Ord.* I, d.2, q.8 (*OTh* II: 279); *Ord.* I, d.13 (*OTh* III: 419s).

tinguishable from its object, that is, there would be two numerically distinct objects of the same species.

> . . . a concept is something in objective and intelligible being such as it is the very thing outside [the soul], in such a way that, if it could be produced in reality just as it can be feigned in the intellect, it would be in reality similar to the singular thing previously known.[38]

Ockham later abandoned the *fictum*-theory for the mental-quality theory, and finally for the *actus*-theory, after purportedly having recognised, amongst others,[39] two structural problems in the theory—first, the problem of making sense of a similarity relation between objective and subjective beings, that is, between beings of reason and real beings;[40] and second, the explanatory superfluity of the *ficta*. With regard to the first, Ockham acknowledged that any real being would be by necessity more similar to any other real being, than any being of reason would be to any other real being, even if the *fictum* is said to be the mental image of the real object.[41] With regard to the second, as in the case of the intelligible species, he soon came to believe that whatever epistemic and semantic roles are attributable to *ficta*, those very same roles can be handled as well by intellectual *actūs*, without the undesirable ontological commitments of the former.[42]

38. *Ord.* I, d.2, q.8 (*OTh* II: $428^{16-9}$): ' . . . conceptus est aliquid tale in esse obiectivo et intelligibili qualis est ipsa res extra, ita quod si posset produci realiter, sicut potest fingi intellectualiter, esset realiter simile rei singulari prius notae.'
39. See n.14, p.42, above. See also Adams 1987a: 83–105; Tachau 1988: 148–53; Spade 2007: 158–63; Panaccio 2004, § 2.2.
40. *Quaest. Phys.*, q.1 (*OPh* VI: $398^{23-8}$): ' . . . tale idolum plus differret a re quacumque quam quaecumque res differt ab alia, quia ens reale et ens rationis plus differunt quam quaecumque duo entia realia, et ideo tale idolum minus assimilatur rei, et per consequens minus potest supponere pro re quam intellectio quae plus assimilatur rei; et ita minus erit communis rei extra et minus habebit rationem universalis quam intellectio.' See also *Exp. Perih.*, Proœm., § 7 (*OPh* II: 360s).
41. *Exp. Perih.*, Proœm., § 7 (*OPh* II: $360s^{35-8}$): ' . . . tale fictum plus differret a re quacumque quam quaecumque res ab alia, quia ens reale et ens rationis plus differunt quam quaecumque duo entia realia; igitur tale ens fictum minus assimilatur rei . . . .'
42. *SL* I.12: $43^{35-8}$: 'Omnia autem quae salvantur ponendo aliquid distinctum ab actu intelligendi possunt salvari sine tali distincto, eo quod supponere pro alio et significare aliud ita potest competere actui intelligendi sicut alii signo.' See also *Quodl.* V.35: 474.

However, something which seems to have prevailed throughout Ockham's philosophical development is the Aristotelian conviction according to which an abstractive cognitive act—be it a *fictum*, or a mental quality identical or not with the act of understanding—is maximally similar to its object. The 'abstraction from singularity' trait proper to abstractive cognitions, which we mentioned in passing in the previous section, is precisely based upon such similarity. For the fact that a concept is proper not to one single individual but to a whole species or a whole genus of them (in the case of specific or generic concepts, respectively), is necessarily dependent upon the maximal similarity relation obtaining between the concept and each one of its (potentially multiple) *significata*.

For instance, in discussing the distinction between first and second intentions, Ockham renders this idea in the *Quodlibeta septem* (revised by him in Avignon during 1324–25 [43]) in the following manner:

> … both a first intention and a second intention are truly acts of understanding, since whatever is preserved by appeal to a *fictum* can be preserved by appeal to an act of understanding. For just like a *fictum*, an *act of understanding is a likeness of an object*, is able to signify and supposit for things outside [the soul], is able to be the subject or the predicate in a proposition, is able to be a genus, a species, etc.[44]

And this insistence of Ockham's that an abstractive cognition, identical to an act of understanding, is a likeness or similitude of its object is found throughout his later works.[45]

43. See § 13 of the editor's introduction to the critical edition of the *Quodlibeta* (pp. *40s).
44. *Quodl.* IV.35: 474[115–20]: '… tam intentio prima quam secunda est vere actus intelligendi, quia per actum potest salvari quidquid salvatur per fictum, eo quod actus est similitudo obiecti, potest significare et supponere pro rebus extra, potest esse subiectum et praedicatum in propositione, potest esse genus, species etc., sicut fictum.' (Trans. William of Ockham 1991: 390, with emendations; my italics.)
45. See e.g. *Quodl.* I.7: 43; I.13: 74; II.18: 191; V.7: 505s; VI.5: 602; VII.12: 749. *Quaest. Phys.*, q.4 (*OPh* VI: 405); q.6 (*OPh* VI: 408) (dated before 1324); *Exp. Perih.*, Procem., § 6 (*OPh* II: 93) (dated 1321–24).

To be sure, some scholars have wondered whether Ockham should have abandoned this doctrine of similarity as constituent of the semantic makeup of general concepts.[46] As we will later see in § 2.2.4.2, one of the problems of endorsing an internalist account of the intensionality of general concepts based upon similarities, is that at least in the case of Ockham, the similarity relation obtaining between concept and object excludes the essential causal powers of the object, thereby underdetermining the concept's reference.

In his *Ockham on Concepts* (2004), Panaccio tried to tackle the problems posed by Adams and others regarding the nature of the similarity relation as the intentional foundation of abstractive cognitions. Following a lead by Buridan, he proposed a construal of the similarity relation in question in terms of a fitness relation (*convenientia*).[47] However, presumably persuaded by the problem of the underdeterminacy of reference just alluded, he has recently abandoned or at least modified his previous views on the subject.[48] As we discussed in the previous section, Panaccio now construes Ockham as being an externalist in every respect, that is, not only with regard to intuitive cognitions, but also to abstractive cognitions and connotative mental terms, as well as to conventional-language terms.

In the remaining part of this section we will focus on Panaccio's externalist interpretation of Ockham's semantics of mental general concepts, while saying a word or two on that of conventional terms; but we will pass over his views on connotative terms.

46. See e.g. Adams 1987a: 132: 'I do not see how Ockham can specify, either on the objective-existence theory or on the mental-act theory [viz. the *fictum*-theory and the *actus*-theory, respectively] a similarity relation that can constitute the natural signification relation for general concepts such as "animal" and "man" … '. See also Alféri 1989; Biard 1989, 1997. Cf. Panaccio 2004: 119.
47. Panaccio 2004: 125. He quotes Buridan's *In Metaph.* VII, 8 (Paris, 1588: 46$^{r}$).
48. See Panaccio 2010 and forthcoming.

Panaccio's argument begins by emphasising what he takes to be a Putnamian trend in Ockham's account of the imposition of conventional terms. He cites the following passage from the *Summa logicae*:

> Whoever it was that first instituted the use of the term 'man' saw some particular man and coined the term to signify that man and every substance like him. … But even though it signifies indifferently many men, 'man' is not equivocal, for in signifying indifferently many men it is a sign subordinated to just one concept and not many.[49]

The phenomenon Ockham describes is, admittedly, quite akin to the 'dubbing ceremony' Kripke and Putnam called attention to.[50] In this ceremony, a natural kind term is introduced in a vocabulary—in a sociolect—by pointing at an exemplar of a natural kind substance, and then by stipulating that the term will thereby refer to whatever has the same essence or nature as that exemplar. As Kripke puts it:

> In the case of proper names, the reference can be fixed in various ways. In an initial baptism it is typically fixed by an ostension or a description. Otherwise, the reference is usually determined by a chain, passing the name from link to link. The same observations hold for such a general term as 'gold'. If we imagine a hypothetical (admittedly somewhat artificial) baptism of the substance, we must imagine it picked out as by some such 'definition' as, 'Gold is the substance instantiated by the items over there, or at any rate, by almost all of them'.[51]

And Putnam thus:

> Actual things, whatever their description, which have played a certain causal role in our acquisition and use of terms determine what the terms refer to. A term refers to something if it stands in the right relation (causal continuity in the case of proper names; sameness of 'nature' in the case of kinds terms) to these existentially given things. In the case of proper names, the existentially

49. *SL* I.43: 124[44–51]: 'Ille enim qui primo instituit hanc vocem "homo", videns aliquem hominem particularem, instituit hanc vocem ad significandum illum hominem et quamlibet talem substantiam qualis est ille homo. … Non tamen est haec vox "homo" aequivoca, quamvis significet multa aeque primo, quia est signum subordinatum uni conceptui et non pluribus in significando illos plures homines aeque primo. ' (Trans. Panaccio forthcoming: 5; his italics.)
50. See Putnam 1975b; 1983: 70–4; Kripke 1980: 122–40, esp. 135s.
51. Kripke 1980: 135

> given thing is the person or thing originally 'baptized' with the name; in the case of natural kind words, the existentially given things are the actual paradigms.[52]

This causal account of reference fixation is supplemented by a causal account of reference borrowing or transmission. This is the so-called 'division of linguistic labour'.[53] The idea is plain enough. Even if I have never had direct, perceptive acquaintance with dodos (nor presumably anybody else today alive), I can nonetheless use the natural kind term 'dodo' to refer that extinct bird species. The reason is that some original dubber (or multiple dubbers, more likely) fixed that term's reference in a dubbing ceremony, as described above, and the causal link was 'historically' transmitted from her (or them) to me. (This is why, by the way, causal theories of reference are also sometimes called 'causal-historical theories of reference'.[54]) In this manner, then, the reference of natural kind terms, says Putnam, and that of proper names, says Kripke, is always causally grounded. For once a term has been introduced in a vocabulary—an idiolect, or better: a sociolect—by means of a dubbing ceremony in which a 'causal chain of the appropriate type' links the term with its referent, it can thereafter be used by any of the vocabulary's users to refer to the original referent. Note also that this transmission of reference, or reference borrowing, is ultimately a causal relation itself.

Panaccio believes this sort of causal explanation is being given in Ockham's account of the natural signification of general terms. Admittedly, the passage of Ockham's quoted above explicitly discusses the dubbing ceremony of *conventional* common terms, and Panaccio is well aware of that. Nonetheless, he declares that '… we have good reasons to think that the process described

52. Putnam 1983: 73. See also Putnam 1973b: 708; 1975: 227–38.
53. See Putnam 1975b: 227–9; 1983: 72.
54. See e.g. Sullivan 2010.

here closely corresponds to what happens when a general concept is naturally acquired.'[55]

What are these reasons? To begin with, Panaccio reminds us of the fact that, in Ockham's opinion, a single perceptual encounter with an individual is by itself sufficient to form in the intellect the specific concept corresponding to that individual.[56] For instance, if I perceive Socrates, my intellect forms at once an intuitive cognition which has him as an object, so I can evidently know that he exists right now, etc.; and also forms the abstractive cognition of a human being, that is, its species or specific concept. As we may recall from the previous section, even if the intuitive and the abstractive cognitions normally occur simultaneously (*simul tempore*), the intuitive is natural or causally prior to the abstractive. For the intuitive cognition serves as partial cause for the production of the abstractive.[57] Now even if Panaccio does not explicitly spell this idea out, this account of Ockham's of the causal interaction of intuitive and abstractive cognitions can also be seen to be in the spirit of Putnamian content externalism. For the causal chain of reference is transmitted from the intuitive cognition to the abstractive cognition, warranting the link of the former to the referent. In other words, if the causal chain of reference were not transmittable from the intuitive to the abstractive cognition, general terms would therefore lack the causal grounding demanded by externalist theories of mental content.

Panaccio next argues that there are no intensional intermediaries (e.g. similarity relations) interacting between the natural concept and its object.

55. Panaccio forthcoming: 11.
56. *Quodl.* IV.17: 385$^{1268}$: '… conceptus speciei potest abstrahi ab uno individuo.' See also *SL* III-2.29: 557.
57. See e.g. *Quodl.* I.13: 73$^{38-44}$: '… cognitio simplex propria singulari et prima tali primitate est cognitio intuitiva. Quod autem ista cognitio sit prima patet, quia *cognitio singularis abstractiva praesupponit intuitivam respectu eiusdem obiecti et non econverso*. Quod autem sit propria singulari patet, quia immediate causatur a re singulari vel nata est causari, et non est nata causari ab alia re singulari etiam eiusdem speciei.'

> What is it, then, that determines its content? Since we are speaking of a simple absolute concept, what *we* call its 'content' is nothing but its extension. . . . So when we ask 'what is it that determines the content of a concept of this sort?', what we are asking in effect is: 'what is it that determines its extension?' And the answer, I gather, must lie in the process alluded to in the passage from the *Sum of Logic* I, 43, quoted above. What must happen is this: I see some particular horse, and I automatically form a concept signifying both that horse (the one that caused the formation of the concept) and every substance like it.[58]

Panaccio's idea seems to be, therefore, that there is no intensional content associated with natural concepts, as they only have extension. But then what about the similarity relations Ockham states that obtain between concepts and objects? As we mentioned in the last part of the previous section, Panaccio now thinks that the traits which are captured by similarity relations between general concepts and their objects serve only a recognitional role.[59] Against other scholars who have argued that the mature Ockham abandoned, or should have done so, the view according to which the intentionality of concepts is founded upon maximal similarity relations, Panaccio now suggests that even in that early period of his intellectual career, Ockham embraced an externalist construal of all such mental contents. Indeed, Panaccio discusses a passage of the *Ordinatio*, in which Ockham expresses what he deems to be an acknowledgment of the recognitional role of similarity relations obtaining between *ficta* and their objects.[60] However, Panaccio underscores the fact that these recognitional or categorizing features associated with a term *are not part of its meaning*. More to the point and against an internalist construal of gen-

58. Panaccio forthcoming: 115.
59. Panaccio 2010: 244: 'It [viz. the aspectual or descriptive contented associate with terms] is *pragmatically* required to secure the correct reapplication of the concept or the correct intuitive recognition of a given person . . . , but does not play the role of a Fregean sense: it does not fix the reference, neither in the case of absolute concepts nor in the case of intuitive cognitions.' (His italics.)
60. *Ord.* I, d.2, q.8 (*OTh* II: 278$^{10-2}$): ' . . . possumus habere notitiam alicuius ficti quod aequaliter se habet ad omnes homines, secundum quod nos possumus indicare de quolibet si est homo vel non.' (' . . . we can have a cognition of a certain *fictum* which is equally related to all men, and *according to which we can judge about anything whether it is a man or not*.' [Panaccio's (forthcoming: 13) translation and italics.])

eral mental content, he is explicit in that such associated information, useful as it may be for recognising and classifying the individuals that fall under a concept, do not fix the concept's reference, neither at the initial moment of introduction into a vocabulary, nor at any subsequent moment of referential use. '*How* the concept represents whatever it is that it represents should not, in this view, determine uniquely *what* the concept represents'.[61]

We should note here, *pace* Panaccio, what appears to be an important difference between 20th- and 21st-century causal theories of reference, and the causal theory attributed to Ockham. Whereas, as we mentioned before, contemporary externalist theories allow for the causal chain to be transmitted through and by means of different individuals sharing one same sociolect—the 'linguistic division of work'—this possibility is banned in Ockham's individualistic psychologism from the outset. For, according to it, one has to directly experience the causal acquaintance of some individual in a species, in order to acquire that very concept.[62] In point of fact, this can be seen as a corollary of Ockham's strategy to ban divine deception. For, just as God in his absolute power cannot possibly implant in me an intuitive cognition of an non-existing object, while at the same time forming in me the ensuing judgment that it in fact does exist; in the same way I cannot possibly have have an intuitive cognition which was not causally grounded on some inner, private experience of an existing—or non-existing (!)—thing; and, by the same token, I cannot possibly have an abstractive cognition, i.e. a natural concept, whose

61. Panaccio forthcoming: 14; his italics.
62. See e.g. *SL* III-2.25: 550[15–24]: 'Et propositio mentalis, vel vocalis tali mentali correspondens, in qua subicitur nomen mere absolutum affirmativum, nullo modo cognosci potest evidenter nisi res importata per subiectum intuitive et in se cognoscatur, puta nisi aliquo sensu particulari sentiatur, vel nisi sit intelligibile et non sensibile et ab intellectu videatur illo modo, proportionaliter, quo potentia visiva exterior videt visibile. Unde nullus potest evidenter cognoscere quod albedo est vel esse potest nisi viderit aliquam albedinem, et sic de aliis. Et propter hoc, quamvis credere possim narrantibus quod leo est vel quod struthio est, et sic de aliis, tamen talia evidenter non cognosco.'

historical, causal chain does not go back to an intuitive cognition I once had of an individual thing falling under that concept.

This implies, therefore, that I will not be able to have the abstractive cognition—i.e. the concept—of dodo unless I ever had a direct causal contact with at least one individual dodo. But how, then, can I use the general term (mental or not) 'dodo', given that I never actually saw one? How can I even have mental or intensional contents about dodos—the belief that they were birds of a certain species, that they are now extinct, and so on?

Ockham's answer is that even though I cannot have the *simple*, absolute concept of dodo, nonetheless I can still have a *composite* one, provided that I do have the simple absolute concepts that compose it. Thereby, in my idiolect the conventional term "dodo" is subordinated to the composite concept of dodo, which conjoins several simple absolute and connotative concepts such as those of animal, feline, dangerous creature, whiskery, etc.[63] Now this is the closest I will be from being really acquainted with dodos, and for most purposes it is good enough. In a broad sense of 'knowledge' (*scientia*), Ockham concedes, I indeed know something about dodos, and can even carry out demonstrations about them. But not in a very strict sense, which requires the absolute evidence that only simple intuitive cognitions and thence simple abstractive cognitions can provide.[64]

63. Ockham's example here, as in the text quoted in note 62 above, is not of a dodo but of a lion. I deliberately chose dodos to explain the historical character of reference transmission, as underscored by contemporary externalist theories of content. (On the lion example, see Adams 1987a: 324; Panaccio forthcoming: 6; Schierbaum 2011.)

64. *SL* III-2.29: 559$^{72-80}$: '…large accipiendo "demonstrationem", tales sunt demonstrabiles. Et hoc, quia conclusio potest esse ignota et dubia et postea, scita propositione maiore in qua praedicatur idem praedicatum de conceptu mentali adquisito per notitiam intuitivam rei et scita minore in qua praedicatur idem conceptus de subiecto conclusionis, potest conclusio fieri nota. Et ita propositio talis, saltem large accipiendo "demonstrationem", potest fieri nota per demonstrationem, ex quo potest concludi syllogismo faciente ipsam conclusionem esse evidenter notam quae prius erat dubia vel apparuit esse falsa.'

Another way of putting it, I believe, is by means of an example commonly used in current-day philosophy of mind. Suppose I am perfectly acquainted with everything there is to know about dodos—so much so, that I may even rightly be considered the most knowledgeable dodologist on Earth. Yet all of my knowledge cannot ever substitute the very act of *seeing a real dodo*. This experience, the phenomenological 'feel' of perceiving a dodo, the *quale* of that perception, is nontransferable. This is precisely what I lose by the fact that my absolute concept of dodo is a composite concept and not a simple one co-produced by a simple intuitive cognition of a dodo.

Panaccio, however, is decidedly more optimistic as to the externalist reach of Ockham's theorising. He suggests that Ockham held the view that the causal chain of reference can indeed be transferred between individuals sharing the same sociolect, in the spirit of Putnam and Burge. Admittedly, Panaccio's argument is intriguing. It is based upon a scholarly discovery he made and published some years ago regarding Ockham's account of the relation between natural, mental terms and conventional ones. This is the so-called 'reverse subordination' conjecture.[65]

According to Panaccio, before moving from the *fictum-* to the *actus*-theory, Ockham was confronted with a problem concerning syncategorematic and other non-referential terms (including connotative and negative terms). As we will recall, in the *fictum*-theory mental contents were identified with objectively existent *similitudines*; it is the case, however, that syncategorems lack intensional objects due to their being mere mental operations, and thereby cannot be *similitudines*. In this view, then, syncategorems ought not be part of the mental language—a conclusion Ockham deemed undesirable. So whence do they come and how are they abstracted?[66]

65. See Panaccio 2004, § 9.3; forthcoming, § 2.3.
66. This is the 'quartum dubium' in *Ord.* I, d.2, q.8 (*OTh* II: 282).

Ockham's way out of this difficulty, Panaccio argues, is to declare that although there are no originary, i.e. native, syncategorematic *concepts*, there are nonetheless derivative ones. These derivative concepts are imposed at will (*ex institutione*) by the speakers in the following way. The speakers, in reflecting upon their own intellects' operations—conjoining, separating, subordinating, etc.—impose at will conventional terms to signify those very operations. That is the first step, in which conventional syncategorematic terms are coined. In the second and final step, the users impose at will concepts to signify those same intellectual operations signified by the corresponding syncategorematic terms.

The crucial textual evidence provided by Panaccio comes from an early passage from the *Ordinatio*:

> … I say that there are no syncategorematic, or connotative, or negative concepts, except by mere institution …. Such concepts, however, can be imposed or they can be abstracted from words, and this is what happens in fact either always or generally …. From words which thus signify, then, the intellect abstracts common concepts which can be predicated of them, and *it imposes these concepts to signify the same thing that these external spoken words signify*. And in the same way, it forms with such concepts propositions which are similar to the spoken propositions and have similar properties.[67]

As Panaccio is ready to concede, however, when Ockham later switched gears and formulated his *actus*-theory, he found this solution artificial and unnecessary. For both categorematic—absolute and connotative—and syncategorematic terms are distinct kinds of intellectual acts, the difference being that cat-

67. *Ord.* I, d.2, q.8 (*OTh* II: 285s): '… dicerent quod nullus conceptus syncategorematicus nec connotativus nec negativus—nisi tantum ex institutione …. Possunt autem tales conceptus imponi vel conceptus abstrahi a vocibus, et ita fit de facto vel semper vel communiter. … Tunc ab istis vocibus sic significantibus abstrahit intellectus conceptus communes praedicabiles de eis, et imponit istos conceptus ad significandum illa eadem quae significant ipsae voces extra. Et eodem modo et de talibus format propositiones consimiles et habentes consimiles proprietates quales habent propositiones prolatae.' (Panaccio's [forthcoming: 15s] translation and italics.) Panaccio points as well at two other passages supporting his interpretation: *Ord.* I, d.3, q.2 (*OTh* II: 403) and *Quodl.* IV.35: 471.

egorematic terms have a definite intensional relation with other objects, which syncategorematic terms lack. Accordingly, Panaccio adds, Ockham purportedly abandoned also the reverse imposition strategy, as it was no more required in his mature semantic theory.[68]

Notwithstanding this evolution in Ockham's views, Panaccio bites the bullet and uses the idea of reverse subordination to propel his externalist interpretation of abstractive cognitions.

> Admittedly, Ockham eventually renounced using it [viz. the 'great idea' of reverse subordination] as a general account for the acquisition of all syncategorematic and connotative concepts. Yet the suggestion is independently intriguing that in certain cases … such a reverse subordination process might occur …. The suggestion, moreover, brings us a step further into externalism.[69]

He then pushes the point further to argue that one speaker, on hearing another speaker using a conventional term, say, "carburettor", reverse subordinates the derivative concept of carburettor in her private, mental language, in order to signify the same things she and the first speaker mean by "carburettor". In this manner, then, the language users can have mental terms and use conventional terms to determinately refer to things they do not have a wholly determinate acquaintance of—just as in the example the concept of dodo, discussed above.

This opaqueness of mental contents, i.e. the fact that someone may have intensionally functional contents which are not epistemically accessible to her, is a feature of externalist theories of content both criticised by opponents and embraced by subscribers.[70] Independently of its merits, however, it is clear

68. It is noteworthy, I may add, that the textual tradition of the quoted passage is dubious as to the attribution of the expounded views. While most manuscripts ascribe the views to some indefinite 'others' (*dicerent/dicit*), only one ascribes them to Ockham (*dico*). This may be a sign of Ockham's own dubitation as to the issues discussed there, or of the scribes' confusion with respect to them.
69. Panaccio forthcoming: 17s.
70. See e.g. Brown 1995; Falvey 2000; Millikan 1993, c.14.

that it is an outcome of the externalist account of the historical transference of reference. As we have noted above, Ockham's mature theory of mental content did not allow for abstractive cognitions to be shared between speakers of the same conventional sociolect. Nonetheless, if this interpretative suggestion of Panaccio is actually consistent with Ockham's later thought,[71] the idea of reverse subordination provides a leeway whereby the historical, cross-subjetive aspect of externalism about mental content can find its way.

Let us wrap up this section. Against the internalist view that the reference of abstractive cognitions, i.e. general concepts, is determined by similarity relations, interpreters who read Ockham through an externalist lens have pointed out that these terms are formed directly via a causal interaction between the subject and the object, without recourse to similitude relations of any kind. Moreover, Ockham's early views on the reverse subordination of concepts can be used to ground the externalist thesis that reference can be historically transferred across different speakers of the same sociolect, even though they had no immediate causal acquaintance with the original referent of a term.

### 2.2.3 *Problems with the Externalist Interpretation*

Externalist philosophical theories are quite popular today. A recent survey conducted by the editors of the *PhilPapers* website showed that the majority of academic philosophers—from a sample of faculty members and graduate students—declare themselves externalists with respect to content and to justification.[72] It is thus understandable, to say the least, that analytically minded

71. As matter of fact, one of the passages Panaccio produces as textual evidence is taken from *Quodl.* IV.35 (see note 68, above), which is undoubtedly a mature work in Ockham's production. This might suggest that the idea of reverse subordination was still appealing to him, even though he had no systematic use for it anymore.
72. See Bourget and D. Chalmers 2009 and Bourget and D. J. Chalmers forthcoming: 11. Bourget and Chalmers' meta-analysis renders 51.1 % for mental content externalism, 20.0 % for internalism, and 28.9 % for other positions.

medievalists might want to discern in medieval philosophers traces of externalist theories. The question is whether this is a grasping or an imposition of an anachronistic view. In this section we will examine three arguments against the externalist interpretation presented in the previous sections.

#### 2.2.3.1 *Problems with the Rigidity of Causation*

As we may recall from previous sections, the crucial argument used by interpreters who see in Ockham a 'full-fledged externalist' rests upon a peculiar conception of causation. According to it, if *E* was actually produced by *C*, then it is impossible that *E* would have been produced by another *D* (where *C* and *D* are at least numerically different entities). Now as Panaccio has recently clarified, this does not mean that there is something *inside C* and *inside E* that makes them thus metaphysically connected. For Ockham is quite clear that an effect does not 'contain' in any manner it cause. It is simply the case, Panaccio argues, that God's ordained power has decided from eternity which singular effects are to be coupled or bound with which singular causes in the actual created world.[73] It is in this extensional manner, then, that the rigidity of causation ought to be understood.

As we saw before, the way Panaccio links this view of causation with the question regarding how mental contents are individuated, is by means of one of Ockham's 'thought experiments'. In it, we may recall, an angel $A_1$ is intuitively cognising another angel $A_2$, who in turn is intuitively cognising some singular things. Ockham argues that $A_1$ will not be able to determine which individual thing is being cognised by $A_2$. As Panaccio interprets the passage, this is because what individuates the content of $A_2$'s intuitive cognition is the external causal relation obtaining between the singular thing and $A_2$'s intellect; as such, then, even if $A_1$ has privileged access to the whole of $A_2$'s mental

73. See Panaccio 2010: 250s.

contents, he will not be able to grasp how they are individuated, and thereby he will not cognise which thing is the object of $A_2$'s intuitive cognition. Panaccio's reasoning has the form of a *modus tollens*, thus: If Ockham had embraced an internalist view with respect to mental content, $A_1$ would have no problem in determinately cognising $A_2$'s object; but $A_1$ has indeed such a problem; therefore, Ockham did *not* embrace an internalist view with respect to mental content.

In spite of Panaccio's efforts, however, it is not undisputedly clear that this is the right way of construing Ockham's views. There are at least two reasons for this.

#### 2.2.3.1.1 *Rigidity and God's Absolute Power*

First, as Adams has argued, Ockham's account of causation, and in particular his stance against Scotus' position on the subject, is 'neither fully clear nor constant'.[74] Indeed, there are passages—some of them written later than the one embraced by Panaccio and others, discussed above—in which Ockham appears to be clearly endorsing a non-rigid account of causation. For instance, when explaining what a total cause is, he says thus in *Quodlibeta* I.1:

> … a total cause is said to be that which is such that once it is posited, then even if everything else has been excluded, the effect can be produced sufficiently, and, taken in this sense, a total cause it called 'sufficient cause' …. I claim that *what is numerically the same effect can simultaneously have two total causes*. For instance, what is numerically the same heat can be simultaneously produced by the sun and by a fire, as well as by two fires. And I grant that *A* and *B* can be total causes of one effect.[75]

74. Adams 1987a: 763s.
75. *Quodl.* I.1: 8s[175–81]: '… dicitur causa totalis illud quo posito, omni alio circumscripto, potest effectus sufficienter produci; et isto modo, causa totalis dicitur causa sufficiens …. [I]dem effectus numero potest simul habere duas causas totales, sicut idem calor numero potest simul produci a sole et ab igne, et a duobus ignibus. Et concedo quod *a* et *b* possunt esse causae totales unius effectus.' (Trans. William of Ockham 1991: 10s; my italics.)

That the sun and an individual fire can both be total or sufficient causes of the self-same heat means that any one of them on its own could have produced it if the other one already had. That is, if the sun caused this heat, it is metaphysically possible that this fire could have caused it instead of the sun, and also the other way around, *mutatis mutandis*. It also means, on Ockham's account, that both of them could have simultaneously (*simul tempore*) produced this very heat.

In the *Reportatio*, as well, we find several passages which represent the same view. In one of them, in Book II, q.3–4, Ockham argues against Scotus' conception of a total cause. The passage is embedded within an interesting discussion regarding the relation between God's primary causality and the creatures' secondary causality.

> And that which John [Duns Scotus] says is not true, namely, that a total cause is such that when posited, the effect is also posited, and that when not posited, the effect cannot be posited. Because, just as it has been said elsewhere, *the same effect can have two total causes*; and if one [of them] is destroyed, [the same effect] can nonetheless be caused by the other. But just as has been said, a total cause is such that when posited, *all other things ruled out*, the effect can be posited.[76]

The difference between Scotus' and Ockham's conception of a total cause rests upon the '*omni alio circumscripto*' clause added by the latter. For if $C_1$ is posited and $E$ is produced from that positing, then $C_1$ can be said to be a total cause of $E$, as both authors agree. But if $C_1$ had not been posited and $E$ had still been produced (by $C_2$, say), Scotus would deny that $C_1$ is a total cause of $E$. By contrast, if $C_1$ had not been posited but $C_2$ were posited, and if $E$ were produced by $C_2$ and not by $C_1$, Ockham would still grant that $C_1$ is a total cause of $E$—provided that $C_1$ could have produced $E$, even if it actually

76. *Rep.* II, q.3–4 (*OTh* V: $64^{1-6}$): 'Nec illud est verum quod dicit Ioannes, quod causa totalis est illa qua posita ponitur effectus, et qua non posita non potest poni. Quia, sicut alias dictum est, idem effectus potest habere duas causas totales; et si una destruatur, nihilominus potest causari per aliam. Sed sicut dictum est, causa totalis est illa qua posita, omni alio circumscripto, potest poni effectus.'

did not. According to these accounts of total causation, therefore, it would seem that Scotus rather than Ockham could have embraced the rigidity view of causation that Panaccio seeks to ascribe to the latter.

Interestingly, Ockham then proceeds to link this conclusion with the relation between primary and secondary causation.

> Moreover I say, but do not assert, that it is possible for God to produce some thing and that a creature later on produce the same thing. … just as when God produces a fire by means of the sun, the fire is then said to be produced by the sun. In the same way, if God first produced a fire and then conserved it, and not [produced] the sun, *the fire would then be conserved by the sun just as if it were produced by the sun*, and in the same way it would essentially depend upon the sun. For even if God produced the sun after [having produced] the fire, it would nevertheless give to the sun the action due to the sun with respect to all possible effects that can be produced by the sun. [77]

It would seem, therefore, that the rigidity view of causation is at odds with Ockham's view of God's absolute power. This is because even if $E$ is univocally produced by $C_1$, God can destroy this cause, or suspend its causal powers, and then make $C_2$ conserve $E$. This would not be possible, Ockham thinks, unless both $C_1$ and $C_2$ were total, sufficient causes of the self-same $E$—which is what the rigidity account denies.

Just for the record, we must note in passing that even though the example of the sun producing a singular heat might seem to be a case of *equivocal* causation, as cause and effect are of different species, under close examination this is not so. For while the fire is a *per se* cause of the heat, the sun is only a *per accidens* cause, since the power to produce heat (*calefactio*) is an accidental—i.e. not springing directly from its essence—feature of the sun. As Ockham ex-

77. *Rep.* II, q.3–4 (*OTh* V: 64s): 'Ulterius dico, non asserendo, quod possibile est quod Deus producat aliquam rem et quod creatura post producat eandem rem. … sicut quando Deus producit ignem mediante sole, tunc ignis dicitur produci a sole. Eodem modo si Deus primo produceret ignem et conservaret, et non solem, et post produceret solem, tunc ignis conservaretur a sole sicut si fuisset productus a sole, et eodem modo dependeret ad solem essentialiter. Quia licet Deus produceret solem post ignem, tamen daret sibi actionem debitam quo ad omnes effectus possibiles produci ab eo.'

plains, *per accidens* causes act not through themselves but through others,[78] and hence the sun can act through its own heat—a really distinct quality inhering in it—to produce other heats in other substances. Univocal causation is thereby possible for *per accidens* causes.[79]

We have shown, I believe, not only that there are passages in Ockham's works that reject the rigidity view of causation,[80] but more crucially, that such a view is incompatible with Ockham's strong account of God's absolute power.

#### 2.2.3.1.2 *Rigidity and Transfer of Reference*

The second reason for having misgivings about Panaccio's fully fledged externalist construal of Ockham's semantics is concerned with the transfer of reference. As we may remember, Panaccio attributes Ockham not only the externalist idea of fixation of mental concepts by means of a causal interaction with the world 'out there', but also the idea that reference can be historically transferred to other users of the sociolect.

Now I think there might be a conflict of sorts between the rigid account of causation and this idea of reference transfer. Recall that abstractive cognitions, that is, general concepts, are not directly formed through a direct causal relation with the object—at least *naturaliter*—but are produced rather by the intuitive cognition of the object and the intellect's power, both acting as partial causes. So whereas an intuitive cognition does have its object as its immediate, partial cause, the ensuing abstractive cognition only has it as its mediate, partial cause.[81] Hence as we noted above,[82] There is indeed a first transfer of

78. *Ord.* I, d.2, q.10 (*OTh* II: 345[98]): '… actio primo competens accidenti dicitur convenire suo subiecto per accidens, quia per aliud.'
79. See *Exp. Phys.* II, c.6, § 2 (*OPh* IV: 297–300). See also Adams 1987a: 763 & 767–72.
80. Besides the ones discussed here, see also *Rep.* IV, q.10 (*OTh* VII: 248s); *Ord.* I, Prol., q.11 (*OTh* I: 309s); *Ord.* I, d.1, q.3 (*OTh* I: 416s).
81. See the references in notes 18 and 19 (above in p.44).
82. See § 2.2.2.2, p.58.

reference between the intuitive cognition and the abstractive cognition that follows from it. Otherwise the abstractive cognition would not be properly grounded on the object through the 'dubbing ceremony'—as Panaccio claims Ockham believes it does; in other words—as Putnam was keen on putting it—there would not be a 'causal chain of the appropriate type' linking the general concept and the object upon which it was originally dubbed. With respect to the abstractive cognitions whose reference has been transferred from the original dubber to other members of the community—in Panaccio's sociolinguistic fantasy—this mediacy is even more the obvious. For in this case the object might long have ceased to exist, as in the dodos example we discussed in the previous section.

The problem with this account of reference transference, however, is that it requires a non-rigid view of causation. Let us remember that Panaccio and other commentators read Ockham as endorsing the rigid view of causation, in order to account for the absolute singularity of intuitive cognitive acts. Indeed, the point advanced by them was that the so-called 'contribution of the environment', by way of the causal interaction with the object, is what uniquely individuates the content of intuitive cognitions. So intuitive cognition $IC_1$ signifies or refers to object $O_1$, and not to $O_2$, $O_3$, and so on, even if they all belong to the same species, *because* $IC_1$ *was actually produced by* $O_1$ *and thus could not have been produced by any other object*. Now consider abstractive cognition $AC_1$, which is naturally produced when $IC_1$ is created. Why does $AC_1$ refer to $O_1$, *but does not refer to* $IC_1$ *itself*, when $IC_1$ is a partial cause of it, just as $O_1$ was a partial cause of $IC_1$? The answer cannot be, thinks the externalist commentator, that $AC_1$ refers to $O_1$ by means of a maximal similarity relation, not only because the externalist rejects such an account of

intensionality, but because it leaves the very question unanswered; for $AC_1$ and $IC_1$ are maximally similar one to the other, as well as to $O_1$.

The externalist commentator might want to fall back and embrace a non-rigid view of causation with regard to abstractive cognition and its partial causes—the respective intuitive cognition and the intellect's power. Recall that in this non-rigid view some thing could have been produced by numerically different causes (putatively co-specific, in univocal causation), even if it was actually produced by one of them. In this manner, then, even if $AC_1$ was caused by $IC_1$, $AC_1$ does not uniquely refer to $IC_1$ because it (viz. $AC_1$) could have been caused by any other maximally similar cognition, and thus, by any other maximally similar object. However, not only does this solution still leave the question as to why $AC_1$ refers to $O_1$ (and all other maximally similar $O_2$, $O_3$, …) and not to $IC_1$ unanswered; but it also opens another question as to why and how two distinct, incompatible views on causation are required to account for the intensional content of absolute cognitions.

There is still an additional issue concerning the core of the historical dimension of reference transfer. The very idea of a causal chain of reference, as defended by externalists such as Burge and Putnam, implies that *any of the links composing the causal chain could have been produced by another cause than the one which actually produced it*. And this is true, even if the other putative cause belongs to a different causal chain. For example, my concept of dodo could have had ultimately stemmed—say—from Harry's introduction of the term in the sociolect in 1820, rather than from John's actual introduction in 1823. It can even happen, as externalists are most happy to acknowledge, that the same term (typewise) is multiply grounded by means of different causal acquaintances with objects of the same natural class. So Harry, John, and other people could have actually grounded the term 'dodo' by means of different 'causal

chains of the appropriate kind', all of them ending (or beginning, depending on the perspective) in a distinct dubbing ceremony with distinct exemplars of dodos. However, this contingency feature of causal chains of reference is not possible if causation is rigidly conceived. The reason is plain enough: every link of the causal chain is rigidly tied to its unique causal predecessor, thus eliminating any contingency that could arise in the process of reference transmission.

To sum up, the second reason for rejecting Panaccio's interpretation of Ockham's view on causation points at two difficulties in the historical transmission of reference, as endorsed by the externalist. On the one hand, if causation is rigidly construed, it would seem that the very first abstractive cognition (*prima cognitio abstractiva*) formed during the dubbing ceremony would have to refer to the intuitive cognition which co-produced it, rather than to its proper object. On the other hand, the rigidity of causation of each of the causal links of the chain of reference is carried over to the chain itself, thus precluding the chain from having being produced otherwise, or even from having multiple groundings—something which the externalist would surely reject.

#### 2.2.3.2 *Possibilia*

Even if one disregards the problems which the rigid view of causation gives rise to, there is still a serious difficulty the externalist commentator has to face with regard to the object-dependency of mental contents. This problem derives from Ockham's doctrine of the intuitive cognition of non-existents, which we have already described.[83] As we saw, Ockham grants that God can cause in someone an intuitive cognition of a non-existing thing. This possibility is founded upon two essential features of God's absolute power, as expressed

83. See § 2.2.2.1, p.46.

by (T3) and (T4), above.[84] Thus, even if intuitive cognitions naturally—*naturaliter, de facto*—require an object in order for the intellectual act to be terminated, supernaturally they do not.

Hence the externalist commentator is faced with a problem. For, according to externalist tenets, all mental contents necessarily have to be grounded on a causal interaction with an actually existing object. In other words, *no* object, no content. But, as we said, Ockham honestly contemplates the possibility of God's primary causation intervening in someone's intuitive cognising, thereby allowing for the possibility of mental contents lacking any object. This suggests, therefore, that the externalist construal of Ockham's semantics is misguided.

As Susan Brower-Toland has recently put it,

> … the version of externalism under consideration is, at best, only a form of weak externalism. This is because the object on which a supernatural intuition depends needn't be present anywhere in the subject's immediate environment. (Indeed, it need not even actually exist!). Certainly, such a view may still qualify as externalist, but it is a far cry from the sort of view that goes by the name in the current discussions (to which Ockham's views are, as we've seen, often favorably compared). In fact, the variety of externalism on offer here is so weak that it looks to be perfectly compatible with the strongest varieties of internalism defended by contemporary philosophers.[85]

The phrase 'needn't be present anywhere in the subject's immediate environment' makes reference to the first case of divine intervention discussed above,[86] in which God causes in someone the intuitive cognition of a currently existing object which is located far away from the perceiver. However, as we have already argued, this is not a case of action at a distance, but one in which God supplements the causality of the thing located elsewhere.[87]

84. See § 2.2.2.1, p.44.
85. Brower-Toland 2007a: 327.
86. See p.46, above.
87. See p.46, above. Cf. Panaccio 2010: 248.

What we are really interested in here, instead, is Brower-Toland's view, according to which a theory of mental content which relies upon unactualised possible beings (*possibilia*), not only is a watered-down version of the hard-core externalism Panaccio advocates for, but more crucially, seems to commit Ockham into accepting *possibilia* in his ontology.

Interestingly enough, Panaccio bites the bullet, at least with regard to the second claim. For he sees no inconvenience in reading Ockham as ontologically committing himself to unactualised possible beings as a trade-off for his content externalism. Panaccio focuses on a passage from *Reportatio* II, q.12–13, in which Ockham replies to an objection regarding the possibility of someone's having a determinate intuitive cognition of a non-existent thing. The putative objector declares that any such cognition would necessarily remain undetermined, as causality with the object is required for the cognition to be uniquely of a singular entity. Ockham responds thus:

> … any intention of a creature which is caused by God can partially be caused by a creature even though it is not in fact so caused. And therefore what is cognised by such an intention is this singular being by which it would have determinately been caused if it had been caused by a creature; what we get in this way is one singular being and not another one.[88]

Panaccio comments this passages in the following way:

> Ockham's answer was that the intuited object in such a case is the one thing that would have caused this very same intuitive act if the latter had be naturally caused instead of being miraculously induced by God. Since, however, this particular object is not supposed to exist in the situation, this answer seems to strongly commit him to attributing a special ontological status to possibilia ….[89]

88. *Rep.* II, q.12–13 (*OTh* V: 289$^{14-8}$): '… quaelibet intentio creaturae causata a Deo potest a creatura causari partialiter, licet non causetur de facto. Et ideo per illam intentionem cognoscitur illud singulare a quo determinate causaretur si causaretur a creatura; huiusmodi autem est unum singulare et non aliud, igitur etc.' (Panaccio 2010: 249, trans.) Cf. *Quodl.* I.13: 76.
89. Panaccio and Piché 2010: 101. See also Panaccio 2010: 249: 'The object of a supernaturally produced intuition of a non-existent being is the (possible) thing that would have caused this very intuition if it had been naturally caused.'

So Panaccio's view of the matter is that whenever God, in his absolute power, wills that someone should have an intuitive cognition $IC_1$, provided that no object of $IC_1$ actually exists, then $IC_1$ would be a cognition of a possible, unactualised object $O_1$, and of no other $O_n$, which 'is its only possible cause in this *natural order*'.[90] For instance, if God induces in me the intuitive cognition of a dodo, as if it were opposite me, then, according to Panaccio's interpretation, it would be the intuitive cognition of a singular, non-existent possible dodo.

Panaccio further claims that, in Ockham's understanding of God's ordained power (*potentia ordinata*), God chose to match sets of singular causes and effects, 'connecting singular causes with singular effects one by one, so to say'.[91] Thus, even though in this very actual world God chose not to match this singular dodo with my intuitive cognition of it, in another possible world he did match them. And that is sufficient for my actual-world's intuitive cognition to be determined.

Now admittedly this way of salvaging the externalist construal of Ockham's semantics seems a bit contrived, to say the least. To be sure, the jury is still out as to Ockham's final position regarding his commitment to unactualised, non-existent beings. Even today scholars are far from agreeing in their appreciation of the issue.[92] In spite of this, I believe there are strong reasons to think that Ockham did indeed reject *possibilia*. Ockham's actualism, as I will refer here to the view that only actually existing beings can count as entities, is witnessed in several passages of his works, perhaps more explicitly in *Summa*

90. Panaccio 2010: 250, his italics.
91. Panaccio 2010: 250.
92. On this issue, see Adams 1977, 1978; 1987: 400–16; Karger 1980; Freddoso 1998, § 5; C. G. Normore 1999, § 3. Cf. Brower-Toland 2007a: 334, n.37.

*logicae* I.38, where he overhauls the Aristotelian distinction between being in act and being in potency.[93]

> … being is divided in being in potency and in being in act. Which should not be understood as if something that does not exist in nature, but that can exist, is truly a being, and that something else that does exist in nature is also a being.[94]

Hence according to Ockham, it makes no sense to talk about non-actualised *beings*, since existence and being are coextensive for him (although, of course, only in God's case is this co-extensiveness an essential, necessary feature; in the case of all others it is accidental).

Note the marked contrast with a parallel passage from Walter Burley's *De puritate artis logicae*:

> … 'being' can be taken in three ways. (*a*) In one way, as most transcendental and common to every intelligible. In this sense, it is the adequate object of the intellect. And in this sense, it does not follow: 'This is a being; therefore, this exists'. (*b*) In the second way, *it is taken for a being for which it is not prohibited for it to be. In this sense, every possible being is a being.* In this sense too it does not follow: 'This is a being; therefore, this exists'. (*c*) In the third way, it is taken for an actually existing being. In this sense, it is a participle derived from the verb 'is'. And in this third way, it does correctly follow: 'This is a being; therefore, this exists'. 'Being' said in the first way is called 'being in the understanding', because it is the object of the understanding. And in that sense, being is in the understanding 'objectively'. *'Being' said in the second way is called 'being in its causes', or the 'being that is in its cause'.* But 'being' said in the third way is called 'being in itself'.[95]

93. Besides *SL* I.38: 108, see also *SL* I.59: 190, where Ockham explains that, although the proposition 'The Antichrist will exist before Judgement Day' is now true, the Antichrist is strictly nothing (*nihil sit*).

94. *SL* I.38: 108$^{54-6}$: '… dividitur ens in ens in potentia et in ens in actu. Quod non est intelligendum quod aliquid quod non est in rerum natura, sed potest esse, sit vere ens, et aliquid aliud quod est in rerum natura sit etiam ens.'

95. Walter Burley 1955b: 59$^{3-14}$: '… ens potest accipi tripliciter. Uno modo ut est maxime transcendens et commune omni intelligibili. Et sic est adaequatum obiectum intellectus. Et sic non sequitur: Hoc est ens, ergo hoc est. Secundo modo accipitur pro ente, cui non est esse prohibitum, et sic omne possibile esse est ens. Et sic etiam non sequitur: Hoc est ens, ergo hoc est. Tertio modo accipitur pro ente actualiter existente, et sic est participium descendens ab hoc verbo "est". Et isto tertio modo bene sequitur: Hoc est ens, ergo hoc est. Ens primo modo dictum dicitur ens in intellectu, quia est obiectum intellectus; et ita est ens in intellectu obiective. Ens secundo modo dictum dicitur ens in suis causis vel ens quod est in sua causa. Sed ens tertio modo dictum dicitur esse ens in se.' (Trans. Walter Burley 2000: 144, § 246; with emendations. My italics.)

In Burley's view, then, there are three kinds of beings—(*a*) intelligible beings in general, covering both possible actualised and possible unactualised entities; (*b*) possible unactualised beings; and (*c*) possible actualised beings, that is, actually existing beings. Only in the third kind is existence coextensive with being, albeit in a contingent manner for all creatures. Notice that, at least according to this passage, Burley concedes that if *E* can be produced by *C*, even if it was not, that is, if it is not *per se* contradictory that *C* produce *E*, then *E* is a being in the second sense described by him. And as such is *E* properly called a 'being that is in its cause'. But Burley also seems to envisage the following possibility. If *E* exists and could have been partially produced by *C*, which is currently not existing, that is, if it is not *per se* contradictory that *E* could have been produced by *C*, then *C* is also a being in this second sense. And we might appropriately call it a 'being that is in its effect'.

As a matter of fact, this appears to be precisely what Panaccio has in mind for Ockham. For suppose again that God induces in me an intuitive cognition of a non-existing dodo. If, as Panaccio reads Ockham, all mental contents need to be individuated by means of external causal relations to their objects, then for mine to be a determinate intuitive cognition of a dodo it is required that it be individuated by a causal interaction with—yes: a singular, non-existent, possible dodo; that is to say, with a being in the second sense of Burley's classification. However, as we have already pointed out, this supersized ontology, together with the peculiar view of causation which goes with it, seems to be at odds with Ockham's restrained metaphysical stance.

But even if we take no notice of the question whether *possibilia* were acceptable within Ockham's ontology, three further problems with respect to the role Panaccio expects them to play are still open. The first one was already suggested by Brower-Toland in the passage quoted above, and can be stated

in the following manner. If, as Panaccio claims, an intuitive cognition of a non-existent being is supposed to be individuated by means of causal interactions with such *possibile*, then the kind of causation involved there would be counterfactual. But that kind of causation—if it could be so called—is far from being the one envisaged by hard-core externalists for the purpose both of reference fixation and of reference transmission.

The second problem is related to the first one. As we have seen, Ockham contends that an intuitive cognition is a partial cause of an intellectual act of evident assent to the corresponding contingent proposition. Moreover, in contrast with other views on the matter that circulated in the 14th century, Ockham strictly denied that God could fool us by implanting or inducing in us an intuitive cognition of a non-existent being. The reason for this is that the actually-existing object is required as the other partial cause in the production of the evident assent to that contingent proposition. Now the question that rises is the following. If, as Panaccio maintains, the non-existing being is by itself sufficient to produce a determinate intuitive cognition—which, as he underscores, is in itself *internally indistinguishable* from any other intuitive cognition of the same species—why, then, is it *not sufficient* to produce the corresponding affirmative, contingent judgement? What kind of capricious sort of causation is at play here? In fact, it seems queer that the purported *ens in potentia* can individuate, in a properly externalist manner, the content of an intuitive cognition, and yet is incapable of producing together with it the evident, positive judgement. Why one and not the other? But, as we just said with respect to the previous problem, the hard-core externalist will simply ask: Why even the first?

A final problem with the recourse to *possibilia* can be added to this list.[96] If Ockham had truly committed himself to these sorts of unactualised entities, he would have seriously hampered his outright liberal understanding of God's absolute power. In point of fact, one of the reasons Ockham offered for rejecting *ficta* as a basis for intellectual cognition was precisely that its acceptance would set limits to God's power. As he phrases the matter in the *Quodlibeta* IV.35:

> … God, in understanding other things, would understand fictive entities of the sort in question. And so from eternity there was a coordination of as many fictive entities with as many different intelligible things there can be, and these fictive entities were so necessary in their existence that God was not able to destroy them—which seems false.[97]

Ockham's reasoning takes advantage of the incompatibility between God's absolute power and the existence of eternal entities, in this case, of *ficta*. The same argument can be freely applied *mutatis mutandis* to *possibilia*. For if something is a possible being, it is thereby a *necessarily* possible being, in a strong metaphysical sense of necessity. Hence since God's absolute power is only limited by logical contradiction—as we will see in the following section—God would be metaphysically necessitated to creating all possible beings, and therefore he will be metaphysically precluded from destroying any. Ockham finds this conclusion undesirable, and thereby rejects the ontological premise.

To sum up, the recourse to *possibilia* as a way of salvaging the externalist interpretation of Ockham's semantics suffers from at least three problems: (1) the counterfactual causation involved in the appeal to *possibilia* is insuffi-

96. This problem was hinted by Brower-Tolland (2007: 334, n.37).

97. *Quodl.* IV.35: 473$^{92–6}$: '… Deus intelligendo alia, intelligeret talia ficta; et ita ab aeterno erat coordinatio tot entium fictorum quot possunt esse diversae res intelligibiles, quae fuerunt ita necesse esse, quod Deus non potuit ea destruere, quod videtur falsum.' (Trans. William of Ockham 1991: 389s, with emendations.) See also *Quaest. Phys.*., q.1 (*OPh* VI: 397$^{14s}$).

cient for the purposes required by the hard-core externalist; (2) it leaves unexplained why any unactualised beings are sufficient to individuate mental content, while not sufficient to cause the corresponding positive, evident judgement; and (3) it goes against Ockham's broad conception of God's absolute power.

#### 2.2.3.3 *De potentia Dei*

In the previous sections we have examined several negative arguments against the externalist construal of Ockham's semantics. In this section we will present a strong, positive argument as to the non-relational character of absolute cognitive acts. In other words, we will present a robust internalist alternative to Panaccio's interpretation. This argument was advanced by the Swiss philosopher André de Muralt in his philosophical commentary to Ockham's Preface to the *Ordinatio*.[98] Against medievalists who, like Panaccio, deem Ockham's theology worthy only inasmuch as it can be used to reveal interesting philosophical insights, and which most of the times can thus be safely disregarded,[99] Muralt fully embraces Ockham's theological views in or-

98. Muralt 1993; see also Muralt 1991a,b.

99. Panaccio 2010: 245: '…Brower-Toland's argument is entirely based upon what Ockham says about supernaturally induced intuitions. This, of course, is a bit tricky. One might say: well, as long as we stick to *natural* cognition, Ockham's account of the intentionality of intuitive acts is clearly of a causal externalistic brand in today's sense, and this is what is philosophically interesting in his doctrine. If he has trouble combining that with his theology of God's omnipotency, well, so much the worst for his theology! I think that there is something to this line of answer. Yet some of Ockham's thought experiments about supernaturally induced intuitions do reveal something interesting about his properly *philosophical* understanding of intentionality and causality….' (His italics.) With respect to the second point, cf. Panaccio 1992: 21: 'Certes, Occam admet sans réserve, en théologie, une dimension surnaturelle, qui est celle de la *potentia Dei absoluta*: Dieu peut en principe faire n'importe quoi de ce qui n'est pas contradictoire, suspendre à son gré les lois de la nature, créer des étants, les modifier ou les anéantir. Mais Guillaume circonscrit aussi—et presque du même geste théorique—un ordre purement naturel où règnent des régularités spatio-temporelles et causales, celui de la *potentia Dei ordinata*: Dieu, dans sa toute-puissance, a résolu d'imprimer au monde une organisation autonome, sur laquelle on peut en pratique compter pour édifier une science de la nature. Cela revient à ménager, parmi tout ce qui est logiquement possible, l'espace, beaucoup plus restreint, de ce qui est naturellement possible, et à y confiner le savoir profane. C'est

der to properly appreciate the significance of his theory of intuitive cognition. In concrete, whereas Panaccio sees in Ockham's conception of intuitive cognitions of non-existents much of a philosophical nuisance for the externalist construal advanced by him, Muralt, by contrast, considers precisely such a conception as holding the very essence of Ockham's thought on the matter.

Muralt begins his analysis by examining Ockham's arguments against the way in which Scotus seeks to plot the distinction between intuitive and abstractive cognitions.[100] Scotus states five ways in which the two kinds of cognitions differ, the first one being thus:

> There can be one kind of cognition of the object, according to which it abstracts from any actual existence; and there can be another kind [of cognition] of it, according to which it [cognises the object] inasmuch as it is existent and inasmuch as it is present in some sort of actual existence. [101]

*Prima facie*, this seems to be in agreement with Ockham's opinion discussed above,[102] according to which abstractive cognitions are intellectual acts that abstract from the object's existence, whereas intuitive cognitions are those that cognise the object precisely inasmuch as it exists and is present. Nonetheless, Ockham believes, although this distinguishing mark applies to cognitions *pro statu isto*, it does not apply to them *simpliciter* and necessarily. To show this, Ockham relies upon an argument by Scotus himself with respect to Christ's vision of the divine essence.[103] Scotus argues that Christ's intellect

cette tendance-là qui m'intéresse chez Occam et elle est, du reste, centrale dans son œuvre. Étroitement associée au nominalisme, elle porte, on le verra, à réduire l'intentionnalité et la signification à des rapports de causalité et de similitude, et à reconnaître—on en reparlera aussi—l'objectivité des classifications scientifiques. La théologie mise entre parenthèses, il reste de l'occamisme une philosophie riche et encore stimulante, qui place au cœur de ses préoccupations l'*étant singulier naturel*.' (His italics.)

100. *Ord.* I, Prol., q.1 (*OTh* I: 33–8).
101. Duns Scotus, *Opus Oxoniense*, II, d.3, q.9, n.6 (ed. Wadding, XII: 212): 'Potest enim aliqua esse cognitio obiecti, secundum quod abstrahit ab omni existentia actuali, et potest esse aliqua eius, secundum quod existens, et secundum quod praesens in aliqua existentia actuali.'
102. See p.43.
103. Scotus, *Opus Oxoniense*, III, d.14, q.2, n.2 (ed. Wadding, XIV: 492).

is capable of having a vision of the divine essence without having any prior form like, for instance, the light of God's glory (*lumen gloriae*). The reason is that such a prior form can relate to the agency of Christ's intellect in one of two ways—either (*i*) as efficient cause of the vision of the divine essence; or (*ii*) as material cause of it, that is to say, as a subject which is to be informed by the divine essence as its object (*ut proprium receptivum*). But according to Scotus, neither of these ways are necessary to Christ's intellectual vision. In the first case, because God can substitute the form's secondary efficient causality for his own, and immediately create the vision of his essence in Christ's intellect.[104] In the second case, because if Christ's intellect is naturally capable of receiving the light of God's glory, is *a fortiori* naturally capable of receiving any other form, and in particular that of the divine essence.[105]

Ockham applies this argument of Scotus' against the Subtle Doctor's distinction:

> … either that existing and present thing is related to the intuitive cognition by reason of an efficient cause, or by reason of a material, formal, or final cause. (*i*) If the first [way is the case], [the cognition] can therefore happen without it [viz. the thing], because whatever thing God can [produce] through an intermediate efficient cause, he can immediately [produce it]. (*ii*) Not in the second way, because then if the thing existed and the intellect were destroyed, [the thing] could subjectively receive that intuitive cognition. Similarly, it is clear that this cognition does not subjectively exist in the intuited thing. (*iii*) Nor in the third way, as it is clear. (*iv*) Nor in the fourth way, because every thing can exist even if all ends excepting the first are destroyed, for no thing requires the existence of a second end more than that of the second efficient [cause].[106]

104. Scotus, *Opus Oxoniense*, III, d.14, q.2, n.2 (ed. Wadding, XIV: 492s): '… quidquid enim potest Deus per causam efficientem mediam, potest etiam immediate, et hoc in quocumque quod est receptivum illius.'

105. Scotus, *Opus Oxoniense*, III, d.14, q.2, n.2 (ed. Wadding, XIV: 492s): '… absolutum, quod est ratio recipiendi aliquam formam, si per se est, per se potest recipere ….' Cf. Ockham, *Ord.* I, Prol, q.1 (*OTh* I: 35): '… tunc illa forma si per se esset, per se posset reciper illam visionem.'

106. *Ord.*, I, Prol., q.1 (*OTh* I: $35^{11-21}$): '… aut illa res exsistens et praesens habet se in ratione causae efficientis ad notitiam intuitivam, aut in ratione causae materialis vel formalis vel finalis. Si primum, igitur potest fieri sine ea, quia quidquid potest Deus per causam efficientem mediam, potest immediate. Non secundo modo, quia tunc re exsistente et destructo intellectu posset recipere subiective illam notitiam intuitivam. Similiter manife-

In his deployment of Scotus' argument, Ockham ponders not just two, but the four ways in which the intuitive cognition can be affected by the thing. These ways coincide, as it is expected, with the four Aristotelian causes. Let us first discuss the second and third ways, that is, those of the material and formal causes.

Ockham's argument against the thing's being a material cause of the intuitive cognition is somewhat different from Scotus', as contained in the passage quoted above. Ockham bases his contention on the following principle: If *S* is the material cause (= subject of inherence) of a property *P*, then if *S* exists, it is possible for *P* to exist also. Accordingly, if the perceived thing were the material cause of an intellect's having an intuitive cognition, then, supposing the thing exists, it would thereby be possible for an intuitive cognition of that thing to exist *even if no intellect exists at all*—a possibility which Ockham deems absurd. He presses the point by insisting that the thing is simply not the subject of inherence of the cognition.

The third way concerns the reverse case—that the cognition is the subject of inherence of the thing; or, in other words, that the thing acts as a formal cause of the cognition in the intellect. This would be the case in theories of cognition based upon the action of intelligible species. According to this view, the intellect adopts in some way or another the form of the perceived thing. However, Ockham repudiates this kind of explanation, and this is why he finds this third approach untenable.[107]

The first and the fourth ways, respectively based upon the efficient and final causes, are rejected by Ockham under consideration of God's power to

stum est quod notitia illa non est subiective in re intuita. Nec tertio modo, manifestum est. Nec quarto modo, quia omnis res potest esse quocumque fine, excepto primo, destructo, quia nulla res plus requirit exsistentiam finis secundi quam efficientis secundi.'

107. For Ockham's rejection of the species theory, see esp. *Rep.* II, q.12–13 (*OTh* V: 253–310). See also Pasnau 1997, § 5.1; Stump 1999.

freely tamper with the secondary causation naturally occurring amongst created beings. As we showed in § 2.2.2.1, Ockham thinks God can (*i*) substitute the secondary or mediate power of a certain cause to produce a certain effect, producing it immediately himself; and he can (*ii*) stop a natural cause's power from producing its effect; and finally (*iii*) he can block a natural cause's power to produce a certain effect, while conserving in being the self-same effect himself. With respect to the question at hand, let us recall, Ockham sustains that God can produce an intuitive cognition of a non-existent thing; that is to say, he can produce himself the mental quality, numerically identical—in the *actus*-theory—with the intuitive cognition "of the thing"—even if there is no such thing. Note that in this case, as opposed with that of an actually existing object elsewhere located (Ockham's example of the rose in Rome), God is not replacing the object's causal power acting over the intellect to produce the intuitive cognition of that object; rather, he is producing himself the cognition, irrespectively of the existence and hence the causal powers of the thing.

Accordingly, Ockham argues against Scotus' demarcation of intuitive and abstractive cognition by remarking that, if it is possible for someone to have an intuitive cognition of a thing which does not actually exist—i.e. which *absolutely does not exist*—then both the efficient and final causal relations that hold between the thing and the cognition *are not necessary for the cognition to be fully produced*. In other words, it is necessarily possible—a *de iure* possibility, as we will see—for someone to have a fully determined and fully individuated mental content, even if no causal interaction has obtained between that content and its putative object. Muralt hammers home this conclusion, insisting that this *de iure* possibility is what constitutes the cognition's very essence.[108]

108. See also Vignaux 1948: 22: 'Invoquer la *potentia absoluta* sert à trouver une définition universelle, à réduire l'objet qu'on examine à l'essentiel'.

Before advancing further in this direction, let us briefly observe that by taking at face value Ockham's arguments against Scotus' criterion of demarcation, Panaccio's recourse to *possibilia* as objects of intuitive cognitions of non-existents simply falls of its own weight. This is due to the fact that Ockham is clear as to the causal absoluteness of the cognition's *intensional makeup* with respect to any and every purported object. Yes—an intuitive cognition of a non-existent thing needs to be (unnaturally) produced by God; but its intensional content is individuated in an absolute manner, irrespectively of how and to what end it was produced.

Now Muralt bases his argument upon Ockham's distinction between God's absolute power (*potentia absoluta Dei*) and his ordained power (*potentia ordinata*).[109] As it is well known, Ockham contends that the limit of God's absolute power is only that of logical contradiction. In other words, God can absolutely do otherwise than what he actually does or did, unless such doing entails an evident contradiction.[110] Hence the only thing absolutely impossible for God is to do Φ and ~Φ (at the same time, in the same sense, etc.). By contrast, God's ordained power concerns the laws which have been *de facto* instituted by him. So if God determined that Φ be the case at some time $t_1$, and at a later time $t_2$ he "changed his mind" and determined that ~Φ, he would be contradicting himself *de potentia ordinata*, albeit not necessarily *de potentia absoluta*. To put it otherwise, God's ruling that Φ be the case makes Φ hypothetically necessary, that is, contingent upon his absolute, free will. And yet this hypothetical necessity is pervasive throughout God's creation, as every created being is ruled by it. However, Φ is absolutely contingent, due to God's being able to "change his mind" at one moment and decree that ~Φ

109. On this distinction see particularly *Quodl.* VI.1: 585s; *SL* III-4.6: 779–780; *TCB*, c.3 (*OPol* III: 230–34); *OND*, c.95 (*OPol* II: 276). See also Adams 1987a: 1186–1207; Maurer 1999: 254–65.

110. *Ord.* I, Prol., q.1 (*OTh* I: 59, ll.5): '…nisi appareat evidens contradictio.'

ought to be the case from then on. However, should Φ (or ~Φ) imply in itself an evident contradiction, it would be absolutely impossible for God to do or decree it; and, by the same token, ~Φ (or Φ) would be absolutely necessary to him.

Ockham takes care of explaining that the distinction is not with respect to two different powers within the Godhead, but between two different ways in which *we* comprehend God's agency; or what is the same, between two different connotative terms having God's agency as their primary *significatum*.[111]

The point of Ockham's distinction is better understood as a legal one. God has decreed a set of laws which rule over all created beings. This is God's ordained power, which operates *de facto* and *pro statu isto*, with hypothetical necessity. For example, in the natural order of things, i.e. *pro statu isto*, no accident is *de facto* found to exist separately from the substance in which it inheres. But since it is not a logical contradiction for a really distinct accident—a singular quality, to be precise—to exist independently of any substance, it is then *de iure* possible for God to separate any such accident from its substance, or to create it without creating any substance in which to inhere.

Another example can be helpful now. Due to Adam's original sin, it is *de facto* or hypothetically necessary for human beings to have sensitive intuitive cognitions of non-intelligible entities in order to have intellectual intuitive cognitions of those very entities. In other words, *pro statu isto* human beings are determined to having sensitive intuitive cognitions of non-intelligible entities, as a logical precondition for having intellectual intuitive cognitions of them. However, it is *de iure* possible for God to produce in human beings intellectual intuitive cognitions without producing also their sensitive counterparts.

111. See *Ord.* IV.1: 586s; *OND*, c.95 (*OPol* II: 729). See also Maurer 1999: 257s; Adams 1987a: 1187.

Finally, even though it is mandatory *pro statu isto* for humans to be causally affected by a thing so as to have intuitive (or abstractive) cognitions of it, it is nevertheless *de iure* possible for God to produce in humans those very cognitions without the thing causally affecting them (as in the case of the rose located in Rome, but perceived by someone in Oxford), or even without the thing even existing at all (as in the case of the cognition of non-existents).

Muralt's crucial point here is that whenever Ockham uses the *de potentia absoluta* argument, he is ultimately concerned with the essence of the thing being discussed, independently of all *de facto* circumstances.

> L'argument *de potentia absoluta dei* prend ici sa valeur métaphysique plénière. Le point de vue qu'il introduit est celui-là même de la création selon laquelle l'âme est créée absolument, indépendamment de tel ou tel statut possible. Il définit donc pour Occam le point de vue de l'essence et permet de faire apparaître la quiddité en soi de la chose, ce que l'examen empirique du statut actuel de celle-ci exclut … . *De potentia absoluta dei*, c'est-à-dire absolument, du point de vue de l'essence de l'âme humaine telle qu'elle est en tant que créée immédiatement par Dieu, la chose n'est donc pas la cause efficiente de la notitia intuitive, et la notitia intuitive intellective est sans notitia intuitive sensitive.[112]

The idea is *not* to say, as Panaccio has obliquely suggested,[113] that Ockham can be deemed an externalist when talking *pro statu isto* and an internalist when talking absolutely—in the same way, one may reckon, in which he might be deemed a hylomorphist when talking *pro statu isto* and an substance dualist when talking absolutely. Muralt's contention is rather that *the very cognitive act is always determined in and by itself*, and that the thing and its causal relation with such act is at most a recurring, accidental feature, not an essential determination of it.

> … étant terminatif, l'objet n'est pas pour autant cause essentielle de la notitia, même intuitive, car il n'est cause de celle-ci en aucun sens du nom cause … . Il co-existe avec la notitia, dont il est tout au plus l'occasion ou la circonstance, et

112. Muralt 1993: 392, n.23.
113. See the first quote from n.99, above.

> puisqu'il n'est aucunement cause de celle-ci, tout se passe comme s'il pouvait ne pas exister, ou que son existence ou sa non existence n'avait aucune importance.[114]

The gist of Muralt's interpretation, then, is that intellectual intuitive cognitions, and *a fortiori* intellectual abstractive cognitions, are not really caused by their objects. Whether the object exists or not, the cognition is completely determined in itself. In other words, its intensional makeup is such that it determinately signifies its object, whether it exists or not (*sive sit, sive non sit*). Consequently, it does *not* depend upon the object for its being a determinate cognition of it. Of course, this goes against the central tenet of mental content externalism, according to which, let us recall, a certain class of concepts necessitates the "contribution of the environment" to be contentful at all.

One of the passages offered by Muralt to support his construal is taken from *Ordinatio* I, d.35, q.2. This question discusses the problem of whether God can have a determinate cognition of anything external to him, given—amongst other things—the doctrine of divine impassivity; for, if God cannot be affected by anything other than him, it begs explanation how he can know anything at all distinct from him. In contrast with both Aquinas and Scotus, Ockham denies that it can be evidently known or demonstrated that God indeed knows external things. This conviction springs out of Ockham's dismissal of the scientific or demonstrative construal of theology, the details of which can be passed over here. What is of interest to us, however, is what might appear to be Ockham's marked rejection of the externalist point of view.

> If it were said that it belongs to the notion of the [act of] understanding to depend upon its object, but that any dependence is incompatible with God, [I would reply that] this is not valid, because it cannot be proven that every [act of]

114. Muralt 1993: 396, n.25.

> understanding depends upon its object. For it cannot be proven that the [act of] understanding of the intelligence which moves the sky depends upon the sky, and yet that intelligence moves the sky. Moreover, in us not always the [act of] understanding is caused by the object, but [only] sometimes it is caused by the object. Therefore, it does not belong to the notion of the [act of] understanding either to be caused by or to depend upon an object. Therefore, there could be an [act of] understanding even if it did not depend upon an object.[115]

Ockham's argument here is that if a property Φ sometimes inheres in a substance *S* and sometimes it does not, then Φ does not belong to the notion (*ratio*) of *S*; that is to say, it is not demonstrable that Φ belongs to *S*. In the case at hand, if one grants that sometimes an act of understanding is caused by its object, but sometimes it does not—as in the case of supernaturally produced cognitions—then it does not belong to the notion of an act of understanding to depend upon its object. Muralt concludes, hence, that the whole point of the so-called '*de potentia Dei* argument'—in the sense of being a *méthode de découverte de l'essence*—is precisely to exclude causality from the very essence of cognitions.[116]

However, in order to avoid light-minded readings of Ockham's use of theological arguments in philosophy, Muralt calls attention to the univocal aspect of Ockham's joint conception of the divine and the human intellect.[117] So it is not that Ockham is appealing to God's absolute power just as a theological subterfuge to extract an appealing philosophical conclusion. More interest-

115. *Ord.* I, d.35, q.2 (*OTh* IV: 441$^{3-11}$): 'Si dicatur quod de ratione intellectionis est dependere a suo obiecto, sed omnis dependentia repugnat Deo, hoc non valet quia non potest probari quod omnis intellectio dependet a suo obiecto. Non enim potest probari quod intellectio intelligentiae moventis caelum dependet a caelo, et tamen illa intelligentia movet caelum. Praeterea, in nobis non semper intellectio causatur ab obiecto, sed aliquando causatur ab obiecto. Igitur non est de ratione intellectionis vel causari vel dependere ab obiecto. Igitur poterit esse intellectio quamvis non dependeat ab obiecto.'

116. Muralt 1993: 393, n.23; see also n.25, pp.395s. To be sure, Muralt considers another use of the '*de potentia Dei* argument'—that of founding the evidence for negative, contingent propositions. On this topic, see Muralt 1993: 485–87, n.17.

117. Muralt 1993: 391, n.23: 'Occam systématise cette position en l'appliquant au cas de l'intellection humaine, manifestant, ici comme souvent, la tendance scolastique à mélanger les points de vue au profit d'une pensée univoque dommageable aussi bien à la pensée philosophique qu'à la théologie.'

ingly, Ockham is pointing at a feature of the intellect which is proper both to God and to rational beings—angels and humans—in spite of the fact that this feature might appear opaque within human beings *pro statu isto*.

Muralt draws a lucid parallel between Ockham's use of the *de potentia Dei* argument in the case at hand, and in the case of the so-called '*odium Dei*'. According to Ockham, God has decreed that he be loved by humans both in himself and through the love of other humans. Thus, *pro statu isto*, God ought to be loved in himself and through others. But, since God is debtor to nobody but himself,[118] it is *de iure* or *de potentia absoluta Dei* possible for him to decree that he be hated or that he be loved through the hatred of others.[119] The latter possibility is that which interests Muralt here. For, with the help of the *de potentia Dei* argument, Ockham shows that a human being's love of another human being is inessential to the former human being's love of God. And in the same way, Muralt concludes, the cognised thing and its causal influx are inessential to the absoluteness of the intuitive act of cognition.[120]

### 2.2.4 *Ockham's Internalism*

In the previous sections we have argued against an externalist reading of Ockham's semantics, thereby leaning towards an internalist reading, such as the

118. *Rep.* IV, q.3–5 (*OTh* VII: $45^{17-9}$): '… Deus nullius est debitor nisi quia sic ordinavit; de potentia tamen absoluta potest facere contrarium cum creatura sua sine omni iniuria.' See also *Rep.* IV, q.3–5 (*OTh* VII: 55); *Quaest. Var.* VII.7 (*OTh* VIII: 389s); *Quodl.* III.4: 219; III.14: 256. On the topic of the *odium Dei*, see Clark 1971, 1973; McDonnell 1974; Adams 1987b; 1987: 1263–5; 1999, § III.1; Maurer 1999: 525–39; Osborne 2005; Dougherty 2011: 163–7.

119. *Rep.* II, q.15 (*OTh* V: $353^{13-8}$): '… sicut [Deus] potest causare totaliter actum diligendi sine bonitate vel malitia morali, quia bonitas moralis vel malitia connotant quod agens obligatur ad illum actum vel eius oppositum, ita potest causare totaliter actum odiendi Deum sine omni malitia morali propter eandem causam, quia Deus ad nullum actum causandum obligatur.'

120. Muralt 1993: 395, n.24: 'Rien par conséquent n'est produit par Dieu que *de potentia ordinata* et la considération *de potentia absoluta,* comme il a été dit, est déterminante pour la définition de la quiddité d'une chose, puisque cette définition fait abstraction des circonstances que Dieu ne peut pas ne pas vouloir certes, mais *de potentia ordinata*, comme l'amour du prochain par rapport à l'amour de Dieu, et la notitia intuitive sensitive par rapport à la notitia intuitive intellective.'

one supported by Muralt.[121] In spite of this, however, we will now succinctly discuss two arguments, not against the fact that Ockham probably did sustain a version of mental content internalism, but against the success of such a version. In other words, while holding that he probably did sustain an internalism of sorts—viz. the classic Aristotelian internalism based upon similarity relations—we will discuss two reasons for its failure.

#### 2.2.4.1 *Problems with Similarity in the Fictum-Theory*

We mentioned above that in the *fictum*-theory, Ockham advanced the view that the *fictum*, i.e. the feigned objectively existent entity, is maximally similar (*simillimum*) to its object. Indeed, this maximal similarity is the precise reason why the cognition is *of* that very object. Ockham even suggested that, had the human intellect a productive power, just as it has a fictive power, it would then produce a specifically identical thing to the one originally perceived; that is, the *fictum* and its object would belong to the same *species specialissima*.

In Book I of the *Ordinatio*, Ockham writes:

> . . . our intellect first intuitively understands some really existing singular, and having understood [that singular], the same intellect can feign something similar to that which was previously understood. But that [thing] so feigned will not have subjective being but only objective being. And thus it will not be produced in subjective being but only in objective being. And thus that [thing] so feigned will only be of such a kind (*tale quale*) in objective being and not in subjective being as it was first understood. And it would be almost as if it were a maximally similar (*simillima*) image, in objective being, of the thing previously understood, so much so that if the intellect had a real productive power as it has a fictive power, that produced [thing] would truly be of the same kind (*eiusdem rationis*) as that [thing] first understood and as the image which is maximally similar to it, just as the son of some father is said to be its image and similitude.[122]

121. Yet, as we will argue in the last chapter, the dichotomy internalism/externalism with respect to mental content theories is specious. We will accordingly advance a interpretation of Ockham's logico-semantic system that does not fall in either field.

122. *Ord.* I, d.13 (*OTh* III: 418s): '. . . intellectus noster primo intelligit intuitive aliquod singulare realiter exsistens, quo intellecto potest idem intellectus fingere aliquod consimile prius intellecto. Sed illud sic fictum non poterit habere esse subiectivum, sed tantum esse obiectivum. Et ideo non producetur in esse subiectivo sed tantum in esse obiectivo. Et

Two theses of Aristotelian coinage underlie the position endorsed by Ockham in this passage:

(T5) In univocal causation, the effect is typically of the same species as its cause.

(T6) Maximal-similarity relations are sufficient to ground representation.

Thus, an object serves as univocal cause to producing a mental image of it in the intellect, which, according to (T5), is co-specific with the object. The difference between them, Ockham explains, is with regard to the mode of being: subjective in the case of the actual object, objective in the case of the mental image. The fact that the two are co-specific is what makes them maximally similar, just as a father and a his son are of the same species, which, in Ockham's view, means that there is nothing more similar to the one than the other. Finally, according to (T6), the maximal-similarity relation that obtains between object and mental image is the reason why the latter acts as a representation proper of the former.

It is important for us to notice that this account of intensionality, even if it presupposes a certain view of causation, is nonetheless internalist. The reason is that the features captured by the maximal-similarity relation—external appearance, internal essence, etc.—are fully accessible or transparent to the

ideo illud sic fictum erit tantum tale quale fuit prius intellectum in esse obiectivo et non in esse subiectivo. Et erit quasi imago simillima rei prius intellectae in esse obiectivo, in tantum quod si intellectus haberet vim productivam realem sicut habet vim fictivam, illud productum vere esset eiusdem rationis cum illo praeintellecto et imago simillima ei, sicut filius alicuius patris dicitur imago et similitudo ipsius.' See also *Ord.* I, d.2, q.8 (*OTh* II: 272, ll.5s), where Ockham explains that the *fictum* and its object differ only numerically. See as well *Ord.* I, d.2, q.8 (*OTh* II: 279); and d.3, q.3 (*OTh* II: 428).

agent's intellect, thereby ultimately being *internal* to it. Moreover, these features constitute the overall content of the intellectual act. Lastly, and crucially, they fully determine the intellectual act's reference.[123]

As we mentioned in a previous section, Ockham himself grew dissatisfied with the *fictum*-theory, eventually abandoning it for the *actus*-theory. Of the several arguments he ponders against the *fictum*-theory,[124] one is of special attention for our present purposes.

> [S]uch and image differs more from any thing whatsoever, than any thing whatsoever differs from any other [thing], because a real being and a being of reason differ more than two real things whatsoever [differ one from another]; and thus such image is less similar to a thing, and consequently is less able to supposit for a thing than the intellectual act which is more similar to the thing; and so it will be less common to the external thing and will have less of notion of a universal than the intellectual act. …[125]

Ockham's reasoning here is that the similarity criterion offered by the *fictum*-theory is not sufficient to account for maximal similarity relations between putative fictive beings and their objects, due to the essentially disparate natures of the two *relata*.

Now one may wonder the reasons why Ockham changed his mind with respect to the similarity criterion. To be sure, in the Thomist version of (T6), according to which the essence of the perceived thing is somehow 'encoded'—to use Eleonore Stump's expression[126]—in the intelligible species, there seems to be no problem with regard to the disparity of natures of the "medium"

123. Two other examples of content internalism based upon similarity relations might be useful to cite: first, Locke's theory of ideas (see esp. Locke 1975, § 2.8.15); and second, Joseph Mendola's so-called 'qualia empiricism' (see Mendola 2008, c.10).
124. See *Quaest. Phys.*, q.1 (*OPh* VI: 397s); *Quodl.* IV.35: 472s; *Exp. Perih.*, Prol., § 7 (*OPh* II: 360s).
125. *Quaest. Phys.*, q.1 (*OPh* VI: $398^{23-8}$): '… tale idolum plus differret a re quacumque quam quaecumque res differt ab alia, quia ens reale et ens rationis plus differunt quam quaecumque duo entia realia, et ideo tale idolum minus assimilatur rei, et per consequens minus potest supponere pro re quam intellectio quae plus assimilatur rei; et ita minus erit communis rei extra et minus habebit rationem universalis quam intellectio.' See also *Exp. Perih.*, Prol., § 7 (*OPh* II: 360s, ll.35–45).
126. See Stump 1999: 171.

and the object. Accordingly, one can envisage the possibility that the features picked out by the maximal-similarity relation could be encoded in some way or another in the *fictum*—just like a building's structure is encoded in its blueprint, or someone's phenotype is encoded in her DNA; or more simply even, like someone's face is encoded in her mugshot.

Seen from this perspective, therefore, Ockham's complaint regarding the disparity of natures of the *fictum* and its object seem to fall under a form of the *secundum quid* fallacy. 'Of course,' an objector may concede, 'the *fictum* is less similar to its object, than the latter is similar to any other object—but only with respect to the mode of being. But with respect to its *content*,' the objector concludes, 'no other object is more similar to its corresponding *fictum* than its own.'

But Ockham could not have accepted this interpretation of (T6). For, according to his earlier views on the matter, the *fictum* is an exact duplicate of its object, with just the mode of being differing between two.[127] So it is not that the object's properties are encoded into the *fictum*, but that the *fictum* is the very object as objectively existing in the intellect. And from this consideration follows Ockham's later repudiation of the *fictum*-theory. This is because, understood as a mere mental image (*idolum*) with no real grounding at all, the *fictum cannot even be compared or contrasted with its putative object*. In other words, any attempt to compare objectively existing beings with subjectively existing ones will constitute a category mistake (in the Rylean sense of the expression). So this particular argument by the mature Ockham against *ficta* ought to be read as a logical rather than as an epistemic one.

127. See e.g. *Ord.* I, d.2, q.8 (*OTh* II: 283): '… [ficta] sunt talia in esse obiectivo qualia sunt alia in esse subiectivo; et hoc habet intellectus ex natura sua: posse talia fingere qualia cognoscit extra.'

#### 2.2.4.2 *Problems with Similarity in the Actus-Theory*

To be sure, Ockham advanced a host of other reasons for disposing of the *fictum*-theory in favour of the *actus*-theory, the details of which we will pass over now. However, the main reason for adopting the latter seems to have been Ockham's appreciation of the fact that intellectual acts of cognition, having being identified with real (i.e. subjectively existing) qualities inhering in the mind, perform the very same epistemic and semantic roles that *ficta* reputedly played. Thus declares Ockham, for instance, in *Summa logicae* I.12:

> Some say that [a concept, intention, likeness, or understanding] is nothing but a certain thing feigned by the soul. Others, that it is a certain quality subjectively existing in the soul, distinct from the act of understanding. Others say that is the act of understanding. And in favour of the latter there is this reason, that 'in vain one does through many things what can be done through fewer'. But all things which can be salvaged by positing something different from the act of understanding can be salvaged without such [something] different, because being able to supposit for another and to signify that [other] is applicable just as much to the act of understanding as to another sign. Therefore, it is not necessary to posit something different from the act of understanding.[128]

This passage offers an explicit mention to the so-called 'Principle of Parsimony'. Its deployment is overt: if all which is attributed to the *fictum* plus the act of understanding can be attributed to that very act by itself, then the former can be rejected in favour of the latter. Now considered independently of the issue regarding Ockham's ontological stance, this argument points to an important issue. Ockham's shift from the *fictum*- to the *actus*-theory would not seem to concern the *nature* of the intensionality of cognitive act, but rather its mechanism. Thus, theses (T5) and (T6) remain true in Ockham's

128. *SL* I.12: 42s$^{30-9}$: 'Aliqui dicunt quod non est nisi quoddam fictum per animam. Alii, quod est quaedam qualitas subiective exsistens in anima, distincta ab actu intelligendi. Alii dicunt quod est actus intelligendi. Et pro istis est ratio ista quia "frustra fit per plura quod potest fieri per pauciora". Omnia autem quae salvantur ponendo aliquid distinctum ab actu intelligendi possunt salvari sine tali distincto, eo quod supponere pro alio et significare aliud ita potest competere actui intelligendi sicut alii signo. Igitur praeter actum intelligendi non oportet aliquid aliud ponere.' See also *Quodl.* IV.35: 474; *Exp. Perih.*, Prol., § 7 (OP II: 361, ll.46–60).

mature theory of mental content, as this passage from *Quodlibeta* IV.35 bears witness:

> Therefore, I claim that both a first intention and a second intention are in reality acts of understanding, since whatever is preserved by appeal to a fictive entity can be preserved by appeal to an act of understanding. For like a fictive entity, and act of understanding (*i*) *is a likeness of an object*, (*ii*) is able to signify and supposit for external things, (*iii*) is able to be the subject or the predicate in a proposition, (*iv*) is able to be a genus or a species, etc.[129]

The idea seems to be now that the mental quality which is identical to the cognition is indeed naturally apt to be maximally similar to an external thing (*res extra*). If the maximal-similarity relation obtains, the cognition can then be said to represent that thing. As with the *fictum*-theory, therefore, the *actus*-theory is an internalist one.

Now the problem of course, as several interpreters have pointed out,[130] is that *no account of maximal similarity, either by Ockham or by any of his contemporaries, is sufficient to explain the relative determinacy of reference needed for a standard semantic theory*. Indeed, as we saw in a previous section, this failure of Ockham's to provide a successful similarity criterion has persuaded—wrongly, as we have argued—some of them to construe Ockham as a proto-externalist (or even, as in the case of Panaccio, as a fully fledged one) rather than as an internalist of Aristotelian lineage.[131]

129. *Quodl.* IV.35: 474[115–20]: 'Ideo dico quod tam intentio prima quam secunda est vere actus intelligendi, quia per actum potest salvari quidquid salvatur per fictum, eo quod actus est similitudo obiecti, potest significare et supponere pro rebus extra, potest esse subiectum et praedicatum in propositione, potest esse genus, species etc., sicut fictum.' (Trans. William of Ockham 1991: 390, with emendations; my italics.) Cf. *Rep.* II, q.12–13 (*OTh* V: 309).
130. See the references in n.46, p.55, above.
131. For instance, after Marilyn Adams has dismissively addressed the question whether a though of-a-green-house ought in fact to resemble a green house, she comments thus: 'If such similarity is ruled out, then, on the mental-act theory, comparative similarity cannot be the relation that accounts for the signification of material things by concepts' (Adams 1987a: 132). She follows suit and proceeds (pp.136–41) to advance an externalist interpretation of Ockham's theory of mental content.

If the problem of the *fictum*-theory was that it made no sense to compare an objectively existing entity with a subjectively existing one, the problem of the *actus*-theory will be that is makes little sense to compare a mental quality with an external substance. Indeed, this problem with cross-categorial similarity was envisaged by Ockham himself when discussing the *fictum*-theory. In the *Ordinatio* he examines an objection to that theory in the following manner:

> . . . it seems that such [*ficta*] are not similar to things, because *no accident can be similar to a substance*; but that *fictum* is more different from a substance that any accident whatsoever [is]; therefore, it cannot be a similarity of a thing outside the soul.[132]

Ockham's reply, however, for much as it may serve to defend the *fictum*-theory, does little with regard to the *actus*-theory. For in it Ockham simply underscores the fact that the *fictum* is an exact duplicate of its object, granting in passing the objection against similarity relations between qualities and substances.[133] The image-like character of the *fictum* underwrites the fact that all features of the object, both essential and accidental, are represented in and by the cognition. Whereas, in the *actus*-theory, this possibility is *prima facie* banned due to the *actus* being a mental quality.

In spite of this situation, is it *simpliciter* inconceivable that a simple mental quality resembles a host of substantial and accidental features of an object—at least to the point of specifically determining the former so as to refer to the latter? Ockham most likely would not require that a mental quality be hot when grasping a flame, or red when grasping a tomato. So one may wonder indeed whether a mental quality can resemble in a non-qualitative way the

132. *Ord.* I, d.2, q.8 (*OTh* II: 282[1–4]): '. . . videtur quod talia non sunt similia rebus, quia nullum accidens potest assimilari substantiae; sed illud fictum plus distaret a substantia quam quodcumque accidens; igitur non potest esse similitudo rei extra animam.'
133. See 127, p.95, above.

features of its object. This brings us back again to the question of the nature of the maximal-similarity relation.

Although Ockham seems not to have addressed this issue, however, other scholastics did. For instance, Marilyn Adams points at a passage by the xvth-century logician Paul of Venice, where he discusses other ways in which an intention may resemble its object.[134] According to Paul, the association or similarity (*convenientia vel similitudo*) in question can occur in one of two ways—essentially or accidentally. If it occurs essentially, it follows that an intention will be more similar to any other intention than to its object, because what is being selected as relevant for the comparison are the essential features of the two *relata*. But if it occurs accidentally, as what is being selected are the accidental features of the intention—which, we may add, 'encode' some of the essential and accidental features of the object—it follows that they two *relata* can be said to be maximally similar. Paul in fact appeals to thesis (T5) to support his distinction. The reason is that, as the intention or concept of man has indeed been caused by a man, it ought to resemble more any existing man than any other intention or concept.[135]

What Paul calls 'accidental similarity' seems to coincide with what Panaccio calls 'perceptual likeness'.[136] In discussing the issue at hand, Panaccio offers a classification of the types of similarity which were disseminated roughly during Ockham's time, to wit: (*i*) *Qualitative resemblance*, in which a substance

134. Adams 1987a: 131s.

135. Paul of Venice 1979: 66–8: 'Ad haec respondertur, ad primum negando quod maior est convenientia inter istam intentionem *homo* et unam aliam intentionem quam inter istam et hominem. Est enim maior convenientia accidentalis inter istam intentionem *homo* et hominem quam inter istam et unam aliam, quia talis intentio *homo* causatur ab homine et non ab aliqua alia intentione. Ad secundum dicitur eodem modo quod duplex est convenientia: una essentialis et alia accidentalis. Modo verum est quod maior est convenientia essentialis inter hominem et asinum, vel inter Sortem et Platonem, quam inter hominem et talem intentionem. Non tamen est maior convenientia accidentalis, ut dictum est. Intentio enim hominis nullo modo posset ab asino causari.'

136. Panaccio 2004: 123s.

has a quality of the same specific kind as another substance; for instance, two white walls. (*ii*) *Essential similitude*, in which two substances belong to the same *species specialissima*; for instance, Socrates and Plato. (*iii*) *Perceptual likeness*, in which a putative mental image or a photograph is said to bare some likeness to what it represents; for instance, Christ Church's Cathedral and a photo if it.

As Panaccio explains,[137] what he dubs 'essential similitude' captures what Ockham had in mind when he spoke of *simillimae res*, during the *fictum*-theory period. For, as we mentioned above,[138] Ockham declared that the *fictum* and its object differ only numerically (and, of course, by the fact that the former has objective being and the latter subjective being). Moreover, as we can see, this kind of similarity also seems to fit well Paul of Venice's account of *convenientia essentialis*.

Curiously enough, Panaccio rejects these three types of similarity because, he claims, they all constitute symmetrical relations, while the similarity relation he envisages for the later Ockham is asymmetrical. Thus he seems to be asserting that, in the *actus*-theory, Ockham's view was—or should have been—that the mental quality somewhat resembles its object, but not conversely. Admittedly, this one-sided similarity is a quite perplexing notion, if not an inconsistent one. This is because, if *A* is said to be similar to *B*, it follows that there is something in *A*, either in its essence or in its accidents, that is common to *B*. But this commonality relation is necessarily symmetric, and thereby the relation of similarity. To be sure, Panaccio's examples do not help much into clearing out this notion. First, a hand that grasps something and later lets go of it, '… is a similitude of the object is previously grasped'; sec-

137. Panaccio 2004: 123.
138. See n.122, p.92, above.

ond, '… a foot track … is a similitude of the foot, but not conversely'.[139] The case can be made, I am afraid, that both examples are instances of accidental similarity, in Paul of Venice's sense, and thus a symmetrical relation obtains in both of them. In the first one, the hand molds itself in order that it adopts the form or figure of its object, say a ball or a pen. Of course, the hand does not turn ball or pen (as in essential similarity); yet it does mold itself as to adopt some of the qualitative and quantitative accidents of its object, by curving or shrinking the required amount in order that its inner boundaries *conform* to its objects outer boundaries. In the second example, the mud or dirt also adopts the very same spatial features which the foot (or a part of it) displays. In point of fact, proof that this symmetry does occur in both instances is that *one can indeed recognise the cause by its effect*, which would be impossible if the relation was only one-wayed. For example, a child is capable of guessing that the hand so positioned was originally holding a baseball and not, say, a pencil. And a forensic expert is able to recognise the foot (or footwear, tyre, etc.) that originally produced a certain print on the ground.

Be that as it may, Panaccio has argued that such a notion of similarity was rehearsed by Jean Buridan, who dubbed it 'similarity by fittness' (*secundum convenientiam*).

> … taking 'similarity' largely or improperly not for [having] the same quality; rather, only by means of certain appropriate convenience from the agent to its effect.[140]

Unfortunately, the passage quoted by Panaccio sheds no light on how this kind of similarity was actually entertained by Buridan. In a recent paper,

139. Panaccio 2004: 124 and 125.

140. Jean Buridan 'Metaph.' VII, 8, Paris, 1588, fo.46$^{r}$: '… accipiendo similitudinem large vel improprie non pro eadem qualitate: immo solum pro quadam appropriata convenientia agentis ad effectum.' Cited in Panaccio 2004: 141, n.28. (My translation. I have emended the 'per' for a 'pro' in the Latin.)

Panaccio is decisively more overt as to the nature of his externalist interpretation, and refers several times to the writings of Ruth Garrett Millikan.[141] Millikan is known for her contributions to understanding, within an evolutionary framework, the nature of causation as required by causal theories of reference. According to Millikan's teleological approach, the fact that a thought refers to something or has a certain mental content is explained by its evolutionary function or *telos*—its *fitness* to perform a certain task. The content of a thought is thus its 'proper cause', which is precisely its evolutionary function. There does not exist, therefore, a symmetric relation of any sort between the content and its producing cause, and surely not one of similarity in any of the three first kinds discussed by Panaccio. The content of the thought is just an adaptation of its proper cause—in the same way as the closing hand is said to be an adaptation of the ball it holds or held.

Now as engaging as this teleosemantic account of mental content might seem, it is clearly an *externalist* approach in all respects. As Millikan views the matter, no information associated with a concept—no mental images, no descriptions, etc.—is either necessary or sufficient for determining the concept's content. What determines it, rather, is the evolutionary function it plays. To take an analogy she often appeals to, just as the function of a can opener is to open cans, the function of our concept of red—one which has evolved for hundreds of thousands of years with our species—is to identify red things. This identifying function, its fitness to do so, is precisely that which determines the content of the concept of red.

Seen from this perspective, then, Panaccio's asymmetrical construal of the similarity relation purportedly obtaining between a cognition and its object, is nothing but a reinforcement of his externalist interpretation of Ockham's

141. See Panaccio forthcoming: 23 and 30, n.44, where he points at Millikan 1993, c.14.

semantics. If the putative similarity relation obtaining between a cognition and its object is *a*symmetric, as Panaccio claims Ockham (should have) envisioned, there is no possible way in which 'what is in the head' individuates the cognition and thus determines its content.

And yet, even if we could find an internalist angle to this peculiar kind of similarity, one which would settle down the standard criticisms against the quality/substance comparison, a decisive objection against the internalist reading now appears. Internalism about mental content, let us recall, requires that the Fregean sense be *sufficient* for individuating the mental content, thereby determining its reference. In the *fictum*-theory this is certainly the case, as the mental *idolum* is conceived of as an exact copy of its external object. For, since by definition the *fictum* is accessible to the intellect, the agent can thus easily identify its object in the world with the help of it—much like one can identify a person with the help of her mugshot, with the advantage of being impossible to mistake the person's identity in this case.

To be sure, Ockham's espousing of the *actus*-theory can be read as a move towards the purest form of content internalism. For the *fictum*, in spite of being nothing other than the external object *as conceived* by the intellect, is nonetheless ontologically disparate from the latter's nature, and thus is in a sense *external* to it.[142] Therefore, Ockham's new theory of mental content *internalises the concept*, as it is now identified with the very act of the intellect, that is, with a special kind of quality inhering in it. Yet an undesired result comes about—that the similarity holding between the concept and its object is insufficient to determining the concept's reference in the way required. Let us see why.

142. See Muralt 1993: 400, n.23: 'Occam, se débarrassant de l'idolum fictum qui en général facilite la doctrine de l'autonomie de la connaissance par rapport à la chose, tient à ne perdre aucun des avantages que celui-ci semblait pouvoir lui apporter.'

Recall that in Chapter 1 we examined how Ockham's account of science parted ways with Scotus' virtual containment theory.[143] In Scotus' view, the subject of a science virtually contains all of its *passiones*,[144] in very much the same way as the effect contains its cause, and the conclusion its premises. Scotus thereby argues that the proper concept of something, say, of human, virtually contains all essential characteristics and properties (*propria*) of human beings, including its causal powers: animality, rationality, ability to laugh, bipedality, and so on. Ockham rejects such a theory, as we have already discussed. For in spite of insisting time and again that only one perceptual event suffices to form a specific concept of the perceived substance,[145] he denies that this concept—the abstractive cognition—contains any of the essential characteristics of its object. For example, when arguing for the logical priority of intuitive over abstractive cognitions, Ockham examines an objection, according to which our knowledge of substances happens *in se* and abstractively, rather than intuitively. He replies thus:

> … *no corporeal, external substance can be naturally known by us in itself*, whatever it be concerning the intellective soul or [concerning] whatever substance that is of the essence of the knower.[146]

The reason for this is that, *pro statu isto*, our knowledge of substances is derivative or mediate, as it always occurs through our knowledge of their accidents. In commenting on Porphyry's concept of individual, Ockham makes the following remark:

> … it should be noted that the author here is talking about individuals in the genus of substance, as well as of more nobler [substances], because in other

143. See esp. pp.9–11, above.
144. Scotus, *Quaest. in Arist. Met.* VI, q.1, n.8 (ed. Wadding, IV: 652): '… in quo tale complexum virtualiter continetur'.
145. E.g. *Quodl.* IV.17: $385^{126s}$: '… conceptus speciei potest abstrahi ab uno individuo.'
146. *Ord.* I, d.3, q.2 (*OTh* II: $412^{19-22}$): '… nulla substantia corporea exterior potest a nobis in se naturaliter cognosci, quidquid sit de anima intellectiva vel quacumque substantia quae est de essentia cognoscentis.'

> genera those individuals also exist, but they do not have such properties; on the contrary, they are properties of the individuals of the substance, and by those very accidents the individuals of the substance become known to us, because *accidents are known by our intellect directly and in themselves, yet substances are not [known] in that way*.[147]

For instance, supposing Socrates is in front of me and I happen to see him (and the lighting conditions are adequate, etc.), my intellect simultaneously forms both an intuitive cognition of him and an abstractive cognition of a human. Both cognitions are specifically and numerically distinct intellectual acts, and thereby are distinct mental qualities. In any case, however, these qualities hold maximal similarity relations with Socrates' qualities—the properties of which Ockham speaks in the latter quotation.[148] Yet the qualities of Socrates grasped by my intellect are only the most apparent ones: Socrates' external appearance, his relative size and weight, the colour of his eyes, and so on; but *none* of Socrates' more inconspicuous qualities, such as his ability to move by himself, his ability to breath, etc., let alone his intelligence, his temper, and all other higher faculties, can constitute my intuitive and abstractive cognitions of him.

This does not imply, of course, that I cannot have a precise knowledge of Socrates, or of human beings in general, with respect to any of those characteristics. If I actually see that he walks, I can form the true contingent proposition, 'Socrates is able to move by himself'; and if I see that he is reasoning—however I define it—I can also form the true contingent proposition, 'Socrates is able to reason'. I can form as well the true contingent proposition 'A hu-

147. *Exp. Porph.*, c.2, § 15 (*OPh* II: $52^{25-30}$): '…notandum quod auctor hic loquitur de individuis in genere substantiae tamquam de nobilioribus, quia in aliis generibus sunt etiam individua illa; tamen non habent tales proprietates, immo magis sunt proprietates individuorum substantiae, et per ipsa accidentia innotescunt nobis individua substantiae, quia accidentia directe et in se cognoscuntur ab intellectu nostro, non sic autem substantiae.'

148. A side problem which, to my knowledge, Ockham never really tackled, is how can a simple (i.e. non-complex) mental quality hold similarity relations with the complex quality, or the cluster-of-qualities, which is the substance-as-perceived.

man is able to move by himself', 'A human is able to reason', and so on. Finally, provided I endorse—as Ockham himself suggests—a positive view on the regularity of nature,[149] I can even infer from such contingent propositions these others: 'All humans are able to think', 'All humans are able to move by themselves', etc. Be that as it may, my point is that, in Ockham's view, all this interesting information *is not part now, and will never be part, of the intuitive or the abstractive cognitions* I am naturally capable of having of Socrates or, to that matter, of any other human being.

Ockham's position seems to be, therefore, that only those qualities of a substance which can be at once grasped in a single intuitive cognitive act belong to the intuitive cognition of that substance and, *a fortiori*, to the ensuing abstractive cognition. To express the same point somewhat more formally,

(T7) If an intuitive cognition of an object $O$ enables someone to make the evident judgement '$O$ exists and is $Q_1, Q_2, \ldots, Q_n$', then her intuitive and abstractive cognitions of $O$ intensionally include in itself qualities $Q_1, Q_2, \ldots, Q_n$ only.

The problem that (T7) poses, within the framework of content internalism, is that the reference of all intuitive and abstractive cognitions necessarily remain underdetermined. The reason is plain enough: if mental content $C$ is individuated by means of $Q_1, Q_2, \ldots, Q_n$ only (or equivalently, if cognition $C$ intensionally includes in itself $Q_1, Q_2, \ldots, Q_n$ only), it follows that a multiplicity of specifically-diverse objects $O_1, O_2, \ldots, O_n$, all of them having $Q_1, Q_2, \ldots, Q_n$, will potentially fall under $C$. In other words, the conjunction of qualities $Q_1, Q_2, \ldots, Q_n$ is insufficient to intensionally designate the members of a single

149. See e.g. *Ord.* I, Prol., q.2, a.1 (*OTh* I: 87[98]): '… omnia individua eiusdem rationis habent effectus eiusdem rationis in passo aequaliter disposito …'. Cf. *Ord.* I, Prol., q.1 (*OTh* I: 22s, 42).

species only (in the case of an abstractive cognition), let alone the single member of an individual-class (in the case of an intuitive cognition).

This is certainly a serious shortcoming of Ockham's internalism.[150] Panaccio has tried to rectify this criticism by claiming that this liberal account of similarity might appear enough for most epistemic purposes:

> Does this mechanism yield the right result? … The answer is 'yes', if we suppose, as Ockham did, that each natural species distinctively displays certain typical perceptual features. This is not as naïve as it might seem. Ockham takes it to be a commonly accepted principle that if two individuals are of the same species, they will always produce highly similar effects on equivalently disposed patients.[151]

However, as he promptly concedes, this is simply insufficient for determining the reference of substance terms.

> Intentional similitude … is what helps us recognize, on the spot so to say, whether something falls of not under a given concept. … since substances are not cognised *in se* but only through their accidents (at least in this world), the intentional similitude relation cannot determine alone the extension of substance concepts as it does for qualitative concepts.[152]

So the information captured by similarity relations holding between a cognition and its object, even if it does not succeed in determining the cognition's extension, that is, does not fulfil the semantic role of individuating a mental concept, does indeed fulfil an epistemic one. Yet in that work Panaccio does not venture a definite answer to the question of how the extension is actually

150. Other related problems with similarity have been pointed out by scholars. For instance, Peter King (1997) and Gyula Klima (1997; 2005) have argued against Ockham's account of similarity, on the basis that it is actually a three-placed relation: *A* is similar to *B* with respect to *C* (or for some interpreter *D*). The fact that Ockham did not fully consider this issue, might seem to be fatal to his nominalist programme; for, amongst other things, it leads to what is known in the trade as 'Russell's regress' (see Rodríguez-Pereyra 2001; 2002, c.6), and ultimately to a necessary recourse to universal entities. However, one can easily reply that for Ockham similarity is really a two-placed predicate not requiring any 'aspect of comparison' (nor any 'external' interpreter). Moreover, one can even adopt a construal of Ockham's views on the matter, according to which similarity is a basic or original relation, not reducible to other properties or relations. (For a sophisticated, contemporary position on non-reducible similarity relations, see Rodríguez-Pereyra 2002.)

151. Panaccio 2004: 128.

152. Panaccio 2004: 129.

determined. However, in more recent papers he does rehearse an answer, as we have discussed in previous sections, providing an externalist construal of Ockham's semantics and overall theory of mental content. But, according to the conclusions we reached in those same sections, this externalist construal does not resist a close scrutiny.

Let us wrap this section up by summarising the conclusions we have reached. Ockham's Aristotelian internalism with respect to mental content went through two broad phases. In the first one, the so-called '*fictum*-theory', Ockham identified mental concepts with objectively existing mental images (*idola*), that is, with intensional objects. These *ficta* were deemed by Ockham to be exact metaphysical duplicates—intensional *Doppelgängers*, so to say—of their objects. While being only numerically different from them, and thus maximally similar to them, the *ficta* differed from their object in their modes of being: the former had objective being, the latter subjective being. At a first glance, *ficta* performed well the internalist role they were in charge of. For they are transparently accessible to the intellect and infallibly determine their reference due to the similarity relations they hold with their object. However, as Ockham eventually acknowledge, their positing entailed a logical problem—that it made no sense to claim that *ficta* hold similarity relations with their object, as the mere possibility of comparing objectively existing being with subjectively existing ones constituted a categorical mistake.

When Ockham later switched gears and adopted the *actus*-theory, he embraced the purest form of internalism. In this new theory, the concept was identified with the mental act of cognition, that is, with a mental quality. As such, the very act of understanding is absolutely determined in itself, thereby requiring no object at all, subjectively or objectively existing. Nonetheless, a new problem sprung for Ockham—that the reference of cognitions remains

underdetermined. The reason, we said, was that Ockham denied that we post-lapsarian human beings can have direct acquaintance of substances, for they are only known to us through their accidents. From this it follows that all of the substance's essential characteristics, its causal powers, and so on, even if they can be inferentially known, cannot form part of the cognition, whose semantic content thereby remains underdetermined.

Accordingly, neither of these internalist theories of mental content attributed to Ockham appears to be tenable. This dire situation has led some commentators, such as Marilyn Adams and, more recently, Claude Panaccio, into embracing an externalist construal of Ockham's semantics. But, as we discussed in previous sections, this other exegetic approach is simply not attributable to Ockham.

## 2.3 Summary

In this chapter we examined the two main semantic paradigms under which Ockham's theory of mental content has been studied—the externalist and internalist theories. We began with the externalist interpretation, due to its current pervasiveness both inside and outside Ockham's scholarship. Externalism with respect to mental content claims that concepts, intentions, volitions, desires, perceptions, and so on, are individuated "externally", that is, by means of a direct causal intercourse with the external object. In other words, the mental content remains essentially undetermined unless there is some causal interaction with the external world. In the case of Ockham, some interpreters have claimed that he had such a picture in mind when he set up his semantic theory. To support this opinion, they point out at a passage from the (unrevised) *Reportatio*, in which Ockham apparently embraces a rigid account of causation. According to it, a singular entity could have not been caused by anything

but its actual cause. This peculiar account of causation is used by Ockham—they claim—in order show that a singular intuitive act of cognition could have only been (co-)produced by its actual object, thus confirming the externalist account that the mental content is externally individuated.

But this externalist interpretation was found deficient in several ways. To show that, we pursued three lines of attack: first, against the rigid account of causation; second, against the externalist recourse to *possibilia*; and third, against a light-minded reading of Ockham's *de potentia Dei* argument. We thereby demonstrated that the central thesis of mental content externalism is untenable, given some of Ockham's nuclear doctrines. In discussing that, we presented what seems to us to be a more organic reading of Ockham's theory of mental content—the radically internalist construal advanced by André de Muralt, according to which the very act of cognition is absolutely determined in and by itself.

Thus we proceeded to examine the traditional internalist reading of Ockham's semantics, which, as we argued, has a clear Aristotelian lineage. This interpretation declares that mental contents—i.e. intuitive and abstractive cognitions—are internally individuated by means of maximal similarity relations obtaining between the cognitions and their objects. These similarity relations, fully transparent to the intellect, are purportedly sufficient to determining the proper object of the cognitions—an individual, in the case of intuitive acts; a species or genus, in the case respectively of specific and generic abstractive acts. However, we showed that none of the two theories Ockham held throughout his career—the *fictum-* and *actus*-theories—can accomplish what they were designed to. On the one hand, the *fictum*-theory, we argued, is based upon a logical misappreciation on the part of Ockham, who believed that similarity relations could be established between *ficta*—objectively exist-

ing beings—and their subjectively existing objects. On the other hand, the *actus*-theory, while it avoids that blunder, ultimately renders the reference of mental contents underdetermined. The reason for this is that the intensional information available in a cognition for determining its reference is insufficient for that, as it is based upon a meagre subset of the accidental features of the substance.

What, then, is my diagnosis of the situation? I believe that Ockham himself, in embracing the Aristotelian account of mental content founded upon similarity relations, came to acknowledge at least some of its sundry shortcomings. By the time he wrote *Reportatio* II (c.1317–18), he seems to have toyed with idea that a certain view on causation could rescue his account of intuitive cognition—and, consequently, that of general concepts—from falling into underdeterminacy. But this view seems to have been abandoned by the time he completed the *Ordinatio* (after July 1318), as it never appeared again in his later works. When he subsequently adopted the *actus*-theory, the idea that a cognition's content is determined by similarity relations was still espoused by him. Yet there appears to be no solid evidence that Ockham remained much troubled any more by the underdeterminacy problem.

In view of the foregoing, the interpreter is confronted with at least three possible scenarios: (1) that Ockham grew so complacent with his new *actus*-theory, that he failed to realise the problems conveyed by it with respect to content determinacy; (2) that Ockham did in fact notice such problems, yet saw no sound way of avoiding them, thereby simply disregarding them; or (3) that the internalist interpretation, which seems to apply to the *fictum*-theory, simply does not work with the *actus*-theory.

When seen under this light, then, the methodological principle of charity compels us to reject all but the last alternative. What I will expose in the fol-

lowing chapters, therefore, is an interpretation of Ockham's semantics and logic which is not based upon the internalist or externalist paradigms. I will propose an inferentialist reading which, broadly described, severs the link between mental content and representation, subordinating the latter to the inferential role a certain proposition—and derivatively, its terms—plays with respect to other propositions.

# Part II

# Ockham's Logico-Semantic System

CHAPTER 3

# AN INFERENTIALIST CONSTRUAL

## 3.1 Introductory

If the arguments we advanced in the previous chapter are sound, it follows that both the internalist and the externalist interpretations of Ockham's theory of mental content, that is, of his so-called 'semantic theory', are doomed to failure. What I wish to present in this chapter is an attempt to read Ockham's semantic-plus-logical theory from an inferentialist perspective. I will refrain from claiming, however, that Ockham was a 'fully fledged' inferentialist. Rather, I will put forward the view that some inferentialist threads can be found woven throughout Ockham's writings, threads which may help to solve the interpretative conundrum we arrived at in the last chapter.

Let us begin by remarking that the now-standard way of classifying theories of mental content, that which we rehearsed in the previous chapter, is by no means the only one available.[1] To be sure, the distinction between internalist and externalist theories of mental content focuses on the question whether any such content is modally supervenient, or not, on any internal properties; that is to say, on what ultimately individuates mental contents. This way of classifying mental content theories, however, fails to tackle the *constitutive* question concerning the nature of mental contents—what it is for a thought (sign, etc.) to have a certain content, or to have or express a certain concept?

1. See especially Greenberg 2005, which I have followed regarding this point. See also Cash 2009.

One scheme of classification which seeks to deal directly with this question divides the genus of mental content theories into two species—normative theories and non-normative ones. Normative theories are those which provide an answer to the constitutive question in normative terms: for a thought to have a certain content it is necessary and sufficient that some normative facts obtain; and these normative facts are taken to be non-reducible to non-normative ones. On the other hand, non-normative theories declare that non-normative facts have to obtain for a thought to have a certain content.

Abandoning the internalist/externalist distinction as a classification scheme for theories of mental content has the advantage, amongst others, of bringing into relief similarities between theories that were formerly classified as belonging to rival paradigms. For example, causal-biological theories of mental content, which would traditionally be classified as externalist theories, and most conceptual-role theories, which would be classified under internalist theories, are now recognised as being instances of non-normative theories of content. And this recognition sheds light on the nature of conceptual or mental content, as conceived of by these two theories.

Moreover, classifying theories according to the normative/non-normative scheme allows for internalist-externalist hybrid theories,[2] that is, theories that while exhibiting features of internalist theories of mental content (e.g. that the content of a thought or sign is constituted by the role it plays along with other thoughts or signs), nonetheless would be counted as externalists in the traditional classification (e.g. because they require or allow for causal interaction with the external world).

In this chapter we will present and examine one such hybrid theory—a normative strain of conceptual-role theories known as *inferentialism*, most em-

2. See Greenberg 2005: 302

inently espoused by the University of Pittsburgh philosopher Robert Brandom. The interpretative proposal we will advance here, then, suggests that some central features of Ockham's logico-semantic system can be construed in the light of this particular kind of theory of mental content.

## 3.2 What is Inferentialism?

### 3.2.1 *Representationalism*

Both internalist and externalist theories of content, just as those by which Ockham's semantics has been measured in recent times—unsuccessfully, it seems—share a common representationalist tenet with regard to the nature of mental content.[3] According to it, the fact that a thought has a certain content is ultimately explained by the thought's *representing* something else. Aristotelian internalism (and Lockean internalism, to that matter), as we saw, expounds this representationalist tenet in terms of similarity relations obtaining between cognitions and their objects. Causal theories of reference, on the other hand, accomplish this by means of an introduction event (the original 'dubbing') and a proper causal chain of reference transmission. In both cases, then, a thought is said to have a certain content due to its being essentially linked, either by similarity or causal relations, to its object or objects, as this essential linking makes the thought be *of* its object or objects.

Once the representation and hence the content of thoughts—in Ockham's case, of intellectual cognitive acts of apprehension—have both been so secured, further complex semantic properties such as truth and validity can be accounted for in a derivative manner. For instance, Ockham's theory of truth conditions has been traditionally interpreted as to conceive of the truth of declarative, categorical propositions in terms of the subject and predicate

3. It is worth noting that this is a semantic or mental-content representationalism, not an epistemic one. See *MIE* 67–74, 93–4; *AR* 7–16; Brandom 2007: 651–3.

terms representing or referring to the very same object or objects. Similarly, Ockham's theory of *consequentiae* has also been construed as to conceive of consequential validity in terms of truth preservation. Thus, in this bottom-up, representationalist approach to mental contents, as applied to Ockham's semantics, one begins with cognitions—more exactly, with concepts—moves up to propositions, and finally up to consequences.

### 3.2.2 *Inferential Contentfulness*

By contrast, an inferentialist theory of content inverts the order of explanation. Instead of starting from terms or concepts, inferentialism begins with inferential relations obtaining between propositions. Indeed, the inferentialist claims, nothing besides these relations constitutes the content of propositions. This is because to understand a claim—that which is expressed by a judgement or proposition—is nothing but to be able to give and ask for reasons for it. Lastly, the content of subsentential expressions—subject and predicate terms—is derived from the very content of the propositions containing them, by means of a substitutional-inferential expedient: two subsentential expressions have the same content only if they can be interchanged in propositions which have the same content, that is, those whose inferential relations with other propositions are just the same. It is crucial to underscore here that subsentential expressions only have derivative or secondary contentfulness, as they only play a derivative or secondary role within the content-endowing inferences. An inferentialist theory thus embraces a top-down approach to mental content.

Now why should one endorse such a theory? What is wrong with good old representationalism, in any of its flavours? There are several reasons for rejecting representationalist accounts of content (and knowledge) in favour of an

inferentialist one. According to Brandom, who closely follows in this regard a host of thinkers such as Hegel, Wittgenstein, Sellars, and Rorty, the very notion of a mental representation is downright untenable. The view of the mind and its concepts as a mirror of nature suffers from what Sellars famously described as the 'Myth of the Given', that is, the belief in 'the possibility of a direct account of immediate experience'[4] which is both preconceptual and endowed in and of itself with cognitive content. According to the inferentialist, however, noninferential concepts (the 'sense data' of the logical empiricist) have cognitive and semantic import only when inferentially articulated with other inferential concepts.[5]

### 3.2.3 *Propositionalism*

As it is clear, this inferentialist top-down approach to mental content is a propositionalist rather than an atomist one. Indeed, the inferentialist takes the proposition to be the minimal unit of meaning, since it is the smallest piece of information one can ask and give reasons for; and ultimately, the smallest piece of information one can be *responsible* for—a normative overtone we will address below. Now the inferentialist needs to conceive of inferential relations in a non-formalist way. The reason is that, according to the so-called 'dogma of formalism',[6] an inference is exclusively valid in virtue of its logical form; and so, apart from contentless tautological arguments (e.g. '*p*, therefore *p*'), all inferences minimally require two premises in order to be formally valid. This formalist approach to inferential relations, however, poses two different but closely related problems for inferentialism. First, if no contentful inference can only have one premise, it follows that the meaning of any proposition—which according to inferentialism is expressed by the proposition's inferential

4. Sellars 1997, § 26; cf. § 5. See Brandom 2002b: 182s and c.12.
5. See *MIE* 90s; *AR* 49. Cf. Sellars 1997, § 36.
6. See Sellars 1953; *MIE* 97–102.

relations to and from other propositions—remains underdeterminate. This is because the proposition's inferential relations will necessarily vary, depending both upon which other propositions join it in a premise set and on which other propositions conform a set from which the original proposition logically follows.[7] Second, and crucially, since the formalist takes validity to be solely a matter of logical form, it follows that a proposition's *content*—its matter—is utterly irrelevant to the validity of any inference it figures in as a premise or conclusion. And if this is right, propositional contentfulness cannot depend upon inferential kinship.

### 3.2.4 *Inference Materialism*

The inferentialist answer to the formalist approach to inference is to embrace a *material* account of inferential goodness, one which is essentially prior to logical (formal) inferential validity.[8] A classic example of this type of inference is 'Oxford is to the west of Cambridge, therefore Cambridge is to the east of Oxford'. The goodness of this inference rests upon the meaning of the terms 'east' and 'west', which substitutionally depend upon the propositions they are nested in. In other words, if one understands what the proposition 'Oxford is to the west of Cambridge' means, then *eo ipso* one understands that the proposition 'Cambridge is to the east of Oxford' (materially) follows from it—and vice versa. Or to express the same idea from a normative point of view, if one commits oneself to the first proposition (by asserting it explicitly, for instance), then one is also committed to the second one (even if one

7. If $p$ and $q$ together imply $r$, and if $q \neq s$, then $p$ and $s$ together imply $t$ (where $r \neq t$). Thus, $p$ implies different propositions depending on which other premises join it in an inference.
8. The seminal paper on this account of material goodness is Sellars 1953. See also Sellars 2007b, §§ 28, 29 & 35; 1991, § IX; 1981, § V; 1957, § 59, Brandom, *MIE* 97–105; *AR* 52–5; 2007.

does not actually assert it)—and vice versa. In this manner, then, meaning—propositional contentfulness—and inference are normatively linked together.

### 3.2.5 *A Normative Theory of Content*

Indeed, by contrast with other species of what has been called 'conceptual-role semantics'—for example those of the causal variety such as the one championed by Jerry Fodor—inferentialism is distinctively a *normative* theory of content. As we mentioned at the outset of this chapter, this means that the content of a thought is determined by the obtaining of certain normative facts. In the case of Brandom's inferentialism, this is cashed out by assuming a certain normative attitude with respect to a certain deontic status. In other words, it involves undertaking oneself, or attributing another interlocutor, a certain deontic status—inferential commitment or inferential entitlement—with respect to a claim.[9] When a person (let us dub her 'she' for now) asserts a proposition, she thereby undertakes an inferential *commitment* to providing the reasons for it (the sentence's circumstances of application), as well as to endorsing whatever follows from it (its consequences of application).[10] By the same token, her conversational partners—the other players in what Brandom calls the 'game of giving and asking for reasons'—attribute as well to her the deontic status of inferential commitment to the sentence's tokening. It is only after she has provided the reasons for her claim, for instance when challenged by the other players, that she becomes *entitled* to that proposition. However, the other players participating in the game are immediately entitled to using

9. See Brandom 1993; *MIE*, c.3.

10. As Brandom acknowledges, most of the time we do not, and cannot, recognise the full set of consequences of a claim. When our attention is called to one of those consequences which we may deem incompatible with any of our other commitments or entitlements, we can then decide which to hold to and which to recant or revise. In any event, this "opacity" of the consequences of application of our inferential commitments—as it is technically referred to—does not pose a problem to Brandom's normative semantics. For it does not entail that we cannot be really committed to the consequences of our claims, even if we are not fully aware of them. (See *MIE* 573–9.)

the proposition by endorsing her authority with respect to it, even if she has not become entitled herself to it. For by her asserting a proposition, she is entitling her conversational partners not only to request from her the reasons for the claim, but also to use the very proposition under her own authority. As it is clear, the game players make their moves by undertaking themselves commitments and by attributing commitments to others. Rationality, and particularly discursive practice, is thus conceived of as a form of *deontic scorekeeping*. Every player is thereby required by the very rules of the game of discursive rationality to keep track of their own commitments and entitlements, as well as those of their interlocutors. This sort of 'double-book' deontic scorekeeping[11] will be of importance when we discuss inferentialism's objectivity claims below.

### 3.2.6 *Linguistic Pragmatism*

Notice that this deontic rationalism is also, and crucially, a form of linguistic pragmatism. The moves in the game of giving and asking for reasons are instances of practical *doings*, not of theoretical knowings; they are the sayings (to other players, but also to oneself), utterings, posings, tokenings, etc., that literally make up the concrete happenings of rational discourse. As we mentioned, having knowledge—in the rationalist sense of sapience—of a proposition is undertaking a deontic status with respect to it. However, this knowing-that is only appropriately understood as practical knowing-how. One cannot claim that one knows *that p* obtains, if one cannot know *how* to argue for *p* and to endorse what follows from it. Still, this does not mean that knowing-how is somehow a necessary condition for knowing-that; on the contrary, to know how to argue for *p* is precisely what knowing that *p* means. As the inferen-

11. See Wanderer 2008: 158, 170–3; Pippin 2007: 158.

tialist claims, this is indeed what distinguishes sapient awareness from mere sentient responsiveness, that is, rationality from mere sensitivity.[12]

The inferentialist view on material inference can thus be seen as going hand in glove with the normativity proper to propositional contentfulness. For understanding a claim is committing oneself to its circumstances and consequences of application; that is to say, it is to normatively place oneself within the space of reasons with respect to that claim. Accordingly, one's understanding of a claim $p$ deontically requires both (*i*) that one acknowledges $o$ as a reason for asserting $p$, and (*ii*) that one embraces $q$ (and $r$, $s$, etc.) as a consequence of asserting $p$. But this is tantamount to saying that $o$ materially entails $p$, and that $p$ materially entails $q$ (and $r$, $s$, etc.)[13]—provided, of course, that one is indeed committed to $o$, $p$, and $q$ (and $r$, $s$, etc.). In order to explicitly acknowledge these inferential commitments, one can make use of the logical vocabulary available to this end. In particular, one can use the conditional to express one's commitment to $p$'s circumstances and consequences of application. Notice, however, that a natural language that lacks the conditional and cognate logical words would still be perfectly suitable for the game of giving and asking for reasons, and thus for its players' contracting propositionally contentful commitments.

### 3.2.7 *Logical Expressivism*

As we said, the inferentialist deems formal or logical validity ancillary to the material goodness of inferences. Once one conventionally specifies a set of words belonging to a certain vocabulary, for instance the 'logical' words, one

12. And this is also the reason why the inferentialist deems insufficient the central tenet of reliabilist theories of cognition. A thermometer, for example, is a reliable indicator of temperature, in the sense of accurately reporting temperature changes. And yet, to say that the thermometer *knows* what the temperature is, is simply nonsensical. (See *MIE* 206–13; *AR*, c.3; Brandom 1998. See also Sellars 1997, § 36; 1975, II, § 40.)
13. This notion of material inference or material entailment ought not be confused with what logicians call 'material conditional' or the 'material interpretation' of the conditional.

can thereby prescribe that some inferences be 'logically valid' with respect to that vocabulary, given that the material inferences actually underlying those 'formal' inferences remain good under the invariance of the logical vocabulary with respect the non-logical one. According to Brandom, the choice of the logical vocabulary over, say, theological vocabulary, medical vocabulary, or the like, is in principle arbitrary.[14] In any event, the fact that an inference is said to be formally valid depends upon the choice of an invariant set of words; and yet, it ultimately depends upon the original material goodness of the inference, or equivalently, on the propositional content of its premise and conclusion.

Endorsing this conception of logic does not commit oneself, however, to the claim that our choice of a logical vocabulary over a theological or medical vocabulary is simply innocuous. As we mentioned, logic (and more exactly, the logical vocabulary) plays a fundamental role in the way our rationality is exercised. Against a longstanding formalist tradition according to which logic has a demonstrative and foundational function, inferentialism conceives of logic as having an *explicating* function. Logic serves to make explicit what is implicit in every-day discourse, thus allowing claims, conjectures, suppositions, and (material) inferences to be put into relief in order to be examined, questioned, and/or rejected. To illustrated with an example, suppose *A* claims, 'Oxford is to the west of Cambridge'. In doing so she is committed to the proposition 'Cambridge is to the east of Oxford'. So anybody witnessing *A*'s asserting (including *A* herself) is entitled to claim that, according to *A*, *if* Oxford is to the west of Cambridge, *then* Cambridge is to the east of Oxford. The logical words 'if' and 'then'—the conditional—have the purpose of making explicit *A*'s commitment to the material inference 'Oxford is to the west

14. See *MIE* 104s; *AR* 55; Brandom 1988.

of Cambridge, therefore Cambridge is to the east of Oxford'. Logical vocabulary and logical words do *not* to prove anything at all. They simply make *A* and her conversational partners *aware*, in a sapient manner, of the material inferential relation obtaining between these two propositional contents. It is in this precise sense that Brandom's dictum that '[l]ogic is the organ of semantic self-consciousness'[15] ought to be construed.

### 3.2.8 *Truth and Reference*

This explicating function of logic belongs to what Brandom calls the 'expressive' dimension of inferentialism.[16] Not only standard logical words such as 'if-then', 'therefore', 'and', 'or', and the like play this expressive role. More interestingly, but also more controversially, words like 'true' and 'refers' also play as well such an expressive role. Truth is not, for the inferentialist, a metaphysical property of sorts which some propositions adequately mirroring the world exhibit. Once again, the inferentialist inverts the order of explanation. Inference does not depend upon truth, but it is truth that depends upon inference. The inferentialist thus endorses a prosentential account of truth.[17] In other words, to say that a proposition is true is nothing else than to explicitly declare one's commitment to it; that is, to overtly declare one's undertaking to providing reasons for that proposition, as well as to fully embracing its inferential consequences. But this is precisely to *assert* the very proposition. The grammar of 'true', argues the inferentialist, is prosentential: 'true' is anaphorically dependent on the sentence one is committed to, in a similar fashion as an other anaphoric expressions (e.g. 'she', 'it', etc.) pronominally stand for their antecedent subsentential expression.

15. *MIE* xix; see also *AR* 35.
16. See e.g. *MIE* 95s, 107–16, 383s; *AR* 19–22, 56s; Brandom 1988.
17. See *MIE* 209–305; *AR* 196–204; Brandom 1997, 2002a. Cf. Grover and Belnap 1975.

By the same token, 'refers' and cognate expressions also fulfil an anaphoric role, in this case a pronominal one.[18] To say that *A refers* to *B* (e.g. '"The Philosopher" refers to Aristotle') explicitly states one's commitment to an instance of subsentential substitution between term '*A*' and term '*B*'. More exactly, as Brandom explains, the term 'refers' is a pronoun-forming operator which makes explicit that an expression is the anaphoric dependent of another expression which acts as anaphoric initiator in a certain anaphoric chain. Accordingly, explicitly endorsing an anaphoric relation commits oneself to the intersubstitutability of the dependent and the initiator tokenings.

One may wonder whether this is merely a case of intralinguistic reference—i.e. word-word reference—or of extralinguistic reference—i.e. word-world reference. More poignantly, one can question whether this deflationary account of reference—as well as of truth—does not simply 'lose the world'. Endorsing a line of thought originally pursued by Sellars,[19] Brandom bites the bullet. Philosophers, he claims, have been mislead by the apparent grammar of 'true' and 'refers'. For they have become convinced that 'true' is a predicate or property of sentences, and that 'refers' is a relation between an expression and 'the world'. Apart from ultimately being committed to a form of the Myth of the Given, this confusion stems from failing to notice the anaphoric nature of these two terms. Once this nature is acknowledged, the appeal of a substantive account of truth and reference dissolves.

### 3.2.9 *Objectivity and Representation*

But even if truth and reference have been so deflated, Brandom still seeks to make place for the concepts of *representation* and *objectivity* within his system, albeit understood in an inferential and thus normative fashion. To

18. See *MIE* 305–22; Brandom 1984.
19. See Sellars 1962.

understand how he accomplishes this task, we need to distinguish two ways that a belief—a propositional attitude—or more correctly, a commitment,[20] can be ascribed, depending on whose deontic standpoint is honoured. First, a speaker *S* can explicitly state speaker's *T* commitment to $\phi(a)$ *from T's standpoint and concerning the whole proposition* $\phi(a)$. This is what Brandom calls *de dicto* belief ascription. For instance, Bill might say the following about John:

> # John believes that the author of the *Nicomachean Ethics* wrote the *Eudemian Ethics*. #[21]

In this case, Bill commits himself to asserting something about what John believes—the *dictum* following the 'that'—, from (what Bill takes to be) John's perspective. Second, *S* can explicitly state *T*'s commitment to $\phi(a)$ *from S's own standpoint and concerning the object a*. Brandom calls this, as expected, *de re* belief ascription. For instance, Bill might say:

> # John believes of Aristotle that he wrote the *Eudemian Ethics*. #

In this case, Bill is interested not so much on John's belief, as on the thing (the *res*) which John's belief is *of* or *about*. In concrete, Bill commits himself to the claim that Aristotle is the author of the *Nicomachean Ethics* (besides being also the author of the *Eudemian Ethics*)—a claim John might be oblivious to or simply disavow. According to inferentialism, the representational function of this cross-referential, anaphoric use of the word 'of' (and cognates such as 'about') is to make explicit the speaker's own commitment to a claim regarding the anaphoric initiator, that is, the *res* the propositional attitude is about. With regard to this example, the locution serves to put into relief Bill's inferential commitment concerning Aristotle's being the author of the *Nico-*

20. Brandom cautiously avoids endorsing a belief-talk, due to its representationalist and psychologistic overtones. He thereby prefers to talk about commitments. See *AR* 174. Cf. Wanderer 2008: 153.
21. The hash signs are the standard way of denoting a piece of dialogue.

*machean Ethics*.[22] More importantly, *de re* belief ascriptions make explicit what the ascriber thinks—and thus commits to—that is *really* the case, what she thinks is a *fact* or *true* about the propositional content of the ascribed belief. Finally, it should be noted, however, that what is ascribed in a *de dicto* ascription and in its *de re* counterpart is the very same belief, although the conceptual content of the whole ascription naturally varies, depending on the collateral premises endorsed by each speaker. The belief *that* the author of the *Nicomachean Ethics* is the author of the *Eudemian Ethics* is the same belief *of / about* Aristotle that he is the author of the *Eudemian Ethics*.[23]

As we mentioned above, all participants of the discursive practice are required to perform a kind of double-book scorekeeping—with respect to their own deontic statuses and to that of all other interlocutors. In other words, it is normatively embedded in the discursive practice that the practitioner should 'navigate and traverse'[24] the different perspectives of those partaking in such a practice. For as the propositional content of a claim inferentially depends upon other claims endorsed by a speaker, the fact that different speakers undertake to commit to different claims working as auxiliary hypotheses in content-endowing inferences entails that different speakers might, and normally do, have different understandings of the very same sentence tokening. In order, therefore, for communication between them—and ultimately for representation and objectivity—to be possible, it is required for each speaker to be able to switch perspectives and take into account auxiliary hypotheses other speakers might be committed to.

Brandom is emphatic that what is shared by the different speakers is *not* a common content. In point of fact, this is what distinguishes between inter- or

22. On the *de dicto/de re* distinction with regard to belief attribution, see *MIE*, c.8, and specially § I; see also *AR* 169–73; Brandom 1994a; Brandom 2002b: 94–107.
23. See *MIE* 710, n.95; Brandom 2002b: 101s.
24. See e.g. *MIE* 485, 588.

cross-subjective accounts of objectivity (what Brandom dubs the *I-We* interpretation of sociality) and Brandom's account (the *I-Thou* interpretation)—that for him the very concept of objectivity requires the commitment to the claim that *no* single perspective is privileged, that is to say, that none is a priori correct.

> The alternative [to consequences of the *I-We* interpretation] is to reconstrue objectivity as consisting in a kind of perspectival *form*, rather than in a nonperspectival or cross-perspectival *content*. What is shared by all discursive perspectives is *that* there is a difference between what is objectively correct in the way of concept application and what is merely taken to be so, not *what* it is—the structure, not the content. (*MIE* 600; Brandom's italics.)

Obviously, each practitioner in the discursive practice privileges her own perspective; otherwise, she would have to endorse all others' commitments, which is impossible. What Brandom's formal construal of objectivity points at, rather, is that into the very structure of discursive practice it is built the conviction that one's own perspective is just another one amongst many competing perspectives. This is what the *de dicto/de re* distinction of belief ascription puts into relief. For while in a *de dicto* ascription what is explicitly privileged is the other's perspective—the other's overt or implicit inferential commitments—in a *de re* ascription it is one's own perspective, explicitly declared as such, that is privileged.

## 3.3 Summary

Let us wrap up this chapter by explicitly summarising the central theses of the inferentialist logico-semantic system.

1. Meaning, understanding, thought, assertion, and discussion are all rational *practices*. To mean, to understand, to think, to assert, and to discuss something are all kinds of *doings* embedded within the game of giving and asking for reasons. (Rationalistic Pragmatist Thesis)

2. Every move in the game of discursive practice concerns the undertaking or the attributing of a normative status, either of inferential commitment or of inferential entitlement. (Normative Inferentialist Thesis)
3. Propositional content is a matter of the (often implicit) inferential commitments the speakers hold with respect to a proposition. (Core Semantic Thesis of Inferentialism)
4. Only propositions are endowed with conceptual content in themselves, as they are the minimal unit of information a speaker can undertake or attribute inferential commitment. (Propositionalism)
5. Subsentential expressions—subject and predicate terms—are endowed with conceptual content only in a derivative manner from the propositions that contain them. Two such expressions have the same conceptual content only if they are intersubstitutable within propositions with the same conceptual content. (Substitution Account of Subsentential Content)
6. Inference is solely a matter of content rather than of form. (Inference Materialism)
7. The function of logic (or of logical vocabulary) is to make explicit certain kinds of inferential commitments undertaken by the speakers. (Expressivist Account of Logic)
8. Reference and truth are to be understood in an anaphoric, substitutional way, as making explicit the speaker commitment's either to an instance of pronominal substitution (in the case of reference), or to an instance of prosentential endorsement (in the case of truth). (Anaphoric Conception of Reference and Truth)
9. Objectivity and representation are to be understood within the deontic structure of inferential commitments. A claim is said to be objective,

> or to objectively represent a state of affairs, only because the speaker asserting it explicitly recognises that her perspective is only one amongst many. (Inferentialist Interpretation of *I-Thou* Objectivity)

In the final part of this work, we will present a construal of Ockham's logico-semantic system which is framed within the first seven of these inferentialist tenets. Unfortunately, due to time, length, and strength constraints, our treatment of the last two tenets will have to be postponed for a future work.

# Part III

# Ockham's Inferentialist Threads

CHAPTER 4

# OCKHAM'S PROPOSITIONALISM

## 4.1 A Puzzle about Proper Names

The currently accepted construal of Ockham's theory of content has been emphatically representationalist and atomist. This means, first, as we have explained,[1] that conceptual content is necessarily cashed out in the way a content-bearer represents (or purports to represent) its object; and second, that the *term* is the fundamentally primitive content-bearer in the system. Technically speaking,[2] this is to say that only those *categoremata* which can function as subjects or predicates of mental propositions are naturally endowed with conceptual content due to their being representations of external things.

*Prima facie*, this account would appear to concern only abstractive cognitions, i.e. concepts, both specific and generic. This is because, as it happens, Ockham is rather obscure as to the *logico-semantic* function of intuitive cognitions. With regard to abstractive cognitions, their being identified with concepts or intentions (*concepta, intentiones*) in Ockham's writings is beyond doubt. Abstractive cognitions are general intellectual acts of apprehension, just as the concepts which can figure in categorical propositions are. That being so, we can justifiably ask what kind of *terms* their intuitive siblings are. In other words, where are we to locate them within the logico-semantic spectrum of content-bearers?

1. See §§ 3.2.1 and 3.2.3, above.
2. See *SL* I.2: 9[12–4]: 'Tertio modo accipitur "terminus", praecise et magis stricte pro illo quod significative sumptum potest esse subiectum vel praedicatum propositionis.'

To be sure, Ockham does seem to envisage intuitive cognitions within the language of thought. Consider, for instance, the following remark taken from his *Quaestiones Physicorum*:

> … the intellect, in apprehending a singular thing by intuition, forms in itself an intuitive cognition which is a cognition of that singular thing only, and which is apt by its nature to supposit for that singular thing. … And just as a spoken word conventionally supposits for its significate, in the same way *this [intuitive] intellective act naturally supposits for the thing it is [an intellective act] of.*[3]

As to the logico-semantic nature of that singular cognition, however, Ockham simply offers the following cryptic observations in that same work:

> For just as the spoken word 'Socrates' supposits for that thing for which it signifies—just as when someone who hears the spoken [proposition] 'Socrates runs' does not conceive that the spoken word 'Socrates' is running, but that the thing signified by that spoken word runs—so, in the same manner, someone who sees and understands that something is asserted of the intellective act of a singular thing does not conceive that the intellective act is such or such, but conceives the same thing of which [the intellective act] is to be such and such.[4]

Apparently Ockham is offering here the following analogy: just as the conventional word "Socrates" signifies (in a subordinate way) Socrates and can supposit (also in a subordinate way) for him; so too, in a similar way, the intuitive cognition 'Socrates' can signify and supposit (naturally and primarily) for the individual substance Socrates.

If this is correct, Ockham appears to be equating intuitive cognitions with *proper names*, an interpretation endorsed, for one, by Marilyn Adams.[5] Un-

3. *Quaest. Phys.*, q.7 (*OPh* VI: 411[13–6, 22–4]): ' … intellectus apprehendens intuitione rem singularem elicit unam cognitionem intuitivam in se quae est tantum cognitio illius rei singularis, potens ex natura sua supponere pro illa re singulari. … Et ita sicut vox supponit ex institutione pro suo significato, ita ista intellectio supponit naturaliter pro re cuius est.'
4. *Quaest. Phys.*, q.7 (*OPh* VI: 411[16–22]): 'Nam sicut haec vox "Sortes" supponit pro illa re quam significat—ita quod audiens istam vocem "Sortes currit", non concipit quod haec vox "Sortes" currit quam audit, sed quod res significata per illam vocem currit—ita ⟨qui⟩ videt et intelligit aliquid affirmari de illa intellectione rei singularis, non concipiet illam intellectionem esse talem vel talem, sed concipiet ipsam rem cuius est esse talem vel talem.' See also *Exp. Perih.*, Prol., § 6 (*OPh* II: 352).
5. See Adams 1987a: 319, n.9.

der a little scrutiny, however, one notices that intuitive cognitions and proper names do not seem to behave in the same ways. For, as we discussed in Chapter 2, an intuitive cognition—at least *pro statu isto*—denotes or points at its object inasmuch as that object is presently existing and is actually being perceived by the cognitive agent. So even if the object of an intuitive cognition and the referent of a proper name are both singular entities—this being the one semantic feature they have in common, in contrast to abstractive cognitions/concepts, which do not have a unique singular entity as their objects, but rather signify several individuals in a confused way—a proper name denotes its referent regardless of any contingent, epistemic setting in which the speaker is actually involved.

Reflecting on this complication, some scholars have accordingly devised other ways of including intuitive cognitions within Ockham's semantic spectrum. Panaccio, for example, has proposed to render them as what he calls 'rigid deictics', that is, content-bearers which 'literally show their objects (this is the deixis aspect) and never change them (this is the rigidity)'.[6] The deictic character Panaccio claims for intuitive cognitions concerns the fact that, according to him, this kind of apprehensive acts absolutely lacks all content or descriptive power; they do not classify or specify their objects, but only point at them. On the other hand, what he means by saying that rigid deictics 'never change' their objects is that different tokenings of such terms always have the same reference; that is, their use does not change their own (or more precisely, the tokening's) reference. By contrast, this does happen, for instance, with demonstratives such as 'this' and 'now', which are usually taken to change their referents on each tokening.[7]

6. Panaccio 2004: 14.
7. Think of the allocution: # Yes—this$_1$ is my brother, but this$_2$ is not what I meant when I told you this$_3$ about him #, in which all three tokenings of 'this' have distinct anaphoric

If, as Panaccio argues, intuitive cognitions are not to be identified with proper names, for the reasons mentioned above, the question as to what corresponds in the mental language to ordinary proper names is still open. Panaccio's answer[8] is founded upon his bold interpretative conjecture of the *reverse subordination of concepts*, discussed in the previous chapter.[9] According to him, Ockham envisaged—or should have done so, in any case—the following setting. First, imagine *S* perceives Socrates. Accordingly, *S* forms an intuitive cognition of Socrates which, as Panaccio claims, is numerically identical with the rigid deictic '*a*'. *S* then imposes the conventional word "Socrates" to signify whatever '*a*' signifies, namely, the individual Socrates, in all possible worlds in which Socrates exists. In contrast with the rigid deictic '*a*', the conventional word "Socrates" is potentially public and thus persistent, and can thereby be used by *S* and by anyone else to refer to Socrates, *even if Socrates is no longer perceivable*. Finally, *S* and the other users of the name "Socrates" either reverse impose '*a*' to signify whatever "Socrates" signifies, that is, they recycle the intuitive cognition '*a*' for that purpose, or reverse impose a new one, say 'Socrates', to rigidly designate the individual Socrates.

Panaccio's account of intuitive cognitions goes hand in glove with his account of proper names. For, as we noted, intuitive cognitions/rigid deictics are contentful only during the time of perception. In this sense, they are semantically ephemeral. However, since proper names are persistent, they ought to be somehow related to them, inasmuch as, in Ockham's account, intuitive cognitions are the only kind of mental act which can apprehend individuals *qua* individuals. Accordingly, Panaccio's smart manoeuvre consists

dependents. '$This_1$' refers to the speaker's brother; '$this_2$' refers to the dictum 'this is my brother'; and '$this_3$' refers to another, unspecified dictum. Precisely due to the unrepetitive nature of demonstratives, as it is clear from the example, their overuse tends to baffle the meaning of what is being said.

8. See Panaccio 2004: 173–6.
9. See p.62, above.

in appealing to conventional-language proper names as reference stabilisers of the corresponding reversed-imposed mental-language proper names.

As appealing as this interpretation might strike us, however, it suffers from the same general shortcoming we indicated in a previous chapter.[10] Namely, that when Ockham abandoned the *fictum*- for the *actus*-theory, he consistently rejected the reverse imposition expedient putatively required to explain the signification of syncategorematic, connotative, and negative terms. Thus, as with his externalist construal of Ockham's account of concepts, Panaccio's view with regard to the nature proper names is misguided.

As a matter of fact, Ockham himself appears to deny any need for imposition (or reversed imposition, to that matter) in his account of the subordination of conventional to mental proper names. In the Prologue to the *Expositio in Perihermenias*, he claims that mental proper names directly supposit, by their very nature, for their *designata*.[11]

Susan Brower-Toland, whom we have already alluded to here, offers another logico-semantic interpretation of intuitive cognitions. As we pointed out before,[12] Brower-Toland flatly rejects Panaccio's externalist interpretation of Ockham's semantics, committing herself to an internalist construal, according to which intuitive cognitions *do* have a certain content besides their being able to refer to singular entities. In her view, intuitive cognitions, in addition to signifying their object, somehow 'connote or convey' the fact that the object is presently existing, or that it holds an inherence or spatial relation with other object or objects.[13] Note she does not claim that intuitive cogni-

10. See § 2.2.2.2, above.
11. See *Exp. Perih.*, Prol., § 6 (*OPh* II: 352[21–3]): '… sicut vox [sc. "Sortes"] ex institutione supponit pro illa re [sc. Sorte], ita ipsa intellectio ex natura sua *sine omni institutione* supponit pro re cuius est.'
12. See § 2.2.3.2, above.
13. See Brower-Toland 2007a: 330s.

tions are connotative concepts. Yet she does endorse the view that such cognitions have much more content than the externalist would allow for.

As a consequence, Brower-Toland advocates understanding intuitive cognitions as singular terms. She denies the suggestion of conceiving them as Russellian 'logically proper names', which, as it is well know, lack all descriptive content. What she proposes, rather, is to construe them more or less in the manner in which Late-Scholastic philosophers conceived of the so-called 'vague individuals' (*individua vaga*). This kind of terms, she reports, refer to a single individual, but convey additional information. The classic examples are 'this man' and 'this white thing'.[14] One can imagine, indeed, that on this account intuitive cognitions would convey another, more meagre sort of information, say, 'this currently existing thing'.

Then again, the problem with this construal of proper names is that, in being identified with demonstrative-like expressions, they turn out to be unrepeatable, just as it happens with 'this' and 'now'. Brower-Toland would have to resort to Panaccio's account of reverse subordination or to other expedient in order to ensure token iterability for these purported proper names.

Due to time and space constraints, we will have to leave open the problem of how to account for proper names *vis-à-vis* intuitive cognitions within Ockham's semantics. For the moment, let us simply realise that whatever the ultimate nature of intuitive cognitions, Ockham does seem to grant them the semantic status of mental terms—just as he does in the case of abstractive cognitions.

14. Though Brower-Toland does not cite any primary sources for her claims (she just refers to a series of papers by E.J. Ashworth), I have found a discussion of these *individua vaga seu individua in communi* in the early-17th-century Dominican John of St. Thomas (João Poinsot). See his *Ars Logica*, Pars Secunda, q.IX, a.2 (Madrid, 1640) (Poinsot 1640: 226–31).

## 4.2 Signification Necessarily Presupposes Supposition

The thesis we want to argue for here is that, at least in his mature writings, Ockham embraced a form of semantic propositionalism. This view entails that cognitions or intellective acts are endowed with signification *only when fulfilling their logico-semantic roles as subject or predicate terms within a propositional context*. That is to say, intuitive and abstractive cognitions are essential constituent parts of the mental language only insofar as they actually belong to mental propositions. This claim has to be properly construed, however, lest it be taken as expressing a tautology. We are not saying that in order for a intellective act to be part of the mental language it has to be semantically endowed—which reduces to the claim that it has to be part of mental language in order to be part of it. Our point, rather, is that intellective acts of cognition have neither cognitive nor logico-semantic significance unless they *de facto* belong to a proposition and perform accordingly as extremes of it.

To begin arguing for this interpretation, let us examine Ockham's account of signification as presented by him in his *Summa logicae* and the *Quodlibeta septem*.[15] In both works, Ockham presents four different senses in which *significare* can be construed. The first one is restricted to non-modal, present-tense propositions. The second way, which is the one Ockham ultimately embraces, widens this account to include modal, past- and future-tense propositions. The third and forth ones include connotative terms and negative terms, respectively, and thus concern what has been called 'secondary signification'. Let us zero in on the first and second senses only. Ockham writes in the *Summa* thus:

> …in the first way, a sign is said to signify something when it supposits or is naturally apt to supposit for that [thing], in such a way, namely, that the name

15. *SL* I.33: 94–6; *Quodl.* V.16: 542–5.

> is predicated of a pronoun demonstrating that [thing] by means of the verb 'is'.[16]

We can formulate Ockham's first explication of signification in this manner:

(T1) A term '*a*' *signifies*$_1$ a thing *r* iff the proposition 'This is (an) *a*' is actually true when said referring to *r*.

For example, the term 'Socrates' signifies$_1$ Socrates in the proposition 'Socrates is a man', because 'This is Socrates' is a true proposition, said (in the mental language) referring to Socrates. By the same token, the term 'man' also signifies$_1$ Socrates, because the following is true: 'This is a man', said referring to him.

In the *Quodlibeta*, Ockham's account has apparently been watered down:

> In one sense, a name or spoken word is said to signify something when it truly supposits for that thing in a nonmodal present-tense proposition, and is truly and affirmatively predicated of that thing.[17]

The difference between the two accounts is cashed out in the importance Ockham gives, in the *Summa* but not in the *Quodlibeta*, to the deictic aspect of signification. However, the gap between the accounts is bridged when we notice that such deictic aspect *is indeed constituent of supposition itself*. In other words, Ockham's claim that 'the name is predicated of a pronoun demonstrating that [thing] by means of the verb "is"', found in the *Summa* account, is simply an explanation of what it is for a term to have personal supposition.

It is important for us to acknowledge the relevance Ockham confers to two aspects on this account. First, the deictic, or as the inferentialist explains, the

16. *SL* I.33: 95$^{2-5}$: '…uno modo dicitur signum aliquid significare quando supponit vel natum est supponere pro illo, ita scilicet quod de pronomine demonstrante illud per hoc verbum "est" illud nomen praedicatur.'
17. *Quodl.* V.16: 546$^{15-7}$: 'Uno modo dicitur nomen et vox significare aliquid quando vere pro ilio supponit in propositione de inesse et de praesenti, et vere et affimative praedicatur de eo.' (Trans. William of Ockham 1991: 454.)

*anaphoric*[18] aspect of personal supposition and, as a consequence, of natural signification. Ockham purports to explain natural signification in terms of personal supposition, and supposition in terms of the truth of so-called 'demonstrative propositions', i.e. propositions which take a demonstrative pronoun as their subject. Accordingly, a term signifies that for which it can personally supposit for in a proposition, and it personally supposits for that for which the predicate of a demonstrative proposition is truly said. The simplest scenario concerns present-tense nonmodal singular propositions, say 'Socrates is white'.[19] In this case, the term 'Socrates' is said to supposit for, or to be in the place of (*ponere pro alio*), Socrates, because the pronoun 'this' is anaphorically related to the term 'Socrates', i.e. it refers to the individual Socrates, in the as-of-now true proposition 'This is white'.[20]

Indeed, Ockham underscores the anaphoric aspect of supposition when he distinguishes what he calls the *per se* and the *per accidens supposita* of general terms (*termini communi*).[21] In the proposition 'A man runs' (*Homo currit*), for instance, the *per se supposita* of the subject term are this man, or that man, or that other man, and so on; whereas its *per accidens supposita* are Socrates, or

18. This is Brandom's famous dictum that 'deixis presupposes anaphora' (*MIE* 458), the idea being that deictics lack conceptual contentfulness unless they belong to an anaphoric chain ensuring inference-substitutional relations and thus significance. Hence what endows with conceptual content a demonstrative pronoun is not the fact that, as the semantic externalist believes, the term is somehow causally linked to its referent; rather, it is its being able to be intersubstituted with other subsentential expressions via anaphoric chains, within determinate propositional contexts. (See *MIE*, c.7; Brandom 1987; cf. Penco 2005; Wanderer 2008: 141–44.)
19. Ockham extends these considerations to all other kinds of propositions, including modal and hypothetical ones, and those containing special sorts of names (relative terms, figment names, and the like). See *SL* II.1–21.
20. See *SL* I.64: 193[11–5]: 'Dicitur autem suppositio quasi pro alio positio, ita quod quando terminus in propositione stat pro aliquo, ita quod utimur illo termino pro aliquo de quo, *sive de pronomine demonstrante ipsum*, ille terminus (vel rectus illius termini si sit obliquus) verificatur, supponit pro illo. Et hoc saltem verum est quando terminus supponens significative accipitur.'
21. See *SL* I.19: 67.

Plato, or Cicero, and so on.[22] The reason for this taxonomy, apparently, is that it seems necessary for the *supposita* of a non-vacuous, general term '$\phi$' to be anaphorically related to its tokenings ('this $\phi$', 'that $\phi$', etc.); whereas it seems contingent for a certain collection of proper names to be so related to the term's tokening ('Socrates', 'Plato', 'Cicero', etc., in the chosen example). By contrast, singular terms—proper names, demonstratives, and the couplings of demonstrative and general names (e.g. 'this man')[23]—cannot be so distinguished. This is due to the fact that, for Ockham, a singular term is not really a predicate, precisely because there is no individual nature which can be so predicated—against the view of the Scotist school. One does not predicate "Socrateness" of anything, not even of Socrates himself. Thus, it makes no sense to distinguish between this Socratesness, that Socratesness, and so on, on the one hand, and the individual Socrates, on the other. The same argument can be extended accordingly to include demonstratives and their couplings with general terms: 'this thisness' and 'this this-thisness' have no cogency at all.

The second aspect we wish to underscore here concerns the *predicative* nature of signification. For, ultimately, a term '*t*' signifies the individuals, and only those, of which '*t*' is truly predicated. Once again, this idea stems from Ockham's supposition theory. As he states it in the *Summa logicae*,

22. The disjunctive character of the *supposita* in this particular example stems from the fact that the subject has *suppositio communis determinata*. Cf. *SL* I.70: 210.
23. Ockham's threefold taxonomy of singular terms is found in *SL* I.19: 66[25–30]: 'Tale autem individuum [sc. terminus discretus] tripliciter potest assignari. Quia aliquod est nomen proprium alicuius, sicut hoc nomen "Sortes" et hoc nomen "Plato". Aliquod autem est pronomen demonstratiuum, sicut hic "hoc est homo", demonstrando Sortem. Aliquando autem est pronomen demonstratiuum sumptum cum aliquo termino communi, sicut "hic homo", "hoc animal", "iste lapis", et sic de aliis.'

> There is therefore a general rule—that a term can never supposit for something in some proposition, at least when it is taken significatively, *unless it is truly predicated of it*.[24]

So if a term $T$ actually signifies individuals $a_1, a_2, \ldots, a_i$, it is only because $T$ personally supposits for each of them; which, according to Ockham's quoted opinion, means that the propositions '$a_1$ is $T$', '$a_2$ is $T$', …, '$a_i$ is $T$' are all true (or equivalently, that the proposition '$a_1, a_2, \ldots, a_i$ are each of them $T$' is true). In sum, then, natural signification presupposes personal supposition and thus presupposes predication. In either case, therefore, the signification of terms is ultimately a propositional matter.

Now Ockham himself raises a problem with respect to this first account of signification.[25] For if the circumstances of application of the proposition change at some time after the proposition was truly said, thereby rendering it false, the signification of its terms necessarily changes—which seems absurd. As he poses the problem,

> Taking 'to signify' in the first way, and [taking] 'significate' correspondingly, the spoken word and also the concept frequently fall away from their significate, by the mere change of the thing; that is, something which was previously signified ceases to be signified.[26]

Take for example the proposition 'A white thing is an animal' (*Album est animal*). Suppose it is truly proffered with respect to Socrates and Plato. This means that the term 'a white thing' supposits for both Socrates and Plato,

24. *SL* I.63: 194[33–5]: 'Est igitur una regula generalis quod numquam terminus in aliqua propositione, saltem quando significative accipitur, supponit pro aliquo nisi de quo vere praedicatur.'
25. It has been suggested, e.g. by P.V. Spade (2007: 150s), that the passage of the *Summa logicae* where Ockham discusses this problem was directly influenced by the criticisms posed by Burley in the *De puritate artis logicae* (see Walter Burley 1955b: 9[6–16]). However, scholars usually date this work between 1325 and 1328, while Ockham's *Summa* is dated between 1321 and 1324. If these chronologies are correct, it follows that Ockham could not be responding to Burley's arguments, at least as posed by him in the *De puritate*.
26. *SL* I.33: 95[15–8]: 'Accipiendo "significare" primo modo et "significatum" sibi correspondens, per solam mutationem rei frequenter vox et etiam conceptus cadit a suo significato, hoc est, aliquid cessat significari quod prius significabatur.'

since the following are true propositions: 'Socrates is a white thing' and 'Plato is a white thing' (or equivalently, 'This and that are white things', proffered referring to Socrates and Plato). Suppose furthermore that Socrates turns black now. This implies that the signification of 'a white thing' has to change, as the proposition 'Socrates is white' is no longer true (or equivalently, as the proposition 'This is white' is not true, when referring to Socrates). It is thereby patent that since the signification of an absolute term is restricted to its *actual* set of supposita, if follows that any change in the extension of that set entails a change in the term's signification.

Reflecting upon this difficulty, Ockham offers a more solid account. This is the second sense of 'to signify', which in the *Summa logicae* is rendered thus:

> In a second way, 'to signify' is taken when that sign can supposit for that [thing] in some past-, or future-, or present-tense proposition, or in some true modal proposition.[27]

In the *Quodlibeta septem* this second sense of *to signify* is explained in the following manner:

> In a second sense, a name is understood to signify something when it is able to supposit for its significate in a proposition that is past-tense or future-tense or modal.[28]

These two explications of '*to signify*' are indeed virtually identical. Let us now formulate it in the following way, taking care to incorporate the deictic aspect of supposition:

(T2) A term '*a*' signifies$_2$ a thing *r* iff the proposition 'This is *a*' is true, was true, will be true, or can be true, when said referring to *r*.

27. *SL* I.33: 95$^{9-11}$: 'Aliter accipitur "significare" quando illud signum in aliqua propositione de praeterito vel de futuro vel de praesenti vel in aliqua propositione vera de modo potest pro illo supponere.'
28. *Quodl.* V.16: 543$^{24-6}$: 'Alio modo accipitur "significare aliquid" quando nomen potest pro illo significato supponere in aliqua propositione de praeterito vel de futuro vel de modo.' (Trans. William of Ockham 1991: 454, with emendations.)

According to this formulation, then, the term 'Socrates' would still signify Socrates in the proposition 'Socrates is white', even if Socrates should turn black at some later time after the proposition was truly said. For, in spite of the fact that 'Socrates is white' is now false, the demonstrative proposition 'This *was* white' is true when taken to refer to Socrates. Similar considerations apply, *mutatis mutandis*, to future-tense and modal propositions.

Two things should be remarked here. First, notice our choice of the term 'refers' instead of 'points' to render Ockham's '*demonstrat*'.[29] Our reason for it reflects on the fact that we normally take propositions of the form '*a* was $\phi$' to be true if it is the case that *a* was actually $\phi$ when it existed, *even if a does not currently exist.* Thus, '*a*' actually *refers* to *a*, since '*a* was $\phi$' is true, in spite of the fact that we cannot literally *point* at *a*. This is not an idle terminological precision, however. Our claim here is that Ockham's account of supposition, and thus of signification proper (i.e. signification$_2$), does not require that the person using a term can actually indicate or point at its referent. For this, as we discussed, cannot be done with many past-, future-tense, or modal propositions. Rather, what is required is that the term actually *refers* to its referent. And this, from an inferentialist perspective, means that there exists an anaphoric chain connecting the term with another one, for instance, a deictic. Accordingly, in the proposition 'Socrates was white', the 'Socrates' refers to Socrates because there is an anaphoric link between 'Socrates' and 'this', with regard to the proposition 'This was white'.

Second, and as a consequence of the previous remark, this construal of Ockham's theory of signification does not require a commitment to non-actually existing entities or *possibilia*. Several scholars have suggested, in our opinion

29. This is also Loux's (William of Ockham 1974: 113) rendition, as well as Freddoso and Kelly's (William of Ockham 1991: 162). A young Panaccio also favoured 'refers' (1984: 65), but more recently he has inclined for 'designates' (2004: 14). Freddoso's (1980: 9) rendition, is 'indicates'. Spade (1995: 45; 2007: 150) has inclined for 'points'.

wrongly, that Ockham's second account of signification commits him with an ontology of such non-existents.[30] However, once we acknowledge with the inferentialist that the indexical or deictic character of supposition ought to be understood in an anaphoric manner, the ontological burden dispels.

Now Ockham's propositionalist stance with respect to signification has already been defended by a few interpreters.[31] In doing so, they have also underscored how Ockham's views on the matter sharply contrast with those of other terminists—particularly those of Peter of Spain, William of Sherwood, and of Ockham's realist nemesis, Walter Burley. We will pass over the details here, however. Suffice it to say that, on a realist semantics, the distinction between signification and personal supposition concerns mainly the kinds of entities which can be referred to by a general term. General terms signify universal entities, while they personally supposit for singular ones. For example, 'man' signifies the universal man (or manhood), and it personally supposits for this singular man, that singular man, that other singular man, and so on.

Once Ockham rejects the existence universal entities, he has no need for a specific semantic apparatus to account for them. Nevertheless, his rejection of the previous terminist theory goes beyond the disposing of such a way of construing the semantic dichotomy. As De Andrés, Biard, Loux, and others have argued, Ockham's new conception of signification, which incorporates as a central element his account of personal supposition, constitutes a theoretical shift from semantic atomism to propositionalism.

Not surprisingly, this interpretation of Ockham's semantic theory has not remained unchallenged. As expected, Panaccio has been one of the main opponents of Ockham's purported propositionalism.[32] Panaccio offers two

30. See Adams 1977; Karger 1980; McGrade 1985; Panaccio 1999; Spade 1999. Against this view, see Freddoso 1998; C. G. Normore 1999.
31. See De Andrés 1969: 233–6; Biard 1981; Loux 1979.
32. See Panaccio 1984; 2004: 53–5. This is also Spade's (2007, c.6) contention.

main arguments against such a view. First, he claims that the theoretical relation between personal supposition and natural signification is not one of logical or definitional priority—in neither direction. For him, Ockham loosely describes, not defines, signification in terms of supposition, and supposition in terms of signification. Panaccio's evidence for this claim is Ockham's recurrent dictum according to which a term has personal supposition if it supposits for its significate (*significatum*).[33] Second, Panaccio argues that Ockham endorses a *compositionalist* account of propositional meaning. According to such a view, the meaning of sentences is a function or product of the meaning of its constituent elements, the terms. Terms are hence logico-semantically prior to propositions, whose meaning is altogether determined through and by the meaning of their elements. This view, of course, is clearly incompatible with propositionalism, which, as we have seen, claims that propositions are logico-semantically prior to subsentential expressions.

Let us now tackle each of these claims. As to the first one, we should point out that when Ockham uses the term 'significatum' in his explanation of personal supposition, and derivatively in that of natural, primary signification, he is not conceptually presupposing such an account of signification and thus he is not wandering in circles. Rather, he employs the term as a shortcut to refer to the act of true predication with respect to a subject term (the one said to personally supposit and thus to signify). And this usually occurs in the context of distinguishing personal supposition from material and simple supposition, *not in the context of explaining or defining it*. Indeed, whereas in personal supposition the term (anaphorically) stands for that which is truly predicated of in a demonstrative proposition, this is never the case in the material and

33. See e.g. *Exp. Elench.* I.2, § 9 (*OPh* III: 24[13–6]): 'Suppositio personalis est quando terminus supponit pro illo vel illis ad quae imponitur ad significandum, ita quod quandocumque terminus supponit personaliter, tunc supponit pro suo significato vel significatis.'

simple kinds of supposition, in which the term stands for the very concept or for the material tokening of it (either spoken or written). The term 'man', for instance, personally supposits for—say—Socrates, because 'This is a man' is true when referring to Socrates; yet it is not true when referring to the concept 'man' or to the spoken/written term "man". For it is simply false that the concept of man (or the spoken/written tokening "man") is a man.

With respect to the second claim, the situation is more complex and yet more interesting. Panaccio bases his contention on a well-known passage from the Prologue to the *Ordinatio*, where Ockham claims that an intellectual act of judging or assenting to a proposition (*complexum*) necessarily presupposes the act of apprehending that proposition, which in turn presupposes the act of apprehending the terms (*incomplexa*).[34] Indeed, this semantic atomist account fits hand in glove with Ockham's purported epistemic atomism, also endorsed by him in this early work. According to it, a rational agent first apprehends a singular entity, where the very act of apprehending is itself a singular, atomic entity also; later, the agent joins several of these entities to form another, complex entity—a judgement (an epistemic "molecule", as it were) by which she can claim to know something about those entities' objects. (If the original atomic acts are intuitive cognitions, the ensuing judgement will be an infallible act of assent, at least *pro statu isto*.)

It is our strong contention that this interpretation of Ockham's account of propositional meaning is correct, at least with respect to the *Ordinatio*. Panaccio's insight and acumen as a medievalist interpreter is cashed out in the manner in which he has understood the epistemic aspect of Ockham's theory

34. *Ord.* I, Prol. (*OTh* I: 21$^{6-8, 17-9}$): '…omnis actus iudicativus praesupponit…notitiam incomplexam terminorum, quia praesupponit actum apprehensivum. Et actus apprehensivus respectu alicuius complexi praesupponit notitiam incomplexam terminorum…. [I]ntellectus nullam propositionem potest formare, nec per consequens apprehendere, nisi primo intelligat singularia, id est incomplexa.' (Cf. Panaccio 1984: 68.)

of intellective acts with its semantic aspect. Nonetheless, Panaccio has failed in grasping the diachronic expression of Ockham's thought with regard to propositional acts and, as we will shortly see, ultimately with intuitive acts of apprehension.

## 4.3 Ockham's Changing Views on the Nature of Judgement

Susan Brower-Toland has traced the development of Ockham's views on the problem of propositional contents across his theological and philosophical works.[35] In doing so, she has correlated Ockham's changing views on the nature of concepts with those on the nature of judgement. Yet, instead of detecting a simple, two-stage movement, just like the one occurring from the *fictum*- to the *actus*-theory, interestingly, she discerns a three-stage development.

In his early theory of judgement, Brower-Toland argues, Ockham embraced what she dubs a 'relational analysis of intentionality', also known in the literature as an 'object-theory of intentionality',[36] particularly with regard to complex acts of apprehension (proposition-forming) and assent (proposition-judging). This means that the intentionality of any such acts ultimately depends upon the obtaining of a special kind of relation between them and their purported objects. In concrete, the object of an intellectual act of *apprehending* a proposition are the simple apprehensive acts of which the proposition is composed, viz. the intuitive or abstractive cognitions. And, as expected, the object of an act of *assenting* to or *judging* a proposition is the prior act of having apprehending it. It is noteworthy that, in this account, there is both a causal and logical ordering between the three intentional levels.

35. This is the topic of Brower-Toland's (2002) unpublished doctoral dissertation at Cornell University. Her views on the issue have been published in a series of papers. See Brower-Toland 2006, 2007b, forthcoming.
36. Brower-Toland 2007b: 74. See also Woodruff-Smith and McIntyre 1982, c.2; Sellars 1960; McDowell 1998.

Propositional assent causally and logically presupposes propositional apprehension, which in turn causally and logically presupposes term apprehension.

Brower-Toland explains that when Ockham later came to reject the *fictum*-for the *actus*-theory of concepts, mostly due to the objections posed by his fellow Oxonian Walter Chatton, he modified accordingly his views regarding the nature of propositional acts. However, as she points out, Ockham did not dispose of the relational analysis with regard to all kinds of propositional acts at once. Instead, he first rejected it just with respect to apprehensive propositional acts, and only later, by the time he wrote the *Summa logicae*, the *Quodlibeta septem*, and the *Quaestiones in libros Physicorum* (c.1323–5), he rejected it with respect to assentive acts.

Thus, in the intermediate stage of his development, by the time he produced his *Expositio in Perihermeneias*, Ockham came to endorse a hybrid theory of propositional intentionality. As Brower-Toland points out, the rejection of *ficta* as objects of simple apprehensive acts raised the question as to the objects of complex ones. The question is posed by Ockham himself in § 6 of the Prologue to that work, and it goes as follows. If merely objective beings (*ficta*) are no longer to be understood as the objects of propositional acts of apprehension, it follows that the very mind-independent things which those *ficta* purportedly signified, now come to be held as the objects of such propositional acts—which seems absurd. In other words, how come mind-independent entities such as a man and as an animal be taken to be the objects of the mental-language proposition, 'A man is an animal'? For indeed—the imagined objector argues—the objects of propositional acts cannot be singular entities, say Socrates, as the term 'man' supposits confusedly for no man in particular. But also they cannot be universal entities, as there are no such

things as universals in Ockham's ontology. Therefore, the objects of propositional acts ought to be objectively existing beings.[37]

Ockham's answer, in conformity with his new *actus*-theory, is that just as there is no need for an object distinct from the very act of intellection to explain simple apprehensive acts, that is, intuitive and abstractive cognitions, so too there is no need for an object (or set of objects) distinct from the very act of forming a proposition to account for complex apprehensive acts.

> [A]n act of apprehension will be more the very proposition than *of* the very proposition. And so, to apprehend a proposition is nothing else than to form a proposition. And thus, when it is asked what is understood by such a mental proposition, whether something simple or composite, one can reply that nothing simple nor complex. For example, by means of the proposition 'A man is an animal', nothing simple nor composite is apprehended, properly speaking. Still, this mental proposition is an act of understanding by which all men and all animals are confusedly understood, and [it is understood] the fact that a man and an animal are numerically the same [thing], for this is what is expressed by it. And so by means of such a proposition many things are understood, but not a composite.[38]

This passage makes explicit Ockham's relinquishment of his earlier relational view on the intentionality of propositional apprehension. By the same token, it also makes clear his rejection of the compositionalist account of propositional meaning. Indeed, while still committed to what Adams has rightly interpreted as a direct form of perceptual realism,[39] Ockham's position now

37. See *Exp. Perih.*, Prol., § 6 (*OPh* II: 352–4).
38. *Exp. Perih.*, Prol., § 6 (*OPh* II: 357s[170–80]): '[A]ctus apprehendendi magis erit ipsa propositio quam ipsius propositionis, et ita apprehendere propositionem non est aliud quam formare propositionem. Et tunc quando quaeritur quid intelligitur tali propositione in mente: aut simplex aut compositum?— potest dici quod nec simplex nec compositum. Sicut, verbi gratia, per istam propositionem "homo est animal", non apprehenditur proprie loquendo nec simplex nec compositum, sed ista propositio in mente est actus intelligendi quo apprehenditur omnis homo et etiam omne animal confuse, et quod idem numero est homo et animal, quia hoc denotatur per eam, et ita tali propositione intelliguntur plura, non tamen compositum.'
39. See Adams 1987a, c.13. Direct realism is not to be conflated with any sort of epistemic externalism, as Panaccio (forthcoming; 2010) does. Direct realism is the epistemological doctrine according to which there are no epistemic intermediaries (e.g. intellectual species) between the knower's awareness of the object and the object. On the other hand, epistemic externalism claims that knowledge of a claim is not supervenient upon the internal states

seems to be that propositions are *about* or *of* real (i.e. mind-independent) things—at least when containing terms of first intention—in spite of there not having terminating objects.

Strangely enough, in this second stage of the development of his views on propositional intentionality, Ockham is reluctant to abandon altogether the relational analysis. With respect to acts of knowing a proposition, he still clings to the view that they do need a terminating object, in this case, a fully-formed proposition.

> But if we speak of the act of knowing some proposition, then it can be said that this act is a different act from [the act of forming] a proposition. And thus when some mental proposition is known, there are two acts of understanding then, to wit, the very proposition and another act by which that proposition is known.[40]

As this passage makes clear, Ockham thinks there is real distinction between the act of apprehending a proposition—which is identical to the very act of forming it—and the act of assenting to it. Still, even if he is still holding to the relational or object-dependent analysis with regard to assentive acts, Ockham now holds that their terminating objects are other mental acts, that is, real qualities inhering in the knower's mind.[41]

Brower-Toland then explains Ockham's final views on the matter.[42] Roughly by the year 1224, Ockham finally came to reject the relational analysis with respect to judgement. In *Quodlibet* III.8, Ockham asks if intellectual acts of assent are essentially simple or composite. There, and in other places of that same work,[43] Ockham distinguishes between two sorts of judicative

of the knower. One can clearly be a direct realist while being an internalist with respect to justification, as I suspect Ockham is.

40. *Exp. Perih.*, Prol., § 6 (*OPh* II: 358[188–92]): 'Sed si loquamur de actu sciendi aliquam propositionem, sic potest dici quod ille actus est alius actus a propositione. Et ideo quando aliqua propositio in mente scitur, tunc sunt duo actus intellectus simul, scilicet ipsa propositio et actus alius quo scitur illa propositio.'
41. See Brower-Toland 2007b: 92.
42. See Brower-Toland 2007b, § III.
43. See *Quodl.* III.8: 232–7; IV.16: 376–80; V.6: 500–3.

acts—direct and reflexive, as Brower-Toland dubs them. A better way of labelling them could be, rather, sentential and prosentential, to keep up with inferentialist terminology. On the one hand, a sentential act of judgement is one in which the predicate of a proposition is simply asserted of its subject. On the other one, a prosentential act of judgement is one in which another proposition is explicitly asserted (*refertur*) to be true (or false). As Ockham puts it,

> … acts of assenting are of two sorts. One sort is an act by which I assent to its being the case that something is or is not such-and-such, in the way that I assent to its being the case that God exists, and to its being the case that God is three and one, and to its being the case that God is not the devil. And yet I do not assent to God or to the devil; rather, I assent to its being the case that God is not the devil. … The second sort is an act of assenting by which I assent to something, with the result that the act of assenting bears a relation to something, in the way that I assent to or dissent from a complex sign. For example, I assent to the proposition 'A human being is an animal', since I consider it to be true.[44]

In a *prima facie* cryptic remark, Ockham notes that the first kind of act of assent is ultimately an act of apprehension.[45] This has to be understood against the background of Ockham's *actus*-theory and his rejection of the relational analysis of intentionality. As we saw, from the moment Ockham denied that an act of understanding a proposition was really distinct from the act of forming it, he committed himself to the view that this very act is nothing else than the copulation of the proposition's subject and predicate. Thus, in a sense, having a mental proposition is just such an act of bringing about a propositional copula. Strictly speaking, then, there is no act of assent to a proposi-

44. *Quodl.* IV.16: 376s[16–9, 23–6]: ' … duplex est actus assentiendi: unus, quo assentio aliquid esse vel non esse; sicut assentio quod Deus est et quod Deus est trinus et unus et quod Deus non est diabolus, et tamen nec assentio Deo nec diabolo, sed assentio quod Deus non est diabolus. … Alius est actus assentiendi quo assentio alicui, ita quod actus assentiendi referatur ad aliquid; sicut assentio complexo vel dissentio, puta assentio huic propositioni "homo est animal", quia reputo eam veram.' (Trans. William of Ockham 1991: 311.)

45. *Quodl.* IV.16: 377s[19–21]: 'Unde de virtute sermonis per istum actum nulli assentio, tamen per istum actum apprehendo Deum et diabolum, quia omnis actus assentiendi est actus apprehendendi et non econverso.'

tional content. However, the second, prosentential act, is indeed an assentive act by which the agent is explicitly committing herself to a certain propositional content. This is why this second kind of assentive act is really different from that of the first kind, and *a fortiori* from the very act of forming a proposition. Since this second kind of assentive act is necessarily *with respect* to some propositional content, this content ought to be the assentive act's "object"—in the trivial sense of being about it, not in the sense of being what terminates the act.

This prosentential kind of assentive act can accordingly have two different flavours, depending on its ultimate cause. If its cause is the will, then it is a doxastic act or act of belief (*creditivus*). But if its cause is a logical consequence—i.e. the relation which obtains between a premise or set of premises and a conclusion, occurring within the intellect—it is an act of knowledge (*scientia*).[46]

To recapitulate Brower-Toland's argument, Ockham moved from an object-based or relational analysis of intentionality, to a non-relational one, with respect to both mental terms and mental propositions. Brower-Toland labels the last position an 'adverbial' analysis of intentionality, which she claims Ockham embraced under the influence of Chatton.[47]

In view of the foregoing, the point we want to make here is this. Ockham's relinquishment of the relational analysis of intentionality results in his rejection of a compositionalist account of propositional meaning. For, according

46. One of the consequences of Ockham's later view on the nature of the judgement is the rejection, or at the very least, the refurbishment, of the notion of a *propositio neutra*, that is, of a proposition which can be merely formed but which is neither assented nor dissented to. (On this kind of propositions, see *Ord.*, Prol., q.1 [*OTh* I: 16]; *Quaest. Var.* V (= *Quaest. disp.* III) [*OTh* VIII: 170–3].) With respect to the sentential assentive act, of course, there is no possibility of forming but not assenting to a proposition. Yet this is indeed possible with respect to its prosentential sibling. (See *Quodl.* V.6: 500–3.)
47. See Brower-Toland forthcoming: 7. Cf. Spade 2007: 180–4, who uses the same term to refer to Peter of Ailly's, Robert of Fland's, and other's account of propositional signification—although it is not completely clear that Spade and Brower-Toland are talking about the same doctrine.

to his earlier relational account, in distinguishing between the act of apprehending a proposition and the act of composing or forming a proposition (the latter being the object of the former), Ockham was committed to conceive of the act of composition as causally and logically prior to, and hence necessary for, the act of apprehending a proposition. Yet later, when the mature Ockham advanced the view that to form a proposition is nothing else than to apprehend or understand it, he thereby erased the distinction between the two kinds of propositional acts. As Ockham himself acknowledges,[48] the outcome of this is that it does not make sense anymore to ask for the object of the act of understanding a proposition. 'Strictly speaking', he says, 'it should not be conceded that a mental proposition is so understood as to terminate the act of understanding, taking "to be understood" properly'.[49]

In accordance with this mature position, therefore, one should not conceive of the non-complex parts of a proposition—its terms—as constituting or determining its sense, i.e. its understanding. To be sure, mental propositions are, as it were, *materially* made up of mental terms—a claim to which Ockham is consistently committed throughout his career.[50] However, to deny that propositions have their "material parts" as terminating objects is tantamount to denying that propositions are *semantically*, that is, sense-wise, made up of terms. And this, of course, is simply the denial of propositional compositionalism and, by the same token, the embracement of propositionalism.

To sum up, the rejection of the *fictum-* theory and the ensuing embracement of the *actus*-theory resulted in more than a mere change in Ockham's

48. See the quotation on p.150, n.38, above.
49. *Exp. Perih.*, Prol., § 12 (*OPh* II: $375^{62-4}$): '… non debet proprie loquendo concedi quod propositio in mente intelligitur ita quod terminet actum intelligendi, accipiendo proprie "intelligi" ….'
50. See e.g. *Exp. Perih.*, Prol., § 12 (*OPh* II: $374^{54-7}$): '… aliquae intellectiones ex natura sua sunt verba et aliquae intellectiones ex natura sua sunt nomina, sicut aliquae voces et aliquae litterae per institutionem sunt nomina et aliquae per institutionem sunt verba.' See also *SL* I.3: 11–4.

views on the nature of concepts. It also comprised a recasting of his views on the nature of propositional meaning and, ultimately, on the nature of intentionality in general. In concrete, once Ockham gave up the relational analysis of intentionality with respect to propositional acts, according to which the act of understanding a proposition is causally and logically determined by its terminating object, he thereby disposed of the need for a compositionalist account of propositional contentfulness.

## 4.4 Epistemological Propositionalism

Thus far we have argued in favour of *semantic* propositionalist interpretation of Ockham's mature account of propositional meaning. There seem to be evidence, however, which points at a form of *epistemological* propositionalism in Ockham's mature thought. Indeed, we *should* expect there to be a correspondence between Ockham's epistemology and his semantics, a part of which is his theory of mental content.

As a matter of fact, Panaccio and others following his footsteps have construed such a correspondence from an atomist angle instead. Panaccio claims to read this atomism not only in the young Ockham's *Ordinatio*, but also in the mature Ockham's *Summa logicae*.[51] The passage Panaccio zeroes in is taken from Part III-2, c.29 of the *Summa*, where Ockham discusses at length real definitions. After explaining the logical and causal priority of intuitive cognitions with respect to their abstractive counterparts, Ockham then proceeds to give an account of the composition of propositions. This is the relevant part:

> First, a human being is cognised by some particular sense, then the same human being is cognised by the intellect, and when it is thus cognised, a general knowledge is gained common to all human beings. And this cognition is called a concept, intention, and an attribute of the soul, which concept is common to every human being, and by its existing in the intellect, the intellect immediately knows without any discursive thought that a human being is something. Then,

51. See Panaccio 1984: 68s.

> when an animal different from a human being or other animals is grasped, a general knowledge is elicited applicable to every animal, and that general knowledge applicable to every animal is called an attribute or intention of the soul, or a concept common to every animal. When this concept exists in the soul, the intellect can place it with a prior concept, and when these are brought together using the verb 'is', immediately the intellect assents to that complex expression, without any syllogism.[52]

Ockham's central point in this passage is that the human intellect, *pro statu isto*, can indeed arrive at generic concepts—which constitute the first part of real definitions, the second one being the specific differences of the definienda—directly by means of intuitive knowledge of things; that is, without recourse to deductive or inductive inferential processes (*discursus*).

Panaccio takes this passage to be decisive evidence that Ockham's epistemological and semantic atomism—or 'conceptual', as he unsoundly calls it—was consistent all through his philosophical career. But was it?

To see where Panaccio has gone astray, let us recall Ockham's early views on intuitive cognition. On Ockham's account, an intuitive cognition is a non-complex intellectual act of apprehension whereby a singular entity is cognised. What essentially distinguishes intuitive from abstractive cognitions, as we know, is that the former but not the latter is naturally capable of partially causing an infallible judgement of existence, accidental inherence, or spatial relation with respect to the singular object cognised and/or to other singular substances and qualities. As Ockham himself acknowledges in the *Ordinatio*, and as Panaccio is prompt to underscore, the act of intuitive apprehension is

52. *SL* III-2.29: 557[13–25]: '…primo homo cognoscitur aliquo sensu particulari, deinde ille idem homo cognoscitur ab intellectu, quo cognito habetur una notitia generalis et communis omni homini. Et ista cognitio vocatur conceptus, intentio, passio, qui conceptus communis est omni homini; quo exsistente in intellectu statim intellectus scit quod homo est aliquid, sine discursu. Deinde apprehenso alio animali ab homine vel aliis animalibus, elicitur una notitia generalis omni animali, et illa notitia generalis omni animali vocatur passio seu intentio animae sive conceptus communis omni animali. Quo exsistente in anima potest intellectus componere istum conceptum cum conceptu priori, quibus compositis ad invicem mediante hoc verbo "est", statim intellectus assentit illi complexo, sine omni syllogismo.' (Trans. William of Ockham 2007: 193s, with emendations.)

really different from the naturally ensuing act of judgement. And hence, even in the natural course of things, one can form an intuitive cognition without forming the judgement—as the atomist interpretation requires.[53]

But notice that this account is cogent only within the framework of the relational analysis of intentionality. For it is only within it that Ockham is able and willing to distinguish between the act of forming a proposition and the act of assenting to it (at least with respect to the sentential kind of propositional act). However, having abandoned such a framework, Ockham cannot reasonably claim that one can have an intuitive cognition and not form/assent to the contingent proposition of existence, inherence, or relation about the intuitively cognised singular entity or entities. By way of example, suppose someone happens to perceive Socrates. She thereby forms the intuitive cognition of Socrates-as-existing, or of Socrates-as-being-white, or of Socrates-as-being-close-to-Plato, or the like. In any event, as Ockham is quite keen to underscore, all of them are instances of *simple* acts of intellectual, intuitive apprehension. Indeed, in these cases Ockham appears to be claiming that there is a *single* intuitive cognition of multiple singular things.

> … an intuitive cognition is such that when some things are cognised of which one inheres in another, or one is in another place than another, or [one] is related in some way to another, it is immediately known *by virtue of that non-complex cognition of those things* if the thing inheres or does not inhere, if it is in another place or not, a similarly with regard to other contingent truths …. Just as if Socrates were really white, that cognition of Socrates and his whiteness, in virtue of which it can be evidently known that Socrates is white, is called 'intuitive cognition.'[54]

53. See *Ord.*, Prol., q.1 (*OTh* I: 58s): '… potest dici probabiliter quod notitia incomplexa terminorum et apprehensio complexi et iudicium sequens distinguuntur realiter et quod quodlibet istorum per potentiam divinam est a quolibet separabile'. Cf. also *Ord.*, Prol., q.1 (*OTh* I: 70$^{4s}$); and *Quodl.* III.12: 246–50, where Ockham argues that mental propositions, like conventional-language ones, are truly composed of mental terms.

54. *Ord.*, Prol., q.1 (*OTh* I: 31$^{17-25}$): '… notitia intuitiva est talis quod quando aliquae res cognoscuntur quarum una inhaeret alteri vel una distat loco ab altera vel alio modo se habet ad alteram, statim *virtute illius notitiae incomplexae illarum rerum* scitur si res inhaeret vel non inhaeret, si distat vel non distat, et sic de aliis veritatibus contingenti-

This relatively early passage of Ockham's, from the Prologue to the *Ordinatio*, confronts the interpreter with the following question: What kind of judgement, structurally speaking, is the one allegedly resulting from an intuitive cognition of multiple entities? Or not to go that far—what kind of judgement ensues an intuitive act of apprehension *simpliciter*? Ockham observes that the judgement naturally following an intuitive act of cognition is what he dubs a 'primary contingent proposition'.[55] Unfortunately, Ockham has very little to say about this sort of propositions.[56] Be that as it may, we can probably guess they are contingent propositions of the form '*a* is/exists (*est*)'.[57] If this is correct, when someone produces the intuitive cognition of Socrates-as-white, she is able to form the proposition 'Socrates-as-white is/exists.' And we can assume the same, *mutatis mutandis*, for any other contingent features which can be simply grasped in an intuitive cognitive act ('Socrates-as-near-to-Plato is/exists', etc.).

Brower-Toland is on the right track when she points at the connotative-like aspect of intuitive cognitions.[58] This seems indeed to be the only possible way of accounting for Ockham's claim that a multiplicity of entities can be immediately captured in a single intuitive act. But does it mean that intuitive cognitions are connotative terms *simpliciter*, each one having as its primary significate an individual substance?

bus . . . . Sicut si Sortes in rei veritate sit albus, illa notitia Sortis et albedinis virtute cuius potest evidenter cognosci quod Sortes est albus, dicitur notitia intuitiva.'

55. *Quodl.* V.5: 496[15s]: ' . . . per notitiam intuitivam assentitur primo contingenti . . . .'
56. The only other text I have found where he mentions them is in *Quaest. Var.* V (= *Quaest.disp.* III [*OTh* VIII: 171]), in which he links them again with intuitive cognitions. Yet he there too fails to provide further details.
57. This is Freddoso and Kelley's suggestion (1991: 414, n.18). Cf. *Quodl.* V.5: 496[17–9]: ' . . . per notitiam intuitivam non tantum *iudico rem esse* quando est, sed etiam non esse quando non est . . . '.
58. See Brower-Toland 2007a: 330 and 335, n.49.

In point of fact, recall Ockham's suggestion discussed above[59] that intuitive cognitions ought to be understood as proper names. If we trust him, in spite of the *prima facie* unlikeliness of that suggestion, Brower-Toland's connotative understanding of intuitive cognitive acts appears to be at odds with our every-day beliefs about proper names. For we normally think of proper names as solely designating their objects, without describing or connoting them in any way.[60]

However, Brower-Toland's construal, and consequently Ockham's reported suggestion, need not be understood in a term-like, atomistic fashion. To see why, let us first acknowledge the fact that Ockham allows for a certain amount of leeway within the so-called 'economy of the mental language'. So just as he claims that the question whether the mental language contains participles or whether it simply contains the corresponding verbs, can be resolved either way;[61] in the same way, we can wonder whether these primary contingent propositions which putatively contain connotative subjects, can be safely eliminated for, *propter necessitatem significationis*, or at the very least construed as being strictly synonymous to, primary contingent propositions *not* containing them. For example, assuming that 'Socrates-as-white is/exists' (or 'White Socrates is/exists ') is actually synonymous with 'Socrates is white',[62] the question as to which one really belongs to the mental language can be re-

59. See pp.132–134.
60. This belief, however, has been revised by several contemporary authors, most notoriously by Gareth Evans and John McDowell. (See Evans 1985, 1982, c.11; McDowell 1977.)
61. See *SL* I.3:11; *Quodl.* V.8: 512–3. In spite of being explicitly inclined for the second option, however, Ockham gives the impression that he conceives of participles as really belonging to the mental language, when he argues that they ought to be classed as belonging to the Aristotelian category of relation. (See *Quodl.* VI.23: 671.) And as Panaccio has incisively argued (see 1990; 2000; 2003; 2004, c.4; 2011, § 3.3) Ockham's explicit claims as to the exclusion of synonymous expressions from the mental language has to be taken with a bit of caution, as he in practice accepts them.
62. Ockham's theory of exponible propositions, which we will examine in Chapter 6, licenses such an equivalence relation.

garded as idle. Any of them could—or, from a Panaccian perspective, *both* of them do.

The upshot of the foregoing analysis is the following. Instead of arguing, as Brower-Toland does, (*i*) for a term-centred, connotative interpretation of Ockham's account of intuitive cognitions, which somehow disregards our natural inclination to construe proper names as non-connotative; or, as Panaccio does, (*ii*) for a term-centred, absolute interpretation, which fails to do justice, amongst others, to Ockham's views as to the semantic complexity of intuitive cognitions; we could instead argue (*iii*) for a *propositionally-centred* interpretation of such cognitive acts.

Recall that, on Brower-Toland's account of the evolution of Ockham's opinions regarding the nature of judgement, Ockham came to reject the real distinction between the act of merely forming a proposition and that of assenting to it. Therefore, as we have argued, the distinction between intuitively apprehending an entity, with any or all of its contingent features, and assenting to the primary contingent proposition regarding it and them, is actually null and void for the mature Ockham. For him, then, one does not intuitively apprehend singular entities; *one apprehends singular facts*. That is to say, one grasps individual entities as actually being related between them (e.g. Socrates' whiteness inhering in him, Socrates being opposite to Plato, etc.) and/or between them and the agent perceiving the scene (e.g. Socrates being present in front of me, etc.).

Hence it is not the case that when someone is intuitively cognising white Socrates, i.e. Socrates-as-being-white, she is simultaneously forming two singular cognitions, one of Socrates and another one of his whiteness; and that, having done that, she can form the proposition 'Socrates is white', and only then sententially assent to it. Instead, when cognising white Socrates she forms

the intuitive cognition of Socrates-as-white, which is act-identical to the formation of the mental proposition 'Socrates is white', as well as to its sentential assent.

Now according to this interpretation, the suggestion considered above of identifying intuitive cognitions with proper names seems to be partially right. Strictly speaking, we can say that proper names are the subjects of the primary contingent propositions which are act-identical with intuitive cognitive acts. This, we argue, is the view to which Ockham is ultimately committed to when he identifies, as quoted above,[63] intuitive cognitions with proper names. For to intuitively grasp Socrates-as-being-white, i.e. the fact that Socrates is presently white, is nothing other than to form a proposition the subject of which is 'Socrates'.

Finally, let us briefly discuss abstractive cognitions, i.e. specific and generic concepts. As we have seen, such cognitive acts abstract from all or most of accidental characteristics proper only to the singular entity being cognised (the first sense of the term 'notitia abstractiva'[64]), as well as all or most of the contingent features from the act of perceiving it (and this is the second sense[65]), thereby forming a specific cognition proper to all entities maximally similar to it. (Generic concepts require a further level of abstraction, whereby cogeneric individuals from distinct species are compared.) Thus, it would seem that if all the semantic complexity of the intuitive act of apprehension is removed by the ensuing abstractive act, the corresponding propositional character of intuitive cognitions should also disappear from abstractive ones.

63. See p.133.
64. *Ord.*, Prol., q.1 (*OTh* I: $30^{12-5}$): '… notitia abstractiva potest accipi dupliciter: uno modo quia est respectu alicuius abstracti a multis singularibus; et sic cognitio abstractiva non est aliud quam cognitio alicuius universalis abstrahibilis a multis … .'
65. *Ord.*, Prol., q.1 (*OTh* I: $31^{4-6}$): 'Aliter accipitur cognitio abstractiva secundum quod abstrahit ab exsistentia et non exsistentia et ab aliis condicionibus quae contingenter accidunt rei vel praedicantur de re.'

However, let us remember that Ockham's theory of signification is precisely devoted to explaining the semantic makeup of concepts. Consequently, such a theory sufficiently accounts for the propositional character of conceptual signification, as we discussed above. So even if the specific concept of man is abstracted, in the two senses alluded before, from the propositional context essentially surrounding the originating intuitive cognition of Socrates, it nonetheless has to abide by the propositional, content-endowing stricture of personal supposition. Hence as we have explained, 'man' confusedly signifies Socrates only because 'This is a man' is true with respect to him.

We can now do away with Panaccio's second scruple against a propositional reading of Ockham's semantics. As we may recall, it rested in part upon a compromising passage of the *Summa logicae*, quoted above.[66] In contrast with Panaccio's conviction, we do not read that passage as describing 'the natural epistemological process through which the concepts are produced in the mind and then, and only then, combined into propositions.'[67] For one thing, Ockham's main purpose in that passage is to argue against the view that the cognition of generic propositions (e.g. 'This man is an animal') is discursive, that is, that it requires a certain kind of reasoning to be accomplished. For another, and consequently, Ockham does not aim to describe the 'natural epistemological process' from the outset, as he omits the part concerning intuitive apprehension. And it is this part precisely, as we have just argued, the one founding Ockham's mature propositional epistemology.

## 4.5 Summary

Panaccio's atomist construal of Ockham's semantics is largely founded upon a series of passages taken from the *Ordinatio* and from the *Summa logicae*,

66. See p.155.
67. Panaccio 1984: 69.

whereby Ockham purportedly embraces a form of semantic compositionalism. We have argued, first, that Ockham's views on the nature of propositional contentfulness ought to be construed in a diachronic manner, for they gradually evolved throughout his career. And second, that the crucial passage from the *Summa* has to be interpreted within the context of Ockham's mature propositionalist understanding of intuitive acts of apprehension, and only then of abstractive acts.

The upshot of this interpretative assessment suits well the conclusions reached in § 4.2, where we examined Ockham's mature conception of *significatio*. According to this conception, the term-property of signification is essentially dependent upon that of personal supposition. And this one can only occur within and because a propositional setting. But even though signification is putatively a term-property, this does not mean that a term can have it *in abstracto*. On the contrary, it means that terms—both categorematic and syncategorematic—signify only when and while performing a suppositional role within a determinate propositional context. Expressed in other words to avoid a specious platitude, our view is that, on Ockham's mature account, something is a term and is thereby conceptually contentful only when, and if, it can stand for something else in a propositional setting. And this standing-for relation is to be construed as the anaphoric role the term plays with respect to an allegedly true instance of true predication.

CHAPTER 5

# *OBLIGATIONES* AND THE NORMATIVITY OF ASSERTING

## 5.1 Introductory

In our cursory section on inferentialism we pointed out that, according to this semantic theory, meaning, or more precisely conceptual content, needs to be understood within a normative framework. The reason, we discussed, is that whoever makes a move in the game of giving and asking for reasons, i.e. whoever makes a claim, undertakes thereby a commitment both to provide the reasons for it (its circumstances of application), and to embrace everything which might follow from it (its consequences of application). And of course, this commitment and the eventual entitlement ensuing from it are the *normative* statuses rational beings involved in this language game can themselves undertake and can be attributed to them by others.

Our purpose in this section will be to argue that many late-medieval logicians, and in particular Ockham, indeed embraced a normative account of claim-making. This account has come to us under the form of what has been called the 'theory of *obligationes*' or *ars obligatoria*.

## 5.2 Historiographic Perplexity

Let us begin by noting that 20th- and 21st-centuries interpreters have been baffled by what exactly this theory ought to be about. As P.V. Spade poignantly expressed it thirteen years ago, 'modern scholars have offered lots of suggestions to explain this literature [viz., the vast amount of extant treatises on obli-

gationes]. . . . But the fact remains, none of us really knows, and we're all just speculating in desperation' (Spade 2000b: 5). Despite Spade's complaints, or perhaps as a response to their spirit, much have been done since then. The literature on *obligationes* is vast in length and depth. Apart from the contributions of Spade himself, this is mainly due to work of scholars such as Eleonore Stump, Christopher Martin, Mikko Yrjönsuuri, and more recently Catarina Dutilh-Novaes.[1] Still, there is no general agreement amongst the specialist with respect to the ultimate purpose of the *ars obligatoria*. One of the reasons for this obscurity has to do with the fact that medieval authors, at least in the manuscripts which have reached us, never explicitly declare the aims and functions of these disputations. They seem to assume that their readers already know what these aims are, thereby omitting the details of which in the treatment of the logical rules governing the practice.

Several interpretations of the purpose of *obligationes* have been put forth at least since the 1950s.[2] Some scholars have seen in them a mere pedagogical tool used to instruct students into the practice of argumentation.[3] Others have taken them as a theory of counterfactual thought.[4] Still others have construed them as a way of systematically studying *sophismata* and *insolubilia*.[5] Other scholars have understood them as a way of evaluating the compositibility or cotenability of sets of propositions, while others have taken them to constitute a theory of belief revision.[6] Some others have taken them to constitute a theory of consistence maintenance.[7] Finally, it has recently been suggested

1. See esp. Spade 1982, 1992, 2008; Stump 1982a, 1985; 1989, c.9–12; Martin 1992, 1999, 2001, 2005; Knuuttila 1989; Knuuttila and Yrjönsuuri 1988; Yrjönsuuri 2000, 2001; Dutilh-Novaes 2005, 2007, 2011.
2. I am following here Dutilh-Novaes 2007, § 3.2.
3. See Green 1963; Weisheipl 1956; Spade 2008, § 4.2.
4. See Spade 1982, 1992; 2008, § 4.1.
5. See Stump 1982a, 1985.
6. See Martin 2001.
7. See Dutilh-Novaes 2005; 2007, Part 3.

that *ars obligatoria* should be construed as a theory of discursive commitment management.[8] This last one will be our interpretative approach with regard to Ockham's treatment of the *obligationes*, in particular, and with what we take to be his views on the deontic nature of assertion, in general.

Indeed, for all their merits, most of the former interpretations have simply disregarded the *deontic* nature of the theory of *obligationes*. For example, Spade, to name but one, has argued there is nothing moral—nothing *normative*, we could supply—in this kind of medieval disputations.[9] Thus, while zeroing in on the logical technicalities of the *obligationes*, most interpreters have failed to notice the precise obligational character supporting such logical structures.

In contrast with this general approach, we will follow both Yrjönsuuri and Dutilh-Novaes in embracing the normative nature of the *ars obligatoria* at its face value. We will make an effort, however, to extrapolate it from its explicitly systematic locus—viz., the very treatises composed on the *ars obligatoria* proper—to the core of Ockham's semantic theory. Indeed, we will claim that the normativity explicit in obligational disputations is necessarily constitutive of the very act of asserting a sentence and thus of making an explicit propositional move.

Now, while we will justifiably spotlight Ockham's theory of *obligationes*—in contrast with most other interpretations, which focus on Walter Burley's more extended and elaborate accounts of the matter[10]—much of what we will expose here is germane to other scholastic accounts. This is because the differences between the variety of extant treatises on *obligationes* relate to partic-

8. See Dutilh-Novaes 2011.
9. Spade 2008, § 1: 'Despite the name "*obligationes*", which in Latin as much as in English suggests obligation in the sense of "duty", such disputations need not have anything at all to do with ethics or morality.'
10. Edited in Green 1963.

ularly technical details (e.g. the rules concerning *positio impossibilis*), rather than to the overall normative nature of the codified procedures.

## 5.3 The Six Species of *Obligationes*

Ockham discusses six different species of obligational disputations,[11] to wit, *institutio, petitio, positio, depositio, dubitatio,* and *sit verum*. Regardless of the specific differences amongst them, the basic idea of an obligational disputation is roughly as follows. The first player, the so-called 'Opponent', requires from the second player, 'Respondent', to undertake a certain deontic attitude towards a certain propositional content. This undertaking can be indirectly obtained by means of the requirement that a certain propositional attitude be assumed by Respondent, as in the case of *sit verum*. Accordingly, (1) in *institutio* Respondent is required to commit herself to a non-conventional institution of a spoken/written word during the duration of the *obligatio*.[12] For example, the *positum*, i.e. the obliging claim made by Opponent at the outset, in one such *obligatio* could be: 'Let *p* signify what is true or what is false.' (2) In *petitio* she is required to undertake a certain deontic status with respect to a certain propositional content.[13] For instance, 'I ask you to concede/deny that an animal runs.' (3) In *positio* Opponent requires from Respondent simply to commit herself to a certain propositional content.[14] For instance, 'I posit that an animal runs.' (4) In *depositio* Opponent requires from Respondent to simply commit to the contradictory of certain propositional content.[15]

11. See *SL* III-3.39–46. Admittedly, Chapter 46 discusses *insolubilia*, but Ockham's treatment of it is clearly framed within obligational theory.
12. *SL* III-3.39: 732$^{14s}$: 'Institutio est nova alicuius vocabuli impositio pro tempore disputationis et non ultra duratura.'
13. *SL* III-3.40: 734$^{2s}$: '[P]etitio … obligat ad aliquem actum pertinentem ad officium respondentis exercendum ab eodem.'
14. *SL* III-3.41: 736$^{27s}$: 'Positio … obligat ad sustinendum aliquam propositionem eo modo quo propositio vera debet sustineri a respondente.'
15. *SL* III-3.43: 742$^{2s}$: '[E]st depositio obligatio ad sustinenum aliquam propositionem tamquam falsam.'

For instance, 'I posit that an animal runs is false.' (5) In *dubitatio* Respondent is required to refrain from committing herself both to a certain propositional content and to its contradictory.[16] For instance, 'You should doubt whether an animal runs.' Finally, (6) in *sit verum* Respondent is obliged to undertake a certain propositional attitude—knowledge, ignorance, or doubt—concerning some propositional content. For instance, 'Let it be true that you know/ignore/doubt that Socrates is running.'[17]

Now, the aim of an *obligatio*, from the perspective of Opponent, is to ultimately commit Respondent to an overt contradiction; and from the perspective of Respondent, to refrain from committing herself to it.[18] After Opponent states the *positum* at the outset of the disputation, Respondent decides whether or not to concede it. If she does not, the disputation is over, before it even begun. If she does, Opponent repeats it as a *propositum*, which Respondent has to concede.

Then, Opponent successively states various *proposita*, which Respondent either has to concede, deny, or doubt. The *proposita* can be of two classes—pertinent and non-pertinent. A pertinent *propositum* is one which is a consequence of the concession or denial either of the *positum* or of previous *proposita*. A non-pertinent *propositum* in one following from neither the concession or denial of the *positum* nor of any of the previous *proposita*—i.e. is inferentially dissociated from them—in which case Respondent is obliged to respond to it 'according to its quality'.[19] This means that she is required to

16. *SL* III-3.44: 742[28]: '[E]st dubitatio obligatio ad sustinendum aliquid tamquam dubium.'
17. *SL* III-3.45: 743[2–7]: '["Sit verum"] … est qua obligatur aliquis ad respondendum ad aliqum proposition em modo quo responderet si haberet determinatum actum circa illam propositionem; puta, illo modo quo responderet si sciret eam esse veram, vel eo modo quo responderet si sciret eam esse falsam, vel eo modo quo responderet si dubitaret eam.'
18. As Paul of Venice nicely expresses it: 'Obligatio est relatio limitans ad aliquod enuntiabile vel sibi consimile aliqualiter sustinendum' (Paul of Venice 1988, I, a.1: 6).
19. *SL* III-3.41: 737s[74–8]: ' … ad omnem propositionem impertinentem, hoc est quae nec est sequens nec repugnans posito vel alicui bene concesso vel bene negato, respondendum est

concede it, deny it, doubt it, or ask it be disambiguated, depending on whether or not she knows the proposition to be actually true, i.e. independently of the scenario constructed in the current *obligatio*.

Finally, when Opponent so desires, she can end the disputation by saying 'Time's up!' (*Cedat tempus!*), after which Respondent's answers are evaluated. If she is shown to have contradicted herself with regard to pertinent commitments, or to have stated an actual falsity with regard to non-pertinent ones, then she is said to have responded wrongly (*responsit male*), thereby losing the disputation.

## 5.4 *Positio*

Our concern will be here with regard to *positio*, the species most pervasively discussed by the medieval logicians. Interestingly enough, even though Ockham declares having included his short treatise on the *ars obligatoria* for the sake of mere completeness,[20] he appears keen on the concrete applicability of the rules he discusses to different areas of knowledge.[21] And this is clearly the case in *positio* (and, as a consequence, in *impositio* and *dubitatio*, as they can be construed as variations of it).

Following the practice of his time, Ockham distinguishes two different kinds of *positio*, viz., *possibilis* and *impossibilis*. The distinction concerns the *positum* of the disputation—a possible proposition in the first case, an impossible, though not *prima facie* self-contradictory, proposition in the second

secundum sui qualitatem. Hoc est, si sit vera, concedenda est; si falsa, neganda; si dubia, respondendum est dubie; si sit multiplex, distinguenda est.'

20. *SL* III-3.39: 731[2–6]: 'Quoniam logici circa obligationes et insolubilia speciales faciunt difficultates, ideo ad istius Summae completionem, quae de omni modo arguendi generalem tradit notitiam, sunt aliqua brevia perscrutanda.'
21. For instance, when discussing *institutio*, he states: 'Et per consimilem modum posset responderi ad multa alia sophismata quae difficilia sunt, nisi exercitatis multum in arte obligatoria; quae, quia non sunt multum usitata in theologia, pertranseo' (*SL* III-3.39: 734[79–81]). And in dealing with *petitio*, he comments: 'Et hoc sufficiat de ista petitione, pro eo quod non habet magnum locum in scientiis particularibus' (*SL* III.3.40: 735[138]).

case.[22] As Christopher Martin has persuasively argued,[23] medieval philosophers and logicians considered *positio impossibilis* as an important tool of conceptual analysis. Accordingly, the idea was to begin the inquiry by positing an impossible proposition, and then examining the putative chain of consequences derived from it. An interesting case examined by Martin concerns the disagreement between Scotus and Ockham on a particularly delicate theological point—the relation between the personal distinction of the Holy Ghost and the Son, and the procession of the former from the latter. Scotus claimed that the reason why these two divine persons are distinct is that one of them proceeds from the other; thus, if the Holy Ghost had not proceeded from the Son, they would not have been different persons. Ockham denies such a view, as he claims that the distinction between the divine persons is logically independent from the actual procession. Note that although Scotus and Ockham wholeheartedly agree on the fact that the two persons are *de facto* and *de iure* distinct, their discord stems form the nature of such distinction. And the way chosen by them to argue for or against it is in the discursive context of a *positio impossibilis* disputation.

## 5.5 The Rules for *Positio*

Let us now briefly consider some of the rules governing *positio possibilis*, as discussed by Ockham, taking care of providing an inferentialist rendering of each of them.

(1) The first one states that the *positum* must be granted by Respondent only if it is unambiguous.[24] This means, from an inferentialist perspective,

22. See *SL* III-3.42: 739$^{22-4}$: '…illa propositio impossibilis quae manifeste apud omnen intellectum infert contradictoria non est admittenda.'
23. See Martin 1992, 2005.
24. *SL* III-3.41: 736s$^{48-50}$: 'Una est quod omne positum in tempore positionis propositum, scitum esse tale, est concedendum absolute si ipso proposito non habeat plures sensus quam quando per se profertur.'

that Respondent should only commit herself to claims whose circumstances and consequences of application are clearly circumscribed, which is not the case with ambiguous propositions.

(2) The second rule prescribes that Respondent has to concede everything that inferentially follows from the *positum*.[25] In inferentialist terms, if Respondent has committed herself to a certain claim, she is thereby responsible for all of its consequences of application, even if she is currently unaware of them. This is what Brandom calls 'intrapersonal, intercontent inheritance of entitlement to a propositional commitment'.[26]

(3) The third rule states that Respondent is required to deny everything that is incompatible with the *positum*.[27] For the inferentialist, this is expressed through the concept of incompatibility of commitments, whereby commitment to a certain claim precludes entitlement to other, incompatible claims.[28]

(4) The fourth rule concerns the deontic status of non-pertinent propositions, which we have already mentioned above.[29] Suffice it to say that, if Opponent proposits a claim which does not follow from or is not incompatible with the *positum* or with previous *proposita*, Respondent is obliged to commit herself to what she believes to be the common knowledge on the issue upheld by Opponent. And this is just an instance of *de re* belief ascription, which we discussed in a previous section.[30]

(5) The fifth rule states that 'the very same *propositum* should be conceded in a moment of the disputation, even if in another place it should be de-

25. See *SL* III-3.41: $737^{63-5}$: '…omne sequens ad positum vel bene concessum vel bene concessa, vel oppositum vel opposita bene negatorum, scitum esse tale, est concedendum si proponatur.'
26. See *MIE* 175.
27. See *SL* III-3.41: $737^{70-3}$: '…omne repugnans posito vel bene concesso vel bene concessis, vel opposito bene negati vel bene negatorum, in tempore positionis propositum est negandum, si non sit multiplex quando proponitur.'
28. See *MIE* 115.
29. See p.168, n.19.
30. See § 3.2.9.

nied',[31] from which Ockham concludes that the order in which the *proposita* are claimed by Opponent, and thus in which they are conceded, denied, or doubted by Respondent, is inferentially significant in the *positio*.

The example Ockham provides to illustrate this rule runs in the following way. (*i*) Opponent first posits 'Socrates runs', which Respondent grants. (*ii*) Then Opponent proposits 'Just this proposition is posited to you', which Respondent grants, as it is true and non-pertinent. (*iii*) Next, Opponent proposits 'Some false proposition is posited to you', to which Respondent also agrees, as it is non-pertinently true that more than one proposition has been posited to her. (*iv*) Finally, Opponent proposits 'Just this proposition is posited to you', which Respondent ought to deny, for much the same reason.[32]

To be sure, this example appears to be a poor choice on Ockham's part. The reason is that, strictly speaking, the second and third *proposita* do not have the same content, since the anaphoric antecedents of the deictic 'this' are clearly different. Be that as it may, however, I think that what Ockham has in mind here is the *non-monotonic* nature of the logic behind obligational disputations.[33] In a monotonic framework of reasoning, no new information can change the correctness of previous inferences.[34] But in a non-monotonic framework, as it is the case in that of *obligationes*, new information can indeed

31. *SL* III-3.41: 738[79s]: '…idem uno loco propositum est concedendum et si alio loco proponeretur esset negandum.'
32. See *SL* III-3.41: 738[80–6]: '…sicut posita ista propositione "Sortes currit", et proponatur ista "tantum ista propositio est tibi posita", haec est concedenda, quia vera est et impertinens. Si autem primo proponeretur ista "aliqua propositio falsa est tibi posita", ista esset concedenda, quia vera est et impertinens. Et si postea proponeretur ista "tantum ista propositio est tibi posita", esset neganda, quia repugnat posito et bene concesso.'
33. On non-monotonic reasoning, see Ginsberg 1987; Schlechta 2007. On its relation with inferentialism, see Brandom, *AR* 88–90.
34. That is, given that $\Gamma \vdash \alpha$, it follows that $\Gamma, \beta \vdash \alpha$ (where $\Gamma$ is a set of propositional variables, e.g. $\alpha, \beta$, etc.).

change the previous inferential commitments and entitlements of Respondent.[35]

(6) The sixth rule declares that if an indefinite proposition (say 'A man runs') has been posited and so appropriately claimed, Respondent should not then consent to a derived singular proposition (e.g. 'Socrates runs'). Ockham also points that if a disjunctive proposition has been granted (e.g. 'Socrates runs or Plato walks'), Respondent should not consent to either of the disjoined extremes. The reason for both branches of this rule is the same—the *propositum* simply does not follow from the *positum*, and thus Respondent's commitment to the former does not pass on to the latter.[36]

Lastly, (7) the seventh rule states that if a merely possible claim has been posited (e.g. 'It is possible that Socrates runs'), Respondent ought not to concede a derived necessary claim ('It is necessary that Socrates runs'), nor deny a derived impossible claim ('It is impossible that Socrates runs').[37] As with the former rule, this one can also be understood in terms of intrapersonal, intercontent inheritance commitments. For, since in neither case the consequence is a good one, in neither case Respondent's commitment to the posited antecedent is transferred to the proposited consequent.

As regards *positio impossibilis*, Ockham claims that most of the rules governing *positio possibilis* are still to be observed. His concern, however, is in offering

35. We have already seen a hint of non-monotonicity in Ockham's thought. As we may recall, in explaining the nature of intuitive cognition, he advanced the perplexing view that if the object of such cognition concurs in producing it, the resulting judgement is one of existence; but if it does not concur, the judgement is of non-existence. Thus, even if there is no reasoning proper involved here (for the intuitive cognition is not a premise in an inference whose conclusion is the judgement of existence), still, since Ockham usually considers the premises of an inference as causes of its conclusion, the following analogy is reasonable: just as $C_1$ produces by itself $E_1$, and that $C_1$ in concurrence with $C_2$ produces $E_2$ (where $E_1$ and $E_2$ are opposite effects), so too $\Gamma \vdash \alpha$, and $\Gamma, \beta \vdash \neg\alpha$.

36. See *SL* III-3.41: 738$^{89s,\ 93-5}$: '…concessa una indefinita, non oportet concedere aliquam singularem primo loco propositam. … Sic etiam disiunctiva est concedenda, et tamen neutra pars eius primo loco proposita est concedenda.'

37. See *SL* III-3.41: 738$^{96s}$: '…posito possibili numquam est necessarium negandum nec impossibile concedendum.'

a cogent explanation of what sorts of impossible *posita* can be granted in such a disputation. The details can be passed over here, as they do not bear on our current discussion.

The upshot of the foregoing overview, therefore, is that Ockham's theory of the *obligationes* can only be properly construed within a deontic framework of claim-commitment and claim-entitlement. It can be granted, of course, that the *application* of the distinct species of obligational disputation might be useful for investigating a whole range of discursive and non-discursive notions (the nature of doubt, the relation between the divine persons, etc). However, as Dutilh-Novaes has recently argued, the rationale behind the *ars obligatoria*, as explicitly shown in its rules, should be conceived of as a systematic approach to 'deontic scorekeeping attitudes and practices', as Brandom calls them.

Now how can we be sure that the deontic approach to the game of giving and asking for reasons is not an isolated feature of Ockham's theory of *obligationes*, but rather an essential requirement of his overall logico-semantic system? To answer this question, we must be impervious to the formalist dogma, as Sellars time and again advised us to do,[38] this time in its historiographic expression. For according to this dogma, the dialogical, multi-agent dimension of logic, from its very origin, has rightly been ancillary to the purely formal, mono-agent (or better, non-agent) dimension. And just as the logical formalist claims one-premised arguments to be mere enthymemes, i.e. defective syllogisms ancillary to formally valid ones, so too she claims dialogical logic to be at worst an atrophy of pure logic, and at best an appendage of it.

A few scholars, however, have striven to set straight this historiographic and, crucially, this conceptual blunder with regard to the nature of logic.[39]

38. See § 3.2.4, above.
39. See Kapp 1942, c.1; Hamblin 1970, c.2; Woods 2002, § 2.

Ernst Kapp, for one, has argued that the hard core of Aristotelian logic, contained mainly in the *Prior* and *Posterior Analytics*, can only be rightly understood within the context of dialogical argumentation, as expounded in the *Topics* and the *Sophistical Refutations*. Kapp's interpretation is founded upon the technical, historiographic point that the *Topics* precedes, both in execution and intention, the *Prior* and *Posterior Analytics*.[40] Accordingly, he argues that this priority indicates that it was 'this kind of syllogistic practice, not the abstract form of the syllogistical figures, which was in Aristotle's mind when he first formulated his definition [of the syllogism]'.[41]

We can extend Kapp's scholarly discussion with regard to the dialogical nature of the syllogism, in the case of Aristotle, so as to include the deontic nature of propositions, in the case of Ockham. Indeed, it is the logical formalist's short-sightedness that hinders us from fully appreciating that, both to Aristotle and to most of his ancient and medieval commentators, assertion and inference cannot be abstracted for the concrete instances of multi-agent argumentation in which they occur. Thus, as Brandom, Kapp's Aristotle, and our Ockham would agree, it is not the case that dialogical reasoning, in all its deontic and "enthymematic" dimensions, is subservient and parasitic to pure formal logic; it is rather more likely the other way around—formal logic stems from such dialogical reasoning, as a way of systematising and explicating the material features of dialogic claim-making and argumentation.

The results of this analysis are straightforward with regard to our present discussion. Because the distinctly normative rules of the *ars obligatoria* seek to systematise and explicate the naturally occurring normativity of dialogical claim-making and argumentation—and not to depict an artificially contrived game, alien to the "purity" of formal logic—it follows that such normativity

40. Kapp (1942: 7, n.3) cites the work of C.A. Brandis (1833) on this regard.
41. Kapp 1942: 16.

is intrinsic to the very acts of claiming and of arguing. Put simply, the game explicated by the multifarious rules of the genus of the *ars obligatoria* is precisely the game of giving and asking for reasons, that is, the game of rational, linguistic practice.

This conclusion is consistent with Ockham's interest in the concrete applicability of the rules of the *ars obligatoria* to theology and to the particular sciences, which mentioned already.[42] But it is consistent as well with Ockham's ubiquitous use of normative vocabulary all through his writings, as regards the propriety or lack thereof of a certain claim. For example, his use of '*debet*' or of the passive periphrastic voice ('*-ndum est*'), in order to indicate commitment to the consequences of a claim; or his choice of '*propositio*' over '*oratio*', and so on. Lastly, it is also consistent with Ockham's mature account of prosentential acts of judgement,[43] according to which an agent *out of her own will* assents to a certain propositional content, thereby undertaking a deontic attitude with respect to it.

## 5.6 Summary

To sum up, the theory of *obligationes*, as approached by Ockham and other scholastic logicians, ought to be construed as a framework for systematically studying deontic-scorekeeping attitudes and practices within a dialogical setting. It is important for us to acknowledge that this normative approach to claiming and arguing is not a rare peculiarity of obligational disputations, but *an essential trait of any and every linguistic act*. As a consequence, normativity is constitutive of claim-making and propositional meaningfulness. In the following chapters of this work, we will interweave this normative-dialogical framework into Ockham's account of inferential goodness.

42. See p.169, n.21, above.
43. See p.152, above.

CHAPTER 6

# CONSEQUENCES

## 6.1 Introductory

According to the normative picture of claim making which Ockham offers in his treatise on *obligationes*, the deontic statuses and attitudes on the part of the agents partaking in the game of giving and asking for reasons are constitutive of assertive intellectual acts. To *make* a claim is to undertake a commitment both to providing reasons for it and to embracing its possible consequences. By the same token, to *understand* a claim made by someone else is to attribute the appropriate deontic attitudes to her with respect to the conceptual content being claimed, that is, to commit oneself with a certain belief attribution, either *de dicto* or *de re*. If, for example, Jane makes the claim to John that Aristotle wrote the *Nicomachean Ethics*, she is thereby undertaking the commitment not only to providing the reasons for such a claim tokening (e.g. that Barnes himself told her so), but also to endorsing its possible consequences (e.g. that Russell certainly did not write that work). From the standpoint of the deontic scorekeeper, however, in a *de dicto* belief ascription, John attributes to Jane the commitment to the reasons he conceives that *she* purportedly has for her claim tokening, as well as to the consequences derived from it. On the other hand, in a *de re* belief ascription, John attributes to Jane the commitment to that claim tokening for the reasons *he* himself has for it, as well as to the consequences derived from it.[1]

1. For the distinction between *de re* and *de dicto* belief ascriptions, see § 3.2.9, p.125, above.

As can be seen, the intrinsic normativity of the act of claiming is ultimately expressed in the *inferential relations* obtaining to and from the claim's tokening. This is, to be sure, the core of the inferentialist approach to semantics—that the conceptual content of a claim is cashed out in the *propriety* of the inferential relations the claim is involved in. Deep down, therefore, meaning is inferentially expressed within a normative framework.

In this chapter we will see how, against the standard, formalist interpretation, Ockham systematically studied and embraced a certain kind of content-endowing consequence, whose correctness or goodness depends upon its very content rather than its form. While it may be true that he carried out as well the standard scholastic study of formal inferences, which in his account concerns syllogistic and non-syllogistic consequences, still these latter kinds of consequence correspond to different levels as regards the expressivist approach to language and inference.

## 6.2 The Nine Species of Consequences

Ockham divides the genus of consequences into the following nine species.[2]

1. Consequences (*a*) as-of-now (*ut nunc*), i.e. those which are good only during the time of assertion; or (*b*) simple (*simplices*), i.e. those which are good during all time.[3]
2. Consequences (*a*) *per medium extrinsecum*, i.e. those which are good by virtue of an extrinsic means only; or (*b*) *per medium intrinsecum*,

2. See *SL* III-3.1: 587–90.
3. For example: (1*a*) 'Every animal runs, therefore Socrates runs'; (1*b*) 'No animal runs, therefore no man runs'. In the first case, as Ockham explains (*SL* III-3.1: 587s), the consequence will fail to be good whenever Socrates is non-existent (viz. before he is born and after he dies), because it might still be true that every animal runs and at the same time that Socrates does not. This does not happen in the second case, as it is not possible that no animals run and at the same time that some men do run.

i.e. those which are good by virtue both of an intrinsic means and an extrinsic means.

3. Consequences (*a*) *formales*, i.e. those whose goodness depends upon the relevant connection between its parts; or (*b*) *materiales*, i.e. those whose goodness does not depend upon such a connection.
4. Consequences whose conclusion contains terms (*a*) of 1st intention, or (*b*) of 2nd intention.[4]
5. Consequences whose conclusion contains terms (*a*) having personal supposition, or (*b*) having non-personal (viz. material or simple) supposition.[5]
6. Consequences whose conclusion is (*a*) universal, or (*b*) particular.[6]
7. Consequences whose conclusion is (*a*) affirmative, or (*b*) negative.[7]
8. Consequences whose antecedent and consequent are (*a*) both affirmative, (*b*) both negative, or (*c*) of mixed quality.[8]
9. Consequences whose conclusion is (*a*) modal, or (*b*) non-modal.[9]

Scholars have called attention to the overt untidiness of this classification, as Ockham does not seem to care for the fact that it allows for specific overlapping. It is easy to see that a consequence belonging to species (1) will still belong to all eight other species. For instance, the consequence 'Socrates is running, therefore a man is running', which is a (1*a*)-species, is also a (2*a*)-, (3*a*)-,

4. For example: (4*a*) 'All men are white, therefore Socrates is white'; (4*b*) 'Animal is a species of body, therefore man is a species of body'.
5. The examples for species (4) apply here too.
6. (6*a*) 'All men are animals, therefore no non-men are non-animals'; (6*b*) 'All men are animals, therefore some animals are men'.
7. (7*a*) 'All men are animals, therefore some animals are men'; (7*b*) 'No men are stones, therefore no stones are men'.
8. (8*a*) 'All men are animals, therefore some animals are men'; (8*b*) 'No men are stones, therefore no stones are men'; (8*c*) 'All men are animals, therefore some animals are not non-men.'
9. (7*a*) 'Necessarily all men are animals, therefore necessarily some animals are men'; (7*b*) 'No men are stones, therefore no stones are men'.

(4*b*)-, (5*a*)-, (6*b*)-, (7*a*), (8*a*)-, and (9*a*)-species. Yet some combinations are not possible. For instance, a *consequentia materialis* (3*b*) cannot be an as-of-now (1*a*) consequence, for its goodness—as we will see in a moment—depends upon its main parts being always true (false) or necessary (impossible), which is not the case of as-of-now consequences. Technically speaking, therefore, all (3*b*)-species consequences are necessarily (1*b*)-species, but not the other way around.

This apparent disorderliness ought not be considered a shortcoming of Ockham's system. For the rationale behind this classification is not taxonomic exclusiveness but completeness, which is justified by the fact that for each minor division, Ockham provides a set of rules governing their specificity.

Our interest will be here in (3a)-species consequences, and particularly in (2a) ones, viz. *consequentiae formales* which are good by virtue of both an intrinsic and an intrinsic means. [Species (2*a*) and (2*b*) are the two subspecies of species (3a).] The reason is that all other kinds of consequences which Ockham endeavours to systematise, necessarily fall under species (3a), viz. *consequentiae formales*. Ockham's disregard for species (3b), viz. *consequentiae materiales*, as we will now see, stems from his definite concern with inferential relevance.

## 6.3 *Consequentiae materiales*

On Ockham's account, *consequentiae materiales* (or *consequentiae bonae gratia materiae*)[10] are those whose goodness (*bonitas*) stems exclusively from the material conditions of their antecedents and consequents, to wit, truth and

10. See *SL* III-3.1: 588s. Once again, we need to be reminded not to confuse Ockham's *consequentiae materiales* with Sellar's and Brandom's material inferences—of which we have treated before—or with the so-called 'material conditional' of 20th-century logic. That is why we will stick to the Latin name, in order to avoid confusion.

necessity, and not their general, formal conditions.[11] Ockham's examples for this class of consequences are the following: (*i*) 'If a man runs, God exists', (*ii*) 'A man is an ass, therefore God does not exist', (*iii*) 'You are an ass, therefore you are God', and (*iv*) 'You are white, therefore God is triune'.[12] These are instances of consequences in which the antecedent is impossible or is always false[13] [(*ii*) and (*iii*)]; or in which the consequent is necessary or is always true [(*i*) and (*iv*)]. We can hence conceive of *consequentiae materiales* as inferences the goodness of which is utterly independent of the *relevant* connection between their propositional parts; i.e. those in which the material conditions of the antecedent have no relevance as to the material conditions of the consequent. In (*i*), for example, the necessity of the consequent, and thus the goodness of the whole consequence, solely depends upon the signification of the terms 'God' and 'exists', both of which are in principle disconnected from

11. See *SL* III-3.1: 589[55–7]: 'Consequentia materialis est quando tenet praecise ratione terminorum et non ratione alicuius medii extrinseci respicientis praecise generales condiciones propositionum . . . '.
12. For the first two, see *SL* III-3.1: 589; for the two latter, see *SL* III-3.38: 731. See also *Exp. Perih.* II.2 (*OPh* II: 433s). Note that, whereas (*i*) is a conditional proposition proper and (*ii*)–(*iv*) are consequences proper, Ockham is clear that there is an intrinsic link between the two kinds of speech acts (so to say): a conditional proposition of the form 'If *p* then *q*' is true if and only if the consequence of the form '*p* therefore *q*' is good. (See *SL* II.31: 347, cited below in n.15.) Unfortunately, Ockham is not quite overt as to the difference between conditionals and consequences. However, it is likely that he would agree to Buridan's account of the matter. According to Buridan, whereas one who asserts a conditional proposition is not committed to either of its parts, precisely due to its conditional character, but only to the inferential relation expressed by it; by contrast, one who asserts a consequence does indeed commit herself to both antecedent and consequent, as well as to the inferential relation obtaining between them. (See J. Buridan, *Summa dialecticae*, § 1.7.1. See also Vaughan 2009: 245–57, where I have dealt at length with this issue, particularly from Walter Burley's perspective.)
13. Ockham is careful to detach temporal considerations from metaphysical modalities. Thus, whereas absolute (i.e. *de potentia absoluta*) necessity implies eternity (or immutability), the converse is not the case. See *SL* II.9: 275[72–4]: ' . . . de propositione necessaria est sciendum quod propositio non propter hoc dicitur necessaria quia semper sit vera, sed quia est vera si sit et non potest esse falsa.' See also *Praedest.*, q.2, a.4 (*OPh* II: 530[287–91]): ' . . . bene sequitur "ibi est necessarium, igitur est immutabile", et non e converso, quia omne necessarium est immutabile, et non e converso, nisi loquendo de illis immutabilibus quae sunt ipse Deus. Multa enim complexa sciuntur a Deo immutabilia, quae tamen non sunt necessaria sed simpliciter contingentia.' The temporal interpretation of metaphysical modalities has been advanced, in the case of Ockham, by Ernest Moody (1953, § IV.14; also 1967: 532). It has been challenged by Marilyn Adams (1987: 482–5), amongst others.

the signification of the subject and predicate term of the antecedent. As such, both this species of consequences and the rules governing it are of scant interest to the logician, as Ockham readily acknowledges.[14]

The reason why consequences with impossible (or always false) antecedents or with necessary (or always true) consequents are always good, is the following. It is Ockham's view that in any consequence, regardless of its kind, the antecedent is said to *entail* (*inferre*) the consequent.[15] Exactly how this entailment or consequential relation ought to be understood is ultimately explicated by means of the rules governing each species of consequence, as we shall shortly see. Minimally construed, however, we can say that a *bad* consequence—i.e. a set of non-inferentially related propositions—is one in which the antecedent is known to be true and the consequent is known to be false. For in such a case it is unreasonable to claim that the latter *entails* the former, the idea of such an entailment being that of the preservation of the antecedent's truth. Modally expressed, we can say that in any good consequence, regardless of its kind, it is impossible for the antecedent to be true while at the same time[16] the consequent be false.[17] Hence if in a consequence the consequent is necessary (or is always true), then the minimal, modal requirement as to the consequential relation has already been fulfilled, irrespectively of the

14. See *SL* III-3.38: 731$^{91s}$: 'Sed tales consequentiae non sunt formales, et ideo istae regulae non sunt multum usitatae.'
15. See *SL* II.31: 347$^{2-4}$: '… condicionalis aequivalet uni consequentiae, ita quod tunc condicionalis est vera quando antecedens infert consequens et non aliter ….'
16. Following a standard scholastic approach, Ockham distinguishes between *consequentiae simpliciter bonae* and *consequentiae ut nunc bonae*, i.e. those which are good at any time and those which are good only for a certain time. (See *SL* III-3.1: 587s.) In any event, therefore, the above-mentioned modal property of consequences holds true of both kinds.
17. *SL* III-3.38: 727$^{2-5}$: '… ex vero numquam sequitur falsum; et ideo quandocumque antecedens est verum et consequens falsum, consequentia non valet. Et haec est ratio sufficiens ad probandum consequentiam non valere.'

material conditions of the antecedent. The same considerations hold, *mutatis mutandis*, if the antecedent is impossible (or is always false).[18]

This is indeed the reason why the modal determinants of the inferential relation do not and cannot serve to specify the constitutive elements of such a relation.[19] They can only point at it from without, as it were. It is true, of course, that in no good inference can the antecedent be true while the consequent is false; but this modal fact does not tell us anything about what is it for the antecedent to entail the consequent.

It is therefore important for us to acknowledge that from the standpoint of an inferentialist semantics, Ockham's *consequentiae materiales* (as well as rules such as 'ex impossibili sequitur quodlibet' and 'necessarium sequitur ad quodlibet'[20] governing them) lack all deontic grounding. For suppose someone claims that $p$ is impossible (or always false). She thereby undertakes the commitment to the claim that $\sim p$ is necessary (or always true), and thus to all the consequences of application of such a claim. These consequences are indeed *incompatible* with the consequences of application of the claim that $p$ is impossible. Hence it is not true that everything follows from the impossible. The same argument can be rehearsed, *mutatis mutandis*, as regards the rule that everything entails the necessary. More crucially, since the inferential-

18. As a minimal requirement, of course, it is certainly useful in detecting *bad* inferences—an expedient quite commonly used by Ockham and other scholastics. To take but one of many examples, see *Exp. Elench.* II.7, § 8 (*OPh* III: $204^{104-6}$): 'Quod autem secundus discursus non valeat, patet manifeste; quia possibile est quod praemissae sint verae, conclusione existente falsa.'
19. Notice the parallel between this case and that of the signification relation. For just as modal supervenience (or lack thereof) of mental contents with respect to internal states cannot serve to underpin the nature of the relation that obtains between content bearers and their contents, and thus cannot serve to meaningfully classify theories of mental content (see our discussion of Greenberg's [2005] thesis in § 3.1, above); so, in the same way, the modal determinants of inferential relations cannot serve to underpin the nature of inferential relations or to meaningfully classify different logico-semantic theories as to them.
20. See *SL* III-3.38: $730s^{88-92}$.

ist jettisons the formalist dogma—that all good inferences are so, due to their being formally valid—and replaces it with the view that all and only good inferences are content-based, it is simply untenable that there be any good inference in which the content of the antecedent is irrelevant or inconsequential to the content of the consequent—as Ockham's and the medieval construal of *consequentiae materiales* holds. For the inferentialist, therefore, goodness of inferential relations is always relevance-founded.

## 6.4 *Consequentiae formales*

In view of the foregoing, it seems natural for Ockham to be rather focused on what he calls '*consequentiae formales*'. The main difference between this kind of consequences and the *consequentiae materiales* is precisely that the *formales* necessitate what Ockham calls a 'means' (*medium*) which ensures the relevant connection between antecedent and consequent. At least from the outset, therefore, it is clear that the *consequentiae formales* differ from the *consequentiae materiales* in that the former require something—a 'means' (*medium*), as Ockham calls it—in order to be good inferences. This medium, as we know, is lacking and entirely irrelevant for the goodness of the *consequentiae materiales*.

### 6.4.1 *Consequentiae formales per medium extrinsecum*

Ockham subdivides the genus of *consequentiae formales* into two species, as we noted before, depending on how the propositional parts of the consequence are relevantly related. The first species he calls '*consequentiae formales per medium extrinsecum*' (PME, hereafter), which are good by virtue of what he dubs an 'extrinsic means'. Extrinsic means are general rules governing the formal features of antecedent and consequent, which are in turn determined

by the kind and location of the syncategorematic terms within them.[21] Ockham also refers to PME consequences as those which are good by reason of the complex terms ('*ratione complexorum*'), i.e. the propositions, because their goodness does not stem from the fact that certain simple categorematic terms (*incomplexa*) embedded in them have a certain signification and not another.

For example, the consequence

(1) Only an animal is a man, therefore all men are animals

holds good by virtue of the extrinsic means

(2) The exclusive and the universal propositions, their terms being transposed, signify the same and are convertible.[22]

PME consequences are formal in the following technical sense: their goodness remains invariant upon the systematical substitution of their categorematic terms. Thus if for instance we replace 'man' with 'transistor' and 'animal' with 'flower', the resulting consequence will still hold good:

(3) Only a flower is a transistor, therefore all transistors are flowers;

and, more generally:

(4) Only an *A* is a *B*, therefore all *B*s are *A*s.

(1), (3), and (4) are all good precisely because they all share very same structure, established by the kind and location of the syncategorems 'only', 'therefore', and 'all'. That is to say, any proposition containing 'only' in subject position

21. See *SL* III-3.1: 588s; III-4.10: 795–7. Also *Ord.* I, d.4, q.1 (*OTh* III: 15s); *Exp. Elench.* II.7, § 8 (*OPh* III: 205).
22. *SL* III-3.1: $588^{33s}$: '…exclusiva et universalis de terminis transpositis idem significant et convertuntur.' Ockham also refers to this general rule at *SL* II.17: $305^{268s}$; III-3.42: $740^{39s}$; *Exp. Elench.* II.7, § 8 (*OPh* III: $205^{147s}$); *Ord.* I, d.4, q.1 (*OTh* III: $15^{5s}$).

('Only an *A* is a *B*') entails a proposition having 'all' in subject position, with the two categorematic terms being interchanged ('All *B*s are *A*s'); and the same holds true the other way around. The logical role of the extrinsic means (2) is therefore to express, at least in part, the meaning[23] of those syncategorems. More exactly, their function is to express the meaning of a certain sentence-types, in this case, a universal proposition and an exclusive proposition.

Yet before advancing any further, we need to address an important issue concerning the *meaning* and the conceptual *role* of logical expressions. Let us begin by recalling that according to inferentialism, two *non*-logical subsentential expressions have the same (derivative) meaning or conceptual content if only if they can be intersubstituted in sentences with the same meaning, that is, which share the very same inferential relations with all other sentences. For instance, in

(5) The author of the *Nicomachean Ethics* studied under Plato,

the subsentential expression

(6) the author of the *Nicomachean Ethics*

can be properly substituted by the expression

(7) the teacher of Alexander of Macedon,

thus obtaining

(8) The teacher of Alexander of Macedon studied under Plato.[24]

23. We are careful not to attribute *significatio*—in Ockham's technical jargon—to syncategorems, but rather attribute what we shall call 'meaning'. Syncategorematic terms do not have signification on their own because they cannot be truly predicated of anything (at least when used, not mentioned). (See *SL* I.4: 15–6.) In their constituting the logical vocabulary of a language, the role syncategorems play is *explicative*, not representational.
24. Admittedly, this is only the case when the subsentential expressions are read *de re*. If they are read *de dicto*, however, the inferential relations are likely to be different.

The reason, of course, is that the inference from (5) to (8), as well as the one occurring in the opposite direction, are both materially good.[25] In other words, the fact that propositions (5) and (8) share the very same inferential relations with all other propositions (i.e. the fact that they have the same meaning), entails that they ought to be understood as *substitutional variants* of each other against one same substitutional frame (viz. '$\alpha$ studied under Plato').[26]

Seen in this light, therefore, the question 'What is the meaning of a non-logical subsentential expression?' has to be always answered against a substitutional frame. So, for example, in determining what the meaning of the expression (6) is, one can indeed begin by pointing at other expressions such as (7), not simply because they are "synonymous" (however that be understood), but because they can both be inferentially substituted-in in the same substitutional frames. Still one has to remember that, strictly speaking, only sentential expressions have a freestanding meaning, and that, in consequence, subsentential expressions have but a derivative meaning, dependent on and as a function of their substitutional frames.

By contrast, *logical* subsentential expressions, as we discussed in a previous section,[27] work in an altogether different way. For whereas non-logical vocabulary plays a normatively framed, claim-making role (albeit a derivative one), logical vocabulary plays an explicative role. Put simply, logical words serve to make explicit, in a way or another, what is already implicit in ordinary, rational claim-making. To revisit our previous example, we can reasonably assume that someone who commits to (8) will also commit to (7), and vice versa. In-

25. In Ockham's account of PMI consequences— which we will address in § 6.4.2, below— this inference is licensed by the rule, '…a descriptione ad descriptum est consequentia bona et e converso' (*SL* III-3.6: 600[18s]).
26. For the notions of substitutional variant and substitutional frame, see esp. Brandom, *MIE*, c.6; *AR*, c.4. See also Wanderer 2008, c.6.
27. See § 3.2.7, p.122 above.

deed, these are material-substitution inferential commitments,[28] the goodness of which derives solely from the meaning of subsentential expressions (6) and (7), that is, from their being substitution variants of one another. Nonetheless, we can make explicit the commitment relation which obtains between them by means of the following inference:

(9) The author of the *Nicomachean Ethics* studied under Plato, *therefore* the teacher of Alexander of Macedon studied under Plato.

There is nothing new, admittedly, in consequence (9) that was not already present in propositions (8) and (7) (or more exactly, in the deontic status of someone's committing to one and the other). Hence the logical role of the expression 'therefore', in this case, is simply to bring into the open, as it were, a material-substitution inferential commitment.

Having addressed the question concerning the conceptual role of logical vocabulary, it remains to consider the question as to its meaning. In a way, the meaning of a subsentential expression *simpliciter* is the inferential commitment role it plays in a sentential expression. If this role concerns material-substitution inferential commitments, it is a non-logical expression; but if its role is *explicative*, in the sense just described, it is a logical expression. Yet this explicative role can and ought to be in turn expressed in a rule-governed fashion.[29] One way of doing this, though surely not the only one, is by means of Gentzen-style natural deduction (ND) rules.[30] As it is well known, a ND logical system is one whose semantics is laid down in terms of introduction and elimination rules for each logical operator. For instance,

28. On this concept, see esp. Brandom, *MIE* 372ss.
29. See esp. Sellars 2005, 2007b; Brandom, *MIE*, c.2, § V.
30. On the relation between the rules of ND and inferentialism, see Brandom, *MIE*, c.2; Brandom 2007; Peregrin 2012.

$$\frac{p \quad q}{p \wedge q}\ \mathrm{I}\wedge \qquad \frac{p \wedge q}{p}\ \mathrm{E}\wedge 1 \qquad \frac{p \wedge q}{q}\ \mathrm{E}\wedge 2$$

illustrate the introduction rule and the two elimination rules for the '$\wedge$' operator. The crucial thing to realise is that the meaning of '$\wedge$' is completely exhausted by and through these ND rules. Notice, finally, that the *meaning* of logical vocabulary is its very expressivist *role* with regard to discursive commitment claim-making. Thus, for instance, what the introduction rule of the '$\wedge$' operator says is that if someone is committed to a certain claim, and she is also committed to another claim, then she is thereby committed to both claims together.

Having cursorily examined these notions, at least to the degree required by our present purposes, we can now proceed with our analysis of Ockham's account of PME consequences. Let us begin by noticing that this account is sufficiently broad as to cover not only conversion inferences and other so-called 'immediate inferences' (contraposition, inversion, etc.), but also syllogistic inferences proper, suppositional descent and ascent relations, and the inferences which obtain between hypothetical and categorical propositions (through the so-called 'exponible propositions'). We shall now attempt a cursory survey of these four inference types.

#### 6.4.1.1 *Syllogisms*

It is Ockham's view that all syllogisms are ultimately governed by extrinsic means. He has in mind, of course, the Aristotelian rules of the *Dici de omni* and the *Dici de nullo* (hereafter DDO and DDN, respectively).[31] The DDO is explained in this way: '… when nothing is taken under the subject,

31. *SL* III-1.2: 362[32s]: '… omnis syllogismus immediate vel mediate regulatur per dici de omni vel per dici de nullo.'

which the predicate is not said of it'.[32] Running parallel, Ockham explains the DDN thus: '… when … it is denoted that whatsoever the subject is said of, of that the predicate is removed'.[33] Admittedly, these standard formulations seem to be all but readily recognisable rules, as scholars have long complaint.[34] Yet one should take into account the fact that Ockham's formulation of these principles—which follows the medieval logical tradition—is but an abbreviation, for expository and perhaps pedagogic purposes, of the extrinsic means governing 1st-figure syllogisms, and more precisely, the BARBARA and CELARENT moods. Accordingly, the DDO states that *concerning any universal affirmative proposition*, whatever is claimed of the predicate is thereby also claimed of the subject. So, for example, concerning the proposition 'All men are animals', whatever one claims about the predicate 'animals'—say, 'All animals are substances'—one also claims about the subject 'men'—to wit, 'All men are substances'. The DDN, in turn, does the same as regards any universal negative proposition.

Traditionally, these two principles have been understood as warrants of class inclusion, either extensionally or intensionally. In the extensional reading of the DDO, *supposita* of the subject term are wholly included in the set of the *supposita* of the predicate. (With respect to the DDN, the *supposita* are wholly excluded.) By contrast, in the intensional reading it is the sense or meaning of the predicate (or, for the realist, the *species*) that is wholly included (excluded) in the sense or meaning of the subject. Most scholars have taken Ockham as having committed himself to the first of these two readings. This is due in part to his explicit rejection of intensional containment (against

32. *SL* III-1.2: 363$^{41s}$: '… quando nihil est sumere sub subiecto, quin de eo dicatur praedicatum'.
33. *SL* III-1.2: 363$^{47-9}$: '… quando … denotatur quod de quocumque dicitur subiectum, quod ab eo removetur praedicatum.'
34. See e.g. Bocheński 1961, § 14.14; Geach 1980, § 56.

Scotus and Aquinas);[35] and in part to his purported extensional account of *significatio* and *suppositio*, according to which there is nothing in the "content" of a term apart from its extension.[36] However, as we have already argued,[37] the externalist-cum-extensionalist construal of Ockham's semantics is rather far-fetched. How, then, are we to render, from an inferentialist perspective, the DDO and DDN principles?

Inferentialism, let us recall, is decidedly a *sense* theory of meaning. This means that the inferentialist is immediately concerned with the thought expressed by an expression, rather than with the thing or things allegedly referred to by it. However, by contrast with classic intensional accounts, inferentialism provides a propositionalist approach to semantics. Thus, instead of concerning itself with the "sense of a term" and with how it is included in the "sense of another term", inferentialism zeroes in on the *thought* expressed by the proposition containing those terms. And this thought is cashed out in terms of the inferential relations obtaining to and from the proposition. Accordingly, how should the intensional inclusion claims prescribed by the DDO and DDN be understood?

We must begin by realising that the DDO and the DDN principles chiefly apply to the *major* premise of a categorical syllogism; not to the minor premise nor to the link between the two premises.[38] Inferentially speaking, therefore, what the DDO expresses is that whatever one commits to as regards the subject term of the major premise, one also commits to as regards the predicate term, because the sense of the subject wholly includes the sense of the predicate.

35. See § 1.4, pp.9–11, above.
36. Recall especially Panaccio's opinion: 'Since we are speaking of a simple absolute concept, what *we* call its "content" is nothing but its extension' (Panaccio forthcoming: 11; his italics).
37. See § 2.2.3, above.
38. It was Geach (1980, §§ 56s), as far as we known, the first to have unequivocally pointed out the centrality of the major premise as regards the meaning of these two principles.

Indeed, the deontic nature of this reading is nicely expressed by rules of the *ars obligatoria* such as this one:

> Everything which follows from the *positum*, or from the thing or things which have been well conceded, or from the thing or things opposite to what has been well denied, [and] which is known to be so, ought to be conceded if it is pro-posited.[39]

Suppose, for example, that we are committed to the following proposition:

(10) All human beings are mortal.

Let us ignore the predicate for the while being:

(11) All human beings are _____ .

What the DDO states, from an inferentialist perspective, is that our commitment to (11) necessitates our commitment also to, say,

(12) All women are _____ ,

regardless of what '_____' stands for in both propositions. The reason, of course, is that (11) materially implies (12); that is to say, any thoughts about human beings are also thoughts about women (though not conversely). Going back to (10), then, our commitment to it necessitates our commitment also to

(13) All women are mortal.

The logical function of a syllogism directly ruled by the DDO, for instance

(14) All human beings are mortal;
all women are human beings;
therefore, all women are mortal,

39. *SL* III-3.41: 737 (see n.25, p.25 above). See also de Rijk 1974: 106s; Walter Burley 1988, § 3.15; Paul of Venice 1988: 54s.

—in this case a BARBARA—is to make explicit the sense relations ultimately obtaining between the major premise and the conclusion. And these relations, let us underscore it, can be correctly explained only within a deontic—obligational—framework.

With respect to the DDN, however, one predicament seems to arise. For whereas the major premise of a syllogism ruled by the DDO expresses that the subject and predicate terms are intensionally related, what the major premise of a syllogism ruled by the DDN expresses, by contrast, is precisely their intensional *non*-relatedness. Consider, for example, the proposition

(15) No human beings are insects.

This universal negative proposition states that there is no intensional relation between the terms 'human beings' and 'insects'. How, then, are we to conclude something about the latter term, using the former as a syllogistic means?[40]

In order to answer this question, we must appeal to the notion of *material incompatibility*. As Brandom expresses it, 'two claims are materially incompatible in case commitment to one precludes entitlement to the other'.[41] In point of fact, this notion seems to be what Ockham and other scholastics had in mind with obligational rules of this sort:

> Whatever is incompatible with what has been posited or with the thing or things which have been well conceded, or with the opposite of the thing or things which have been well denied, ought to be denied during the time of *positio* ....[42]

40. This difficulty has long been pointed out by Leibniz scholars, with respect to the intensional interpretation of the CELARENT syllogism and its graphical representation. See e.g. Couturat 1901, c.1, § 19; Bradley Bassler 1998, § 3; Serrano 2006, §§ 8s.
41. Brandom, *AR* 44; see also *MIE* 190s.
42. *SL* III-3.41: 737 (quoted in n.27, p.171 above). See also de Rijk 1974: 106s; Walter Burley 1988, § 3.16; Paul of Venice 1988: 54s.

Accordingly, the inferentialist interpretation of the DDN declares that commitment to (15) underwrites a material-incompatibility commitment regarding this proposition-couple:

(16) _____ are human beings,
(17) _____ are insects.

This means that someone who commits to (16) is precluded from committing to (17), whatever their shared subject term actually be. But it also underwrites, in a derivative manner, a material-incompatibility commitment with respect to proposition-couples such as

(18) _____ are women,
(17) _____ are insects;

or with respect to

(16) _____ are human beings,
(19) _____ are bumblebees;

and so forth (where the '_____' tokens stands for the same term type in each proposition-couple).

If we put together a complete CELARENT, say

(20) No human beings are insects;
all women are human beings;
therefore, no women are insects,

we can discern the deontic aspect of the DDN in its inferentialist construal. For if one commits to the major premise, then whatever one claims further (in the minor premise) as regards its subject (the middle term), one is *eo ipso*

material-incompatibility committed to claiming as regards its predicate (the major term).

We can now grasp the PME character of syllogisms directly ruled by the DDO and by the DDN. If we are to understand 'extrinsic' in the negative sense of not constituting an additional premise—viz. an intrinsic means—in order for a consequence to be good, then all BARBARA and CELARENT syllogisms are trivially PME consequences. For all they require to be good are the extrinsic rules of the DDO and the DDN.

More interesting, however, is to understand why and to what extent these rules are *formales*. *Prima facie*, the goodness of a BARBARA or a CELARENT syllogism would seem to stem from its form. In other words, regardless of its matter—the, in a way, incidental signification of its major, minor, and middle terms—any syllogism displaying the very same structure will be valid. Indeed, it is this very structure that warrants that the relations of intensional (or, if one prefers, extensional) containment effectively obtain.

Nevertheless, the precisely normative manner in which we have construed the DDO and DDN principles points instead at another direction. For once we realise both the deontic dimension of claim making—as systematised by the medieval theory of *obligationes*—and its dialogic nature—as defended by Kapp and others in his reading of Aristotelian logic, which we endorse here also for Ockham's case—we are able to see that syllogistic goodness is merely the explication of certain kinds of discursive commitment with regard to a claim (the major premise), the predicate of which has been chosen to remain invariant. Technically speaking, if a player *A* in the game of giving and asking for reasons commits herself to a claim *p* of the form '*S* is *P*', then *A* herself or any other player can make use of a BARBARA syllogism β,[43] having *p* as its

43. A similar analysis can of course be made with respect to the corresponding CELARENT syllogism.

major premise, in order to express *A*'s commitment to a subset $\mathcal{C}$ of *p*'s consequences of application. $\mathcal{C}$ contains only claims of the form '$A_1$ is *P*', '$A_2$ is *P*', …, '$A_n$ is *P*'—the consequences of application of *p*'s tokening in which the predicate term '*P*' remains invariant. Notice that the importance of $\mathcal{C}$ comes from the fact that every one of its elements is a propositional inferior to *p*, thereby certifying that the terms '$A_1$', '$A_2$', …, '$A_n$' are all Porphyrian inferiors to '*S*'. Finally, notice that the expressive role of the minor premise of β is precisely to make explicit this very fact.

#### 6.4.1.2 *Conversions and Other Immediate Inferences*

In accordance with the Aristotelian tradition, Ockham distinguishes two broad classes of syllogistic consequences, depending on whether or not the DDO and DDN are by themselves sufficient to ground (or better, to *express*) their goodness; that is, depending on whether or not their goodness is immediately evident. The first class includes only the BARBARA and CELARENT moods of the first syllogistic figure. All other moods and figures, however, belong to the second class. As such, a syllogism belonging to this latter group must be shown to be actually reducible—through term conversion or other expedients—to one of the first class, in order to be shown to be good.

For instance, a 2nd-figure CAMESTRES such as

(21) All penguins are birds;
no human beings are birds;
therefore, no human beings are penguins,

can be easily transformed into a 1st-figure CELARENT by (*i*) transposing its premises and (*ii*) converting the new major premise,[44] thus:

44. See e.g. *SL* III-1.11: 393[8–10]: 'Et patet tales modus arguendi et reductio per conversionem per illam regulam: "Quidquid sequitur ad consequens, sequitur ad antecedens".'

(22) No birds are human beings;
all penguins are birds;
therefore, no human beings are penguins.

Besides simple conversion rules, another set of rules concerning propositional opposition is needed in order to account for *reductio per impossibile*, which is required, for instance, to transform a 2nd-figure BAROCO into a 1st-figure BARBARA.

Trivially again, these conversion and direct-inference rules can all be construed as extrinsic means. For, as with the DDO and DDN principles, the inferences based upon them lack no additional premises to be good. Yet these rules can also be shown to ultimately derive from the basic commitment management rules of the *ars obligatoria*. For example, if we are committed to the claim 'No *A* is *B*', we are thereby committed to its simple converse 'No *B* is *A*' also. Or if we are shown that our commitment to claim *p* entails some sort contradiction with respect to some overt or implicit collateral premises we are also committed to, we must thereby recant our previous commitment to *p* (thus committing ourselves to ~*p*) or to one or more of the collateral premises at stake.

In this way, therefore, Ockham shows that all good syllogisms are ruled by extrinsic means of some kind. In doing so, he subsumes the bulk of Aristotelian syllogistic theory under the much broader theory of consequences, thus displacing it, at least to some extent,[45] from the focus of attention which

45. The inclusion of syllogistic theory within consequential theory proper, however, does not entail the complete lack of importance of syllogistic reasoning within Ockham's system. Indeed, when discussing scientific demonstration, and in particular the so-called '*demonstratio potissima*', Ockham fully embraces the Aristotelian, syllogistic paradigm. (See *Ord.*, Prol., q.5 (*OTh* I: 158–77); *SL* III-3, *passim*. Cf. Webering 1953; Adams 1987a, § 12.2.)

logicians had traditionally granted it. In doing so, he concurs with Burley, Buridan, and Albert of Saxony.[46]

### 6.4.1.3 *Suppositional Ascent and Descent*

All rules precisely governing distributive syncategorems ('all', 'each', 'any', etc.), that is to say, governing the formal features of categorical propositions, are also extrinsic means.[47] Some of these rules belong to the part of supposition theory which scholars have dubbed the 'theory of descent and ascent'.[48] According to it, categorematic terms can be classified depending on the kind of personal supposition they display within a certain propositional context. This classification is ultimately cashed out in the kinds of inferences allowed to and from other propositional contexts not containing the original distributive syncategorems.[49]

Let us note in passing that Ockham's inferentialist approach to defining the modes of common, personal supposition was not the rule amongst terminist logicians. While he seems *prima facie* to agree on this approach with Burley

46. See e.g. Walter Burley 1955a, 207s; Jean Buridan unpublished, § 1.7.6; Albertus de Saxonia 1522, IV.7. Contrast this position with that, for instance, of Peter Abaelard: 'Quantum autem ad inferentiam sillogismi, que fit de duabus precedentibus propositionibus ad tertiam, nulla est coherentie habitudo necessario, sicut ⟨nec⟩ in illis consequentiis que formas tenent sillogismorum. Unde quia ita in se perfecte sunt huiusmodi inferentie ut nulla habitudinis natura indigeant, nullam ex loco firmitatem habent' (Petrus Abaelardus 1970, III.1: $256^{30-5}$).
47. This subject is covered by Ockham in his discussion on the kinds of categorical propositions (*SL* II.1–10) and on the kinds of personal supposition (*SL* I.69–77). Other terminists dealt with it in their treatises on syncategorematic words (see e.g. William of Sherwood 2012; Peter of Spain 1992; Walter Burley 1955a: 220–60).
48. See e.g. Spade 1988; 2007, c.9; Klima and Sandu 1990; Broadie 1993, § 3.III; Dutilh-Novaes 2008, § 2.1.2. See also Freddoso 1998, § 3.
49. Witness, for example: 'Suppositio determinata est quando contingit descendere per aliquam disiunctivam ad singularia; sicut bene sequitur "homo currit, igitur iste homo currit, vel ille", et sic de singulis' (*SL* I.70: $210^{19-21}$). 'Suppositio personalis confusa tantum est quando terminus communis supponit personaliter et non contingit descendere ad singularia per disiunctivam, nulla variatione facta a parte alterius extremi, sed per propositionem de disiuncto praedicato, et contingit eam inferri ex quocumque singulari' ($p.211^{44-8}$). 'Suppositio confusa et distributiva est quando contingit aliquo modo descendere copulative, si habeat multa contenta et ex nullo uno formaliter infertur' ($p.211^{62-4}$).

and Albert of Saxony, he parts ways with other terminists who embraced either syntactic rules[50] or truth-conditional expedients[51] in defining the different modes. However, if we examine in more detail the apparent agreement between Ockham and Burley in this regard, we will notice that the former appears to be interested in the propositional, and hence *inferential*, dimension of common, personal supposition, while the latter seems to be interested rather in its *representational* dimension. For even if Burley does discuss suppositional descent and ascent, the relation he endeavours to describe is that which obtains between the term concerned and the singular *entities* falling under it.[52] For Ockham, by contrast, the classification of the modes of common, personal supposition is a taxonomy of the kinds of inferential relations obtaining between certain kinds of propositions which contain general or common terms, on the one hand, and propositions which contain singular or discrete terms, on the other; it thus concerns a word-word, or better, a proposition-proposition relation. On the other hand, for Burley and for other terminists, it is a classification of the kinds of representational relation obtaining between common terms and singular objects; hence it concerns a word-world relation.

Admittedly, there is an ontological angle to this discussion. In the realist Burley's view, whereas the *significatum* of a general term is the real, universal entity denominated by it, its personal *supposita* are the singular entities falling under that universal entity. In this realist sense, therefore, suppositional de-

50. See e.g. Peter of Spain 1972, VI.8: 82$^{14-6}$: 'Determinata suppositio dicitur quam habet terminus communis indefinite sumptus vel cum signo particulari, ut "homo currit" vel "aliquis homo currit".'
51. See e.g. Jean Buridan unpublished, § 4.3.5: 'Vocatur autem suppositio "determinata" alicuius termini si necesse sit ad ueritatem propositionis in qua ponitur uel talis propositionis in forma quod ipsa sit uera pro aliquo determinato supposito, ut si ista sit uera "homo est albus", oportet quod sit uera pro isto homine et isto albo uel pro illo homine et illo albo, et sic de singulis.'
52. See e.g. Walter Burley 1955b, I.1.IV: 24$^{34-7}$: 'Suppositio confusa et distributiva mobilis et absoluta est quando sub termino habente talem suppositionem *continget descendere absolute ad quodlibet suppositum* illius termini virtute distributionis …'.

scent and ascent are word-world relations. By contrast, Ockham's anti-realism with respect to universals finds its semantic expression in his rejection of the realist theory of signification. For him, as we have already argued,[53] signification is a propositional property inasmuch as it is essentially tied to supposition, which can only occur within a propositional context. Accordingly it would seem that signification and supposition are not word-world but *proposition*-world relations. However, just as single categorematic terms cannot be conceived of as representing entities,[54] so too, single propositions cannot be thought of as representing states of affairs.[55] The remaining option is, therefore, that signification and supposition are *proposition-proposition*n relations, that is, *inferential* relations.

From an inferentialist perspective, Ockham's account of the modes of common, personal supposition can be understood as a systematisation of the PME relations which obtain between two different classes of propositions—(*i*) propositions which do *not* contain anaphoric expressions essentially, and hence do not contain proper and singular terms (e.g. 'All men are mortal'), and (*ii*) propositions which *do* contain anaphoric expressions essentially ('This man is mortal' or 'Socrates is mortal'). The point we want to underscore here is that the extrinsic rules which govern this kind of PME consequences serve to explicate the meaning of class-(*i*) propositions and, derivatively, of the distributive syncategorems contained therein. And, by the same token, that the logical role of such syncategorems is to make explicit a special class of discursive commitment.

53. See § 4, p.132.
54. The reason for this is that, as we have already argued in § 2.2.3, intuitive and abstractive cognitive acts are defined by Ockham *in abstracto* from their cause, that is, their object.
55. This is an upshot of Ockham's prosentential account of truth which, unfortunately, we cannot develop in this work. See p.169, n.21, above.

Ockham indicates, for example, that whenever the subject term of a proposition has determinate, common supposition (*suppositio communis determinata*),[56] one can descend from that proposition to a disjunctive proposition of its singulars in the following manner:

(23) A man is an animal; therefore this man is an animal, or that man is an animal, or that other man is an animal, etc.

Conversely, one can ascend from any of such a singular proposition to a general one, for example like this:

(24) That man is an animal, therefore a man is an animal.

Ockham explains the inferential moves involved above in the following passage:

> … whenever it is possible to descend from a [proposition containing a] common term to its singular [propositions] by means of a disjunctive proposition, and from each singular [proposition] that [original] proposition is inferred, then that term has determinate, personal supposition.[57]

Notice that both (23) and (24) are PME consequences, in that their goodness stems immediately from the general features of the propositions, as expressed by Ockham's supposition rule. That is to say, a uniform substitution of the concerned categorems ('man' and 'animal') will preserve the consequence's original goodness.

56. See *SL* I.70: 210.
57. *SL* I.70: 210$^{20-31}$: '… quando sub termino communi contingit descendere ad singularia per propositionem disiunctivam, et ex qualibet singulari infertur talis propositio, tunc ille terminus habet suppositionem personalem determinatam.' (The context makes it clear, I believe, that Ockham is alluding to propositions rather than to things. Ockham's use of 'singularia' here can only refer to singular propositions, for he is specifying that one can *infer* from them another proposition, viz. one whose subject term has determinate supposition.)

Within a deontic, inferentialist framework, however, suppositional, inferential relations can be understood as follows. The logical function of distributive syncategorematic vocabulary ('all', 'some', and the like), is—at least in part—to express commitment relations to or from claims regarding collections of singular entities. A commitment to a claim, for instance, whose subject term has common, determinate supposition ('An/some *A* is *B*') expresses a commitment to (and formally entails) claims of the form 'This *A* or that *A* or that other *A* or … is *B*'. The rules of suppositional ascent and descent, therefore, serve to make explicit these deontic relations of formal entailment.

#### 6.4.1.4 *Hypothetical propositions*

The semantics of hypothetical propositions conforms as well to this inferentialist scheme. In a way, the simplest case is that of conditional propositions. (Yet, as we shall see in a moment, conditionals are a class of their own within hypotheticals.) In Ockham's account, a conditional proposition is true only if the consequence it expresses is a good one.[58] For example, a PME consequence such as

(25) All men are mortal, therefore this man is mortal

is *expressed* by the conditional proposition

(26) If all men are mortal, then this man is mortal.

Notice that, according to this view, the conditional (26) is true *because* it expresses the consequence (25)—a good inference in its own right—but not

58. *SL* II.31: $347^{2-5, 14-8}$: '… condicionalis aequivalet uni consequentiae, ita quod tunc condicionalis est vera quando antecedens infert consequens et non aliter …. Est etiam sciendum quod ad veritatem condicionalis nec requiritur veritas antecedentis nec veritas consequentis ….' Ockham often uses the terms 'consequence' and 'conditional' somewhat loosely, as in *SL* III.3: 42: $739^{7-10}$, for example: 'Similiter multum refert ponere istam propositionem "Deus non est Deus" et inferre istam *consequentiam* "si Deus non est, Deus non est Deus"; propter quod *ista condicionalis sive consequentia* concedenda est ….'

the other way around. The consequence simply makes explicit a certain inferential relation which purportedly obtains between two or more claims. Yet whenever the conditional is true, its corresponding consequence is good, and vice versa. This biconditionality concerns the semantic relation, not the pragmatic—and causal—one, which obtains between conditionals and consequences.[59] Moreover, we could certainly add that just as (25) is immediately good by virtue of a certain extrinsic means, (26) is true also by virtue of such a means, albeit in an indirect way. Nevertheless, Ockham refrains from describing the relation in this manner.

In accordance with the standard terminist approach of his time, Ockham distinguishes between categorical and hypothetical propositions, that is to say, between what we would nowadays dub 'atomic' and 'molecular' propositions, respectively. Accordingly, hypothetical propositions are molecular, relatively speaking, in that they are made up of categorical propositions. In doing so, they express a certain relation of coordination or subordination between their categorical parts. Ockham discusses six species of hypotheticals:

59. Ockham recognises a semantic distinction between conditional propositions and the categorical propositions which happen to be semantically related to them. He believes that in spite of 'If something is an *A*, then something is a *B*' being semantically related to 'All *A*s are *B*s', one's commitment to the former does not entail one's commitment to the latter. This, to be sure, is the reason why Ockham denies the orthodox Aristotelian doctrine according to which *per se*, universal predication is not (*de potentia absoluta*) necessary. For example, 'All men are animals' (or 'A man is an animal') can only be true if there exists at least one man—a contingent fact indeed. But 'If something is a man, therefore something is an animal' can be necessary and *a fortiori* true, since for that it requires no existing men. (See *SL* I.26: 87–9.) Ockham often appeals to this semantic distinction whenever he wants to discuss conceptual relations without being immediately committed to their *relata*. For example, when discussing the proposition 'Straight and equally distant lines which extend infinitely, never meet', he argues that it ought to be construed in the following conditional way: 'If straight and equally distant lines were infinitely extended, they would never meet' (*Exp. Phys.* III.15, § 5 [*OPh* IV: 585]). The reason is that, as he explains, 'the truth of the antecedent is not required for the truth of a conditional'. Considered from an inferentialist perspective, this means that commitment to a conditional does not entail commitment to its antecedent (which would indeed occur were one committed to the original categorical).

conjunctive (*copulativae*), disjunctive, conditional, causal, temporal, and locative propositions.[60]

He expounds the semantics of conjunctive and disjunctive propositions in what most scholars have taken simply to be a truth-functional manner. With respect to conjunctives, for example, he declares:

> … for the truth of a conjunctive proposition it is required that both parts be true. Therefore, if any part of the conjunctive is false, then the conjunctive proposition itself is false.[61]

Nevertheless, Ockham's prosentential account of truth,[62] together with the obligational framework he endorses, prescribe that this and similar passages be understood in terms of normatively inscribed assertive acts. If this is correct, the previous passage could be rendered in the following way:

> Whenever someone commits to a conjunctive claim, she is thereby underwriting a commitment to every single claim contained in the conjunctive. Therefore, if she commits to some but not to each and every claim of a series, she does not become thereby committed to the conjunctive proposition which contains the whole series.

Disjunctive propositions can be construed in similar lines.

Ockham's *prima facie* truth-functional description, as well as our own prosentential, normative rendering of it, underwrite the goodness of PME consequences like these:

(27) *p* and *q*, therefore *p*;

60. See *SL* II.31–7.

61. *SL* II.32: 358$^{10-2}$: 'Ad veritatem … copulativae requiritur quod utraque pars sit vera, et ideo si quaecumque pars copulativae sit falsa, ipsa copulativa est falsa.' (Trans. William of Ockham 1980: 187.)

62. As we mentioned previously (see § 3.3, above), we were forced to leave out from this thesis our proposal regarding Ockham's account of truth. Let us simply say the following, however. From Ockham's rejection of the realist theory of truth— according to which the truth of a proposition is a real accident, distinct from but the proposition buy inhering in it—quite naturally follows a prosentential theory of truth. According to Ockham, to say that a proposition is true, is nothing else that to simply claim it (in the strong, normative sense of an obligation *pro-positio*). (See esp. *Exp. Perih.*, Prol., § 12 (*OPh* II: 376); c.6, § 5 (*OPh* II: 413s); *SL* I.43: 128–32; *Quodl.* V.24: 574–82.)

(28) *p* and *q*, therefore *q*;

(29) *p*, therefore *p* or *q*;

(30) *q*, therefore *p* or *q*;

The inferentialist appraisal of logical connectives such as 'or' and 'and' can be accounted for in a twofold manner. On the one hand, their meaning is expressed through inference-rules such as the previous ones. Indeed, (27) and (28) can be understood as Gentzen-style introduction rules for 'and', just as (29) and (30) can be understood as elimination rules for 'or'.[63] On the other hand, their logical role is to make explicit certain kinds of discursive commitments and entitlements. For instance, in making the claim 'Paul wrote the music and John wrote the lyrics', one is indeed making explicit one's commitment to both 'Paul wrote the music' and 'John wrote the lyrics'. Now these are actually two sides of the same coin, as we discussed before. This is because, since 'and' and 'or' are pieces of subsentential logical vocabulary, their very meaning is the expressive task they play within a discursive framework of normative attitudes and statuses.

We mentioned above that conditional propositions can serve as the simplest expedient to illustrating the inferential properties of hypothetical propositions; but that, in a way, they also constitute an exception within their genus. Let us now see why. The *meaning* of a conditional, that is, what it conveys or

63. Using the *obligatio* framework, we can formulate the 'and'-introduction rule like this: 'If during the time of the *obligatio*, Respondent agrees to "*p*", and at another time she agrees to "*q*", then she is obliged to agree to "*p* and *q*"'. The 'or'-elimination rule, however, is a bit more sophisticated, as it makes use of the so-called 'logical dilemma'. One rendering could proceed as follows: 'If (*i*) during the time of the *obligatio*, Respondent agrees to "*p* or *q*", and, if (*ii*) at a later time she agrees both to the consequence "*p*, therefore *r*" and to the consequence "*q*, therefore *r*", then (*iii*) she is obliged to agree to *r*.' (We could still try to "reduce" the expression 'the consequence "ϕ, therefore ψ"', in this formulation, be means of the paraphrase 'having agreed to "ϕ" she is thereby obliged to agree to "ψ"', or something to that end. Yet this serves, I hope, to convey both the main point of the formulation and the power of the *obligatio* framework.)

expresses, is but the very consequence it corresponds to. Moreover, the *relation* that obtains between a conditional and its corresponding consequence is itself an inference. In other words, the question '*What* is the meaning of a conditional?' and the question '*How* does a conditional mean?' are both to be answered in inferential terms. Recall, for example, proposition (26), which expresses or means consequence (25), precisely *because* the former entails (and is entailed by) the latter. This characteristic is peculiar only to conditional propositions, to be sure. Conjunctive, disjunctive, causal, locative, or temporal propositions, let alone implicit hypotheticals, are *not* conjunctively, disjunctively, causally, locatively, temporally, or howsoever related to their respective primary meanings, but *only inferentially*.

The inferentialist answer to the question 'What is the meaning of a conjunctive proposition?', or equivalently, 'What is the meaning of the sentential operator "and"?',[64] is given in terms of the joint commitment and/or entitlement to the propositional constituents of the conjunction. These deontic statuses, as we have seen, can be made explicit by means of the logical vocabulary used in overly inferential claims.

Moving on, Ockham divides the genus of hypothetical propositions into two species—explicit and implicit hypotheticals. Explicit hypotheticals are, as expected, those which overtly coordinate or subordinate in some way or another a series of categorical propositions. Implicit hypotheticals are those

64. When 'and' is a term rather than a sentential operator, the proposition is not really a conjunctive one but a categorical with a conjunctive subject or predicate. In many cases, however, its meaning can be expressed by means of a conjunctive proposition. Thus, '*A* and *B* are *C*' PME-entails (and is PME-entailed by) '*A* is *C* and *B* is *C*'. This is only possible whenever the predicate can be attributed to both subjects. But there are cases in which it is not the case, as in 'John and Paul wrote the song together'. Similar considerations apply to the predicate. '*A* is *B* and *C*' can sometimes PME-entail (and be PME-entailed by) '*A* is *B* and *A* is *C*'. But whenever the parts of the predicate denote a certain unity, this analysis does not obtain. Witness 'This sweater is black and blue', for instance, which cannot mean 'This sweater is black and this sweater is blue'.

which *prima facie* seem to be categoricals, but which are really covert hypothetical. They are called as well 'exponible propositions' because, as we will see, their meaning has to be exposed or expressed through a series of inferential relations which obtain with other propositions. As Ockham puts it,

> … every categorical proposition which implies several categorical propositions that, as it were, expound it, i.e. express what that proposition conveys in virtue of its form, can be called a proposition which is equivalent to a hypothetical.[65]

It is important for us to realise the overt inferentialist approach adopted by Ockham with respect to implicit hypotheticals. What he is actually claiming here is that the meaning of such kind of propositions, and derivatively of the key syncategorems embedded in them, is expressed by a series of propositions, PME-entailed by the hypotheticals. (Or, to be precise, it is expressed through the *inferential relations* obtaining between the hypotheticals and their so-called 'exponents'.)

Let us consider, for example, the following reduplicative proposition:

(31) Socrates *qua* man is coloured.[66]

The meaning of (31), Ockham says, is expressed by the following four propositions:[67]

(32) Socrates is coloured,

(33) Socrates is a man,

65. *SL* II.11: 279$^{5-8}$: ' … quaelibet categorica ex qua sequuntur plures propositiones categoricae tamquam exponentes eam, hoc est exprimentes quid illa propositio ex forma sua importat, potest dici propositio aequivalens propositioni hypotheticae'. (Trans. William of Ockham 1980: 115.)
66. *SL* II.16: 290$^{32}$: 'Sortes inquantum homo est coloratus'. Freddoso and Schuurman's English rendering gives away the hypothetical character of this reduplicative: 'Socrates inasmuch as he is a man has a color' (see William of Ockham 1980: 125–31). I have chosen the '*qua*'-formulation, as well as the term 'coloured' rather than the paraphrase 'has a colour', in order to better reflect the syntax of the original.
67. See *SL* II.16: 290.

(34) Every man is coloured,

(35) If a man exists, then something coloured exists.[68]

Schematically, for a reduplicative proposition of the form '*S qua R* is *P*', its meaning is exhausted by the following four inference-rules:

(36) *S* is *P*,

(37) *S* is *R*,

(38) Every *R* is *P*,

(39) If an *R* exists, then a *P* exists.

This is the case, Ockham believes, with respect to propositions which are reduplicative due to concomitance ('gratia concomitantiae'), that is, with propositions in which the attribute referred to by the *qua*-clause ('super quod cadit reduplicatio') and the attribute referred to by the predicate term are habitually found together in the same subject. In the example at hand, Socrates is coloured because having colour and being a man are attributes frequently conjoined. With respect to propositions which are reduplicative due to causation ('gratia causae'), however, Ockham claims that besides the previous four, another exponent proposition is required—one which expresses the causal relation obtaining between the predicated term and the term of the *qua*-clause.[69]

Besides reduplicative propositions, Ockham thinks that all categorical propositions which contain connotative terms (connotatives proper, negative terms, and relative terms) ought to be taken to be hypothetical propositions

68. Or 'If *a* is a man, then *a* is coloured' (*SL* II.16: 290$^{34-5}$). Notice once again that, apparently in Ockham's mind, there is no intersubstitutability between a universal, non-modal proposition of the form 'Every *A* is *B*' and a conditional proposition of the form 'If *a* is *A*, then *a* is *B*'.

69. See *SL* II.16: 290$^{38-57}$.

disguised as categoricals, and thus whose meaning has to be accordingly expounded.[70] He also includes in this class exclusive propositions (e.g. 'Only a man is an animal'[71]); exceptive propositions (e.g. 'Every man except Socrates is running'[72]); and incipient and desinent propositions (e.g. 'Socrates begins to be white' and 'Socrates ceases to be white'[73]), amongst others. In any event, however, the meaning of the logical subsentential expressions governing these kind of propositions ('*qua*', 'except', etc.) is exhausted by inference-rules such as (36)–(39).

Let us sum up now the substance of this section. We have seen that Ockham considers four species of inferences as belonging to the class of PME consequences—syllogisms proper, conversions and other immediate inferences, inferences due to suppositional ascent and descent, and inferences obtaining to and from hypothetical suppositions (both explicit and implicit). Traditionally, Ockham's PME consequences have been simply construed as inference which are good by virtue of an extrinsic means, and, as a result, irrespectively of the material occurrence of categorematic terms within the propositional parts of the consequences. (This class thus contains all inferences customarily pigeonholed as "formal".) Yet in contrast with this formalist reading, we have defended here an inferentialist construal of PME consequences, framed by the normative relations prescribed by the medieval theory of *obligationes*, as embraced by Ockham. In general, we argue, the claiming or tokening of a PME consequence makes explicit a series of discursive commitments with regard to other kinds of claims.

70. See *SL* II.12–4.
71. *SL* II.17: 297[41]: 'Tantum homo est animal'.
72. *SL* II.18: 308[23]: 'Omnis homo praeter Sortem currit'.
73. *SL* II.19: 311[14]: 'Sortes incipit esse albus'; 313[68]: 'Sortes desinit esse albus'.

### 6.4.2 *Consequentiae formales per medium intrinsecum*

The second division of the *consequentiae formales* is that of the *consequentiae formales per medium intrinsecum* (PMI, hereafter), as Ockham refers to them. As with their PME counterparts, PMI consequences require an extrinsic means in order to be good; yet in contrast with them, the extrisic means is *not* sufficient by itself to warrant the relevant link between its antecedent and consequent. Hence PMI consequences require also an 'intrinsic means', by virtue of which the propositional parts of the consequence become *materially* linked. It is this material aspect of PMI consequences that we are interested in here. Yet whereas the extrinsic means of PME consequences serves to express the meaning of the logical vocabulary—the syncategorematic terms—contained in them, inasmuch as this meaning is directly related to the expressive role of such vocabulary, the extrinsic means governing PMI consequences serves to express the meaning of the non-logical vocabulary—the categorematic terms—essentially embedded in them. For convenience, we will dub 'syllogistic extrinsic means' (SEM, for short) the first kind, and 'non-syllogistic extrinsic means' (NSEM) the second one.

Let us begin our analysis by considering an example. According to Ockham, the consequence

(40) Socrates is not running, therefore a man is not running

obtains (*tenet*) by virtue of the intrinsic means

(41) Socrates is a man.[74]

74. *SL* III-3.1: 588s$^{40-4}$.

But why is this so? According to the formalist interpretation of PMI consequences,[75] the goodness of (40) ultimately stems from its being an enthymeme which actually falls under a valid syllogistic schema. In this manner, the intrinsic means (41) serves as the implicit minor premise of this 3rd-figure syllogism:

(42) Socrates is not running;
Socrates is a man;
therefore, a man is not running.

More generally—so the formalist interpretation goes—*all* good consequences are ultimately valid by virtue of one or more extrinsic means. The reason is that, on this account, consequential goodness is equated with formal validity, the grounds of which are provided by syllogistic or other sorts of extrinsic means. As regards PMI consequences, in particular, they ought to be ultimately reduced to consequences which are valid by virtue of SEMs (the DDO and the DDN principles) in order to prove good. All good PMI consequences, therefore, are valid precisely inasmuch as they can be reduced to valid syllogisms.

Ockham's insistence on the *truth* of the intrinsic means (41) as a foundation for (40)'s goodness would seem to point at that direction. Indeed, as Ockham explains, he calls the means 'intrinsic' because, when added to the antecedent, together they syllogistically entail the consequent.[76] Hence the means is said 'intrinsic' in the sense of essentially partaking in a syllogistic scheme (*discursus*).

75. See e.g. C. Normore 1974, c.5; Boh 1982: 310; W. Kneale and M. Kneale 1984: 289; Adams 1987a: 197; Stump 1989b: 253s.
76. See *Exp. Elench.* II.7, § 8 (*OPh* III: 205[137–41]).

Ockham seems to have explicitly embraced this reductionist construal of PMI consequences in at least two places of his works, in both instances with respect to the correct appraisal of certain kinds of fallacious arguments. The first one is found in Part II of the *Expositio super libros Elenchorum*.[77] Ockham examines there the case of a sort of PMI consequence which appears to commit the fallacy of Affirming the Consequent (*fallacia consequentis*), yet when properly reduced to a valid syllogistic schema, it is ultimately shown to be formally valid, though materially flawed.[78]

For example, the consequence

(43) Every man is running, therefore every animal is running

appears to commit such a fallacy. For it is not because every man is running that every animal is running, but rather the other way around. However, if one properly reduces it to the following syllogism:

(44) Every man is running,
every animal is a man,
therefore, every animal is running,

one immediately notices that no formal (*extra dictionem*) fallacy is really committed, but instead that the enthymematic minor premise is actually false.[79]

77. *Exp. Elench.* II.10, § 2 (*OPh* III: 263s).
78. However, if the reduction renders a fallacious syllogism as well, the resulting fallacy would have been shown to be one of accident and not that of affirming the consequent. See *SL* III-4.12: 827$^{31-5}$: '…quando est fallacia consequentis etiam in enthymemate, et illa consequentia reducitur in figuram debitam, si remaneat fallacia consequentis in illo discursu composito ex propositionibus dispositis in figura, erit non solum fallacia consequentis, sed etiam erit fallacia accidentis.'
79. See *Exp. Elench.* II.10, § 2 (*OPh* III: 263$^{31-3}$): '…enthymema si reduceretur in syllogismum, non esset fallacia aliqua in illo syllogismo, set tantum ille syllogismus peccaret in materia et non in forma.' A similar argument is advanced also in *Exp. Elench.* II.11, § 12 (*OPh* III: 274) and in *SL* III-4.12: 827.

The second place where Ockham appears to subscribe to the reductionist account is in Part III-3 of the *Summa logicae*,[80] with respect this time to the fallacy of *Secundum quid*. Take, for instance, the consequence

(45) Socrates is running fast, therefore Socrates is running,[81]

and compare it with the following one:

(46) Socrates is a dead man, therefore Socrates is a man.[82]

According to Ockham, there is no fallacy in (45), whereas in (46) there is a fallacy of *Secundum quid*. But how to tell for sure? In his opinion, if one reduces both enthymemes to their corresponding syllogisms, one can determine if they are good or not.[83] So whereas this is a good 2nd-figure syllogism:

(47) Everything which is running fast is running;
Socrates is running fast;
therefore, Socrates is running,

the same is not true of this one:

(48) Every dead man is a man;
Socrates is a dead man;
therefore Socrates is a man,

since it is materially defective (*peccat in materia*) even if it is formally correct.

In both passages, therefore, Ockham appears to champion the reductionist, enthymematic construal of PMI consequences. For in both cases he appears

80. See *SL* III-3.6: 605.
81. *SL* III-3.6: 605[16–18]: 'Sortes currit velociter, igitur Sortes currit.'
82. *SL* III-4.13: 832[5–8]: 'Sortes est homo mortuus, igitur Sortes est homo.'
83. See *SL* III-3.6: 605[155–7]: 'Possunt enim omnia talia enthymemata reduci in syllogismum per assumptionem talis propositionis quae est medium intrinsecum talis consequentiae.'

to be claiming that syllogistic validity is the ultimate bar of logical goodness for PMI consequences.

Now if the formalist construal we have just outlined is essentially right, it is clear that our inferentialist interpretation of Ockham's logico-semantic system cannot be adequate. For since the goodness of PMI consequences ultimately hinges upon their being subsumable under a valid syllogistic schema, as the formalist interpretation claims, it follows that their goodness depends upon their form and not their matter. Thus the very *meaning* of their propositional constituents, and derivatively the distinctive signification of their *categoremata*, is at best secondary and at worst downright irrelevant to their goodness. Granting, therefore, that inferential goodness is only a matter of propositional *structure* (determined for the most part by their *syncategoremata*), it follows that the *content* of sentence tokenings (and derivatively of their *categoremata*) cannot be explained by appealing to inferential relations—as inferentialism purports.

It is therefore crucial for us to provide an inferentialist construal of PMI consequences which not only offers a sound explanation of Ockham's position, but which does justice to the two passages alluded to above.

Let us hence begin by noticing that the goodness of a PMI consequence can be seen as depending upon one or more of the following three kinds of consequential means. First, it may depend upon an intrinsic means which—according to the formalist interpretation—serves as an enthymematic premise to complete a syllogism. Second, it may rest depend one or more SEMs governing such a syllogism (DDO, DDN, conversion,[84] etc.). And finally, it may

84. We include here conversion and other immediate inferences because, as we discussed above (see § 6.4.1.3, pp.198ss), they govern the goodness of 2nd- and 3rd-figure syllogisms.

depend upon a NSEM which somehow explains the inferential relation that obtains between the antecedent and the consequent of the PMI consequence.

Consider again consequence (40) (see p.210 above). As we mentioned, Ockham declares that (40) obtains because intrinsic means (41) is true.[85] By exploiting and stressing this fact, the formalist interpretation naturally claims that *it is because intrinsic means (41) completes the 3rd-figure syllogism (42)* that (40) is in the last analysis good. Moreover, since syllogism (42) is itself governed by the DDN and by simple conversion,[86] the goodness of consequence (40) is ultimately dependent upon those two SEMs. Under this interpretation, therefore, intrinsic means (41) is required for consequence (40)'s goodness, only inasmuch as it completes syllogism (42); that is to say, only inasmuch as it provides the "logical space" required for those two SEMs to ultimately warrant the validity of (42). This implies, first, that the authority of (41) as regards the goodness of (40) is subservient to the authority of (42), which in turn is derived from that of the DDN and simple conversion; and second, that the goodness of (40) is accordingly dependent upon the goodness of (42).

Let us underscore that in this account, strictly speaking, intrinsic means do *not* have any original logical authority over the goodness of PMI consequences, any more than the premises of syllogisms have any logical authority over it. It is the general rules governing syllogistic validity—the SEMs—that, according to the formalist interpretation, immediately rule the complete syl-

85. See *SL* III-3.1: 588[26–8]: 'Sicut ista: "Sortes non currit, igitur homo non currit" tenet virtute istius medii "Sortes est homo"; unde nisi haec esset vera "Sortes est homo", no valeret consequentia.' See also *Exp. Elench.* II.7, § 8 (*OPh* III: 205).

86. If intrinsic means (41) is converted simply, the resulting syllogism turns out to be a 1st-figure CELARENT, directly ruled by the DDN. Notice that regarding syllogistic validity, Ockham believes that singular propositions (such as those occurring in (42)) function as universal claims, inasmuch as they are governed by the DDO and the DDN principles. Inferentially speaking, therefore, is makes no difference if the major premise of a syllogism is a universal or a singular proposition.

logism and that, *a fortiori*, govern the goodness of PMI consequences. Seen in this light, PMI consequences are really defective syllogisms.

Now is this ultraformalist approach with regard to PMI goodness what Ockham has in mind? I am convinced it is not. For apart from the two instances mentioned above, he never speaks of the goodness of PMI consequences in terms of syllogistic reducibility. Instead he offers a systematic account of NSEMs by virtue of which all PMI consequences are *mediately* good.

To understand this, let us go back once again to consequence (40). In explaining and justifying the PME/PMI distinction between *consequentiae formales*, Ockham considers the following objection:

> [It can be argued] against this distinction that the consequence 'Socrates is not running, therefore a man is not running' obtains by virtue of the extrinsic means 'There is a good consequence from a singular [proposition] to an indefinite [proposition], the negation being placed after [the copula]', *which is an extrinsic means* ….[87]

To be sure, this is an objection putatively posed from the formalist perspective, yet not of the ultraformalist type we described above. For it claims, not that all good PMI consequences are actually reducible to valid syllogistic schemata, that is, proved good by virtue of one or more SEMs, but that they are ultimately proved good by virtue of one or more NSEMs, such as:

(49) There is a good consequence from a singular [proposition] to an indefinite [proposition], the negation being placed after [the copula].

As we mentioned at the outset, we decided to dub these extrinsic means '*non*-syllogistic'. The reason is that the inferential authority of NSEMs does not

87. *SL* III-3.1: 588[36–9]: '… Et si dicatur contra istam distinctionem quod ista consequentia "Sortes non currit, ergo homo non currit" tenet per istud medium extrinsecum "a singulari ad indefinitam postposita negatione est bona consequentia", quod est medium extrinsecum ….'

cover syllogistic inferences proper; or, to use another legal metaphor, because syllogisms proper (as well as all other PME consequences) fall with*out* the jurisdiction of NSEMs.

Notice that according to the formalist objection just cited, NSEM (49) will govern inferences such as these:

(50) This man is drinking, therefore a/some man is drinking,

(51) This tomato is rotten, therefore a/some tomato is rotten,

and more generally:

(52) This *A* is *B*, therefore an/some *A* is *B*.[88]

Yet this kind of logical governance is not what Ockham intends either. For, as he makes clear, consequence (40) is *immediately and sufficiently* good by virtue of intrinsic means (41), yet only *mediately and insufficiently* by virtue of NSEM (49).

> It should be said that [consequence (40)] obtains through this extrinsic means in a remote, mediate, and insufficient manner. For besides this general rule, more is required, to wit, that Socrates be man; and thus it obtains in a more immediate and more sufficient manner through the means 'Socrates is a man', which is an intrinsic means.[89]

Several things should be said with regard to this passage. First, Ockham's purported enthymematic understanding of PMI consequences does *not* seem here to concern SEMs. In evaluating the goodness of PMI consequences, he merely considers as possible candidates for inferential warrants intrinsic means and

88. We use the disjunctive expression 'a/an' to indicate that the quantity of the proposition may be either indefinite or particular.

89. *SL* III-3.1: 588s$^{40-4}$: 'Dicendum est quod tenet per istud medium extrinsecum remote et mediate et insufficienter, quia praeter istam regulam generalem requiritur plus, scilicet quod Sortes sit homo; et ideo magis immediate et magis sufficienter tenet per istud medium "Sortes est homo", quod est medium intrinsecum.' See also *Exp. Elench.* II.7, § 8 (*OPh* III: 204s).

NSEMs; in other words, he does not even ponder, as opposed to what the ultra-formalist interpretation does, the possibility that PMI consequences are good inasmuch as they can be reduced to valid syllogisms. Second, Ockham's insistence on the priority of the intrinsic over the extrinsic means is crucial here. For this prioritisation amounts to the claim that PMI consequences can*not* be reduced to, and thus can*not* be eliminated by, PME consequences. And this is true regarding NSEMs as well as SEMs.

Indeed, Ockham's response to the formalist's collapse of the PMI/PME distinction indicates that the goodness of *no* PMI consequence can be accounted for in merely formal terms, that is, by appealing to extrinsic means of any nature. In the case at hand, as Ockham states, one has to know in advance that Socrates is a man in order to conclude that a man / some man is running, given that Socrates is running. PMI consequences are thus good by virtue of an intrinsic means, that is, by virtue of the signification of the categorematic terms occurring in the consequences. Because of this, Ockham also dubs PMI consequences '*formales ratione incomplexorum*', the reason being that their goodness stems from the fact that their categorematic terms (*incomplexa*) have a certain signification and not other. If the signification of the term 'Socrates', in consequence (40), were not somehow related to that of the term 'man', the conclusion would be unwarranted. Or, to put it otherwise, if NSEM (49) were by itself sufficient to ground (40)'s goodness, then any equiform consequence would thereby be good, which is demonstrably false.[90]

90. See *Exp. Elench.* II.7, § 8 (*OPh* III: 204s[128–37]): 'Nam ista consequentia "omnis homo currit; igitur Sortes currit" non tenet ratione complexorum; quia tunc: quandocumque antecedens esset universalis et consequens esset una singularis, esset bona consequentia; et ita ista consequentia esset bona: "omne animal est substantia; igitur haec albedo est substantia". Et ideo consequentia non tenet ratione complexorum nec per medium extrinsecum, sed tenet ratione incomplexorum et per medium intrinsecum; quia enim Sortes est homo, ita quod hoc medium est verum "Sortes est homo", ideo praedicta consequentia est bona.'

But what does Ockham intend when he says that intrinsic means govern 'in a more immediate and sufficient manner' the goodness of PMI consequences, compared to NSEMs, which only govern them 'in a remote, mediate, and insufficient manner'? For apart from expressing his views on the inferential priority of intrinsic means over NSEMs, Ockham apparently suggests that *both* kinds of means—intrinsic and non-syllogistic extrinsic—are necessary for a PMI consequence to obtain. Thus, we may ask, what is the inferential role played by NSEMs?

As many scholars have noted, and as it may indeed seem evident to the knowledgeable reader, Ockham's construal of the NSEMs which govern PMI consequences is to some degree a remodelling of the classical theory of the dialectical Topics. What is not quite evident, however, is exactly the extent, manner, and purpose of such a systematic overhaul. Indeed, further questions as to the relation, if any, existing between Ockham's construal and that of other terminists'—most notably Peter Abaelard, Peter of Spain, William of Sherwood, and Walter Burley—have puzzled the interpreters as well. Following this line of thought, we may accordingly ask whether Ockham's NSEMs—inasmuch as they can be understood as feeding on the traditional topical theory of Aristotle, Cicero, Themistius, and Boethius[91]—are *heuristic* expedients of inferences, or rather *corroborating* or *ratifying* expedients of inferences? Or else—the *tertium datur*—does Ockham himself attempted a fresh understanding of these *loci*?

To begin with, let us point out that the first outstanding difference between Ockham's treatment of the topical theory and that of his predecessors is that, surprisingly, he systematically refrains from using the word 'Topic' ('*locus*'), or the standard expressions 'topical maxim' ('*locus maxima*') and 'Differentia

91. See Stump 1982b; 1989, esp. c.12.

of a maxim' ('*locus differentia maximae*'), and in general all variants thereof, in referring to any of the NSEMs governing PMI consequences. So despite being true that Ockham did include part of the lore of Aristotelian and Boethian Topics within his treatise of PMI consequences (in *SL* III-3), as Eleonor Stump has rightly pointed out,[92] it is also true that he distanced himself from the standard terminist approach to topical theory. And the fact that he deliberately opted *not* to make use of the accepted terms of the trade of the standard topical theory, as opposed to what every other terminist did, is an unambiguous indication of his commitments.

#### 6.4.2.1 *The Topical Tradition*

In order to successfully pinpoint Ockham's proposal as to the relation between the traditional topical theory and his account of PMI consequences, we will now offer a quick survey of the views on the matter by Peter Abaelard, William of Sherwood, Peter of Spain, and Walter Burley. In doing so, we have to bring into the foreground the differences between Ockham's and his fellow terminists' treatment of the subject-matter.

##### 6.4.2.1.1 *Peter Abaelard*

Abaelard distinguishes between perfect and imperfect inferences (*inferentiae*).[93] The first ones are inferences the goodness of which entirely depends upon their structure (*forma complexionis*), and which thereby lack nothing to be good. The second ones are inferences whose structure is *not* sufficient for ensuring their goodness and thus require something else to be good, to

92. See esp. Stump 1982b: 294–7.
93. While Abaelard in general uses indistinctly the terms 'consequentia' and 'inferentia', there are passages, however, where he appears to be contrasting them (see e.g. the quote at n.95, below). In addition, his examples usually concern one-premised conditional propositions, which he considers to be equivalent to enthymemes, and not consequences proper—at least from the 14th-century terminists' point of view.

wit, that a certain relationship (*habitudo*) between the things referred to by their terms actually obtains.[94] Abaelard ultimately maps this distinction on to syllogisms—both categorical and hypothetical—and one-premised conditionals, respectively.

According to Abaelard, the function (*proprietas*) of a Topic is 'to confer inferential force on an [imperfect] consequence by grounding it in a real relationship among the things to which its terms refer . . . '.[95] Hence what the dialectical *loci* offer is not so much a way of reducing imperfect to perfect inferences, as a way of warranting that the relationship between the *natures* referred to by the terms of the consequence does obtain; and this, in turn, serves as a sufficient means to warrant that the relevant inferential relation between the antecedent and the consequent in fact obtains.

It is important to notice, however, that Abaelard never commits himself to the view that imperfect inferences—one-premised conditionals—ought to be reduced to syllogisms in order to prove good.[96] They are good simply because a relationship between their terms obtains, relationship founded upon yet another relationship obtaining between the natures referred to by the terms of the inference.[97]

Notice also that, against the wide-spread view that dialectical Topics concern only what is probable, and thus that they are not suitable for scien-

94. See Petrus Abaelardus 1970, I.1: 253–63, and esp. $257^{12-7}$: 'Itaque ubi inferentia perfecta non est, loci valet habitudo, ubi vero perfecta, nequaquam. Quod enim perfectum est, nullo eget supplemento nec perfectioni quicquam deesse potest. Perfectam autem diximus sillogismi inferentiam, que nullorum habitudine terminorum indiget. Quorumcumque enim terminorum inferentia componatur, si formam complexionis sillogismi teneat, incommutabilis consistit . . . .' See also Martin 2010: 137–43; 2012, § 3; MacFarlane 2012, § 4.
95. Petrus Abaelardus 1970, III.1: $256^{36s}$: ' . . . vim inferentie ex habitudine quam habet ad terminum illatum conferre consequentie . . . '.
96. Thus, I believe Stump (1978: 25s) and others are mistaken in arguing for the opposite interpretation.
97. See De Rijk's 'Introduction' to his edition of Abaelard's *Dialectica* (Petrus Abaelardus 1970: LXXXII–LXXXIII).

tific purposes, Abaelard has a more relaxed view on the matter. While he thinks that some Topics—e.g. the Topic from definition[98] or the Topic from accident—can only warrant probable inferences (as their maximal propositions are only *probabiles*), this restriction is not necessarily applied to the remaining ones.

Abaelard further claims, following Boethius,[99] that a Topic is comprised of two parts: (1) the topical Differentia (*locus differentia* or *differentia maxime propositionis*) and (2) the topical Maxim (*maxima propositio*).[100] Whereas the Maxim is simply a metalinguistic rule to the effect that a term of the antecedent (usually the predicate) is, by the very nature of the thing referred by it, related to another term of the consequent (again, usually the predicate),[101] the Differentia is an extramental thing: 'that thing upon whose relation to another [thing] the firmness of the entailment consists'.[102] For example, the goodness of the conditional proposition

(53) If [something] is a man, [it] is an animal

is founded upon the Topic from Species (*locus a specie*). The Differentia, in this case, is the species of man, and the corresponding Maxim is:

(54) Of whatever the species is predicated, so is the genus.[103]

According to Abaelard, topical Maxims provide the ground or foundation (*sedes*) of imperfect inferences, inasmuch as merely having knowledge of the

98. The reason, as De Rijk explains, is that 'the *deffinitum* always implies the *deffinitio*, but the reverse is not true' (Petrus Abaelardus 1970: LXXXIII). See Petrus Abaelardus 1970, III.1: 332 & 338.
99. See *De topicis differentiis* (PL 1184D–1186D); *In Ciceronis Topica* (PL 1051B–1054B).
100. See Petrus Abaelardus 1970, III.1: 263.
101. Petrus Abaelardus 1970, III.1: 263: '…ea propositio que multarum consequentiarum continens sensus communem modum probationis, quam in eis sue differentie tenent, secundum vim eiusdem habitudinis ostendit…'.
102. Petrus Abaelardus 1970, III.1: 263: '…ea res in cuius habitudine ad aliam firmitas consecutionis consistit'. Cf. Stump 1989a: 93.
103. Petrus Abaelardus 1970, III.1: 263: '…de quocumque predicatur species, et genus….'

Differentia is insufficient to understanding the way inferences actually obtain.[104] For instance, one can know that man is a species of animal, and yet not know that if one claims something about a certain man, one claims also that about a certain animal; or that claiming something about a certain animal does not allow for claiming that about a certain main; or that if one denies (*removet*) something about a certain man, one also denies it about a certain animal; and so on.

Abaelard follows the Themistian account of Topics, or more exactly, of the topical Differentiae, which divides them in three classes: (1) intrinsic (*inherentes*), (2) extrinsic, and (3) intermediate.[105] Intrinsic topics are those originating either from the substance or from things following it (*a consequenti substantiae*). The Topic from substance, in turn, is divided into the Topics from definition,[106] from description,[107] and from interpretation of the name.[108,109] On the other hand, the Topic from things which follow substance contains in turn the Topics from the whole,[110] from the parts,[111] from what is equal (*a pari*),[112] from the predicate or the subject,[113] from what happens to the substance (*a contingentibus*),[114] and from the antecedent or the consequent.[115,116]

104. Petrus Abaelardus 1970, III.1: 263[25s]: 'Non enim sufficit rem ipsam cognoscere que ad aliam possit antecedere, nisi etiam teneamus modum inferentie.'
105. See Petrus Abaelardus 1970, III.1: 270.
106. An inference ruled by it would be, e.g. 'If [something] is a rational, mortal animal, then [it] is a man' (p.332).
107. E.g. 'If a man is white, curly, and the son of Sophronicus, then he is Socrates' (cf. p.338).
108. E.g. 'If someone is called "Bartholomew", then he is the son of a king' (cf. p.339).
109. See Petrus Abaelardus 1970, III.1: 331–39.
110. E.g. 'If this stone is not an animal, it is not a man' (p.340).
111. E.g. 'If Socrates is either rational or irrational, then he is an animal' (p.347).
112. E.g. 'If [something] is a body, then [it] is coloured' (p.350).
113. E.g. 'If every man is an animal, then if every animal is animate, every man is animate' (p.352).
114. E.g. 'If every man is an animal, something white is an animal' (p.441).
115. E.g. 'If it is because Socrates is able to laugh that he is a man, then it is because he is able to laugh that he is an animal' (p.365).
116. See Petrus Abaelardus 1970, III.1: 339–69.

Abaelard also includes here the Topics from cause,[117] from use (*ab usu*),[118] and 'from things commonly conjoined' (*a communiter accidentibus*).[119,120]

As regards Topics not immediately drawn from the substance or from what follows from it, Abaelard divides them into Topics from what partially follow from the substance, and from what not at all follow from it; that is, between intermediate and extrinsic Topics.

Extrinsic Topics, as the name suggests, originate from things which are neither immediately nor mediately consequent to the substance. Here Abaelard considers six Topics—from the judgement of the matter/thing (*a rei iudicio*),[121] from what is similar,[122] from the greater and the lesser,[123] from proportion, from opposites,[124] and from transumption.[125]

Lastly, Abaelard classifies as intermediate Topics those which do not fall cleanly under the previous two categories. Indeed, he also calls them 'mixed' (*mixti*), as they share on both the intrinsic and extrinsic character.[126] There are three intermediate Topics: from grammatical case,[127] from conjugates,[128] and from division.[129]

117. E.g. 'If a knife is good, then its maker is good' (p.346).
118. E.g. 'If a horse is good, then horseback-riding (*equitare*) is good' (p.437).
119. E.g. 'If you here the noise of feet, then [someone] is strolling' (p.437)
120. See Petrus Abaelardus 1970, III.11: 414–38.
121. E.g. 'The sky turns, because so have determined the sages and the astrologers, whose study investigates this natural phenomenon' ('celum volubile est quod ita sapientes atque astrologi iudicaverunt, quorum studium in inquisitione huius phisice laborat', p.438).
122. E.g. 'If Socrates is white because of the whiteness, then Sophronicus is white because of the same' (p.440).
123. E.g. 'If a bishop ought to be lashed, also the priest' (p.440).
124. E.g. 'If health is good, sickness is bad' (p.441).
125. E.g. 'If [someone] is a wise man, the he is a philosopher' (cf. p.445).
126. See Petrus Abaelardus 1970, III.11: 448$^{25-7}$: 'Ceteri autem qui vel a casibus vel a coniugatis nascuntur, singuli in se et cohaerentiam habere et extrinsecitatem dicuntur atque hinc medii sive mixti nominantur.'
127. E.g. 'If justice is good, then what exists justly exists good' (*quod iuste est bene est*, p.446).
128. E.g. 'If justice is good, then he who is just is also good' (p.446).
129. E.g. 'Every animal is either healthy or sick; but this animal is not healthy; therefore this animal is sick' (cf. pp.446s).

#### 6.4.2.1.2 *William of Sherwood*

Abaelard's approach to topical theory ought to be contrasted with that of Sherwood. Although they seem to agree in main in the Boethian and Themistian division of the Topics (intrinsic, extrinsic, and intermediate), several important differences should be taken into consideration now.

First, Sherwood downright excludes the topical theory from the realm of demonstrative science, as opposed to Abaelard's more loosen position. Sherwood explains that a dialectical syllogism is one which obtains from probable things (*ex probabilibus*), and one whose very probability stems from the Topics.[130] It is in this sense, Sherwood argues, that a topic is a called the 'seat of an argument' (*sedes argumenti*). Yet whereas Abaelard understands '*sedes*' in the sense of providing the ground for an imperfect inference—inasmuch as the maximal proposition of a Topic implicitly contains all imperfect inferences which fall under the topical Differentia—Sherwood understands it in the sense of actually providing the consequences with the missing premises required to *reduce* them to valid syllogistic schemata.[131] Indeed, Sherwood goes to the trouble of showing—with varying success, and often with amusing results[132]—that all consequences governed by dialectical Topics are in the last analysis reducible to syllogisms. The reason for this insistence, of course, is that as topical goodness is subservient upon syllogistic validity, no topical consequence can prove good unless actually reduced to a valid syllogism.

Second, Sherwood also follows Boethius in dividing Topics into their topical Differentia and their topical Maxim. As he puts it, a topical Maxim is 'well-

130. See William of Sherwood 1995, IV: $78^{15-17}$.
131. See William of Sherwood 1995, IV: $78^{20s}$: 'Locus es sedes argumenti vel id a quo conveniens elicitur argumentum'.
132. For instance, the consequence 'Astronomers say that the sky turns; therefore the sky turns', governed by the Topic of authority, is reduced to the following 1st-figure syllogism: 'Everything said by astronomers to be turning, turns; the sky is said by astronomers to be turning; therefore the sky turns' (William of Sherwood 1995, IV: $114^{442-6}$).

known and common proposition, which contains and confirms many arguments'.[133] However, in contrast with Abaelard, Sherwood does not explicitly identify topical Differentiae with extramental things. Rather, they appear to be broad categories under which the various topical Maxims are classified,[134] and, from a heuristic perspective, the logical places (LOCI) where the Maxims are to be found.

#### 6.4.2.1.3 *Peter of Spain*

The main difference between Peter of Spain's and Sherwood's account of topical theory concerns the inferential role they assign to the topical maxims and *differentiae*. In explaining Peter's view, we should bear in mind that he offers a classification of 'argumentations' (*argumentationes*)[135] comprising four species, to wit: (1) syllogism, (2) induction, (3) enthymeme, and (4) example.[136] This list appears to be exhaustive, in Peter's mind. For our present concerns, let us simply note that, in Peter's account, enthymemes are syllogisms which lack a premise. These are not exactly news for us, to be sure. However, Peter conceives of Topics as *confirming* enthymemes,[137] inasmuch as a Topic is taken to be the argument—or *ratio*, or *medium*—backing up the enthymematic argumentation. Yet this confirmation does not occur by way of affording them a missing premise in order to reduce them to syllogisms—as Sherwood contends. Eleanor Stump has persuasively argued that this confirmation requires, for most cases, a more complex procedure than the one en-

133. William of Sherwood 1995, IV: 78[24s]: 'Locus maxima est nota propositio est communis multa continens et confirmans argumenta ....'
134. See William of Sherwood 1995, IV: 78 'Differentia maximae est quo differunt maximae ab invicem, quale est hoc quod dico genus, et hoc quod dico species'.
135. Whereas, for Peter, an argument is 'a reason (*ratio*) producing belief regarding some dubious thing, i.e. the means that proves a conclusion ...' (Peter of Spain 1972, V.2: 55[17s]), an argumentation is 'an explication (*explicatio*) in a spoken sentence (*oratio*) of an argument, i.e. a spoken sentence which expresses an argument ... the whole spoken sentence composed of premises and conclusion' (pp.55[17s], 56[4s]).
136. Peter of Spain 1972, V.3: 56–8.
137. See Peter of Spain 1972, V.4: 58[10]: 'Argumentum autem per locum confirmatur'.

visaged by Sherwood.[138] According to Stump, Peter's confirmation procedure directly requires not only the topical Maxim, but also the Differentia.

Consider, by way of example, the following argumentation:

(55) A house exists, therefore a wall exists.[139]

Peter claims that (55) is confirmed by the Topic whose Differentia is the integral whole, which he describes as follows:

> An integral whole is that which is composed of parts which have a quality, and the part is called 'integral'. The Topic from the integral whole is the relationship from itself [viz. the whole] to its part.[140]

So the goodness of (55) must rest upon such a relationship, and more concretely, upon that obtaining from a house to its wall. Accordingly, the Differentia will afford us the following proposition:

(56) All houses integrally contain walls,

or something else to that end.[141]

Moreover, according to Peter, the Maxim which applies to (55)'s case is this one:

(57) If one posits the integral whole, one posits any one of its parts.[142]

Gathering (56) and (57), together with the antecedent of (55), we get the following complex argumentation:

138. Stump 1978b: 229–36.
139. Peter of Spain 1972, V.14: $64^{15}$: '… domus est; ergo paries est'.
140. Peter of Spain 1972, V.14: $64^{12-4}$: 'Totum integrale est quod est compositum ex partibus habentibus quantitatem et pars eius dicitur integralis. Locus a toto integrali est habitudo ipsius ad suam partem'.
141. Stump (1978: 227) recommends 'A wall is a part of a house' or the universal 'Every wall is a part of house'.
142. Peter of Spain 1972, V.14: $64^{17}$: 'Posito toto integrali, ponitur quaelibet eius pars'.

(58) All houses integrally contain walls (= All houses are integral wholes composed of walls).
If one posits the integral whole, one posits any one of its parts.
A house exists (= a house is posited).
Therefore, a wall exists (= a wall is posited).[143]

For the sake of perspicuity, compare Peter's account (or, to be precise, Stump's reconstruction of it) with Sherwood's enthymematic reduction:

(59) Any part of the house, because the house exists, exists.
A wall is a part of the house, because the house exists.
Therefore, a wall exists.[144]

Despite being formally correct, Sherwood's reduction seems flatly *ad hoc*. For one thing, it is plainly not a reduction of the original argumentation (55). For another thing, if—as the Aristotelian tradition upholds—the syllogistic means (*medium*) should be the ultimate reason for the conclusion's following from the premises, it is also not true that the concocted means, 'part of the house, because the house is', explains anything at all.

Now Stump's reconstruction of Peter's understanding of the confirmatory role of dialectical Topics is not, to be sure, overtly contained in his *Summule logicales*.[145] This reconstruction is indeed a conjecture formulated not only

143. Stump (1978: 230) offers this construal instead: '(1) A house exists. (2) Therefore, every part of the house exists. (3) A wall is part of the house. (4) Therefore, a wall exists.' I believe my rendering is closer to what Stump takes to be Peter's account than her own. This is because I explicitly include within the argumentation the topical Differentia and Maxim.

144. William of Sherwood 1995, IV: $92^{177s}$: 'Quaelibet pars domus, quia domus est, est; paries est pars domus, quia domus est; ergo paries est'.

145. Peter's full-length treatment of the Topic from integral whole is as follows: 'Totum integrale est quod est compositum ex partibus habentibus quantitatem et pars eius dicitur integralis. Locus a toto integrali est habitudo ipsius ad suam partem. Et est semper constructivus. Ut "domus est; ergo paries est". Unde locus? A toto integrali. Maxima: "posito toto integrali, ponitur quelibet eius pars"' (Peter of Spain 1972, V.14: $64^{12-7}$).

from Peter's and Sherwood's explicit claims as to the matter, but also from the topical theory contained in the *Dialectica* by the early 12th-century logician Garlandus Compotista.[146]

In view of the foregoing, therefore, it is at least clear that the confirmation of enthymemes is *not* a matter of subsumption under valid syllogistic schemata. However, we may cast doubt as to whether Stump's reconstruction of the topical confirmatory procedure is indeed what Peter had in mind. For it seems a rather contrived way of rationalising the simple explicative role of the Topic with regard to goodness of an argumentation. We may indeed ask, Why is (55) a good inference, what is its *ratio*? Simply the fact that a house is integrally composed of walls, amongst other things. And this is nothing more and nothing less than what the Topic from integral whole conveys.

#### 6.4.2.1.4 *Walter Burley*[147]

While also being a heir to the Boethian topical tradition, as Abaelard, Sherwood, and Peter were, Burley can be thought of rather as a reactionary of sorts with respect to the scope of the topical theory. For he contends that any Topic, whether dialectic or not,[148] is but a logical rule governing certain kinds of consequence. Indeed, Burley goes as far as to claim that all good consequences are governed by Topics, and more exactly, by topical Maxims (*propositiones maximae*).[149]

146. See Stump 1978b: 226. Today we know that the real author of the *Dialectica* is not Garlandus Compotista but rather Gerland of Besançon.
147. An previous version of this section appeared in Vaughan 2009: 293–308.
148. Burley takes dialectic to be concerned with the probable, that is, with opinion, rather than with apodeictic knowledge. See e.g. Walter Burley 2002, §§ 1.8–1.10: 270s.
149. See Walter Burley 1955b, II.1: 75s: '… omnis consequentia bona tenet per aliquem locum logicum, non tamen oportet quod omnis consequentia bona tenet per aliquem locum dialecticum, nisi extendendo dialecticam ad totam logicam. … Omnis consequentia bona tenet per aliquem locum qui est propositio maxima. Nam propositio maxima non est nisi regula, per quam consequentia tenet.'

Interestingly, Burley's division of simple (as opposed to *ut nunc*) consequences into natural and accidental is founded upon his distinction between intrinsic and extrinsic Topics.[150] In his account, natural consequences are those in which the antecedent includes the consequent. This is the case, for example, of the consequence

(60) Socrates is running, therefore a man is running.

Although he does not explicitly say so, this consequence would be good by virtue of the intrinsic Topic from species. In a definitely realist sense, 'man's running' is intensionally included in 'Socrates' running', for the same reason that 'Socrates' is "intensionally" included in man.

Conversely, accidental consequences are those in which the antecedent does *not* include the consequent.[151] The example Burley offers is this one:

(61) If a man is an ass, then you are sitting,

which he deems good by virtue of the rule

(62) Anything follows from the impossible,

which is in turn founded upon the extrinsic Topic from the less.[152] Notice in passing that Burley's accidental consequences seem to coincide with Ockham's *consequentiae materiales*.[153] For Burley's dictum that in an accidental

150. See Walter Burley 1955b, II.1: 61; 1980, § 70: 128.
151. See Walter Burley 1955b, II.1: $61^{8-16}$; 1980, § 70: 128. To be sure, in the *De consequentiis*, Burley distinguishes two kinds of accidental consequences, which in the final analysis can be taken as belonging in Ockham's understanding of *consequentiae materiales*.
152. See Walter Burley 1955b, II.1: $61^{11-6}$: '…haec consequentia est bona et tenet per hanc regulam: "Ex impossibili sequitur quodlibet". Et regula innititur loco a minori, quia impossibile videtur minus esse verum quam quodcumque aliud; et ideo, si impossibile sit verum, sequitur per locum a minori quod quodcumque aliud erit verum.'
153. See § 6.3, pp.180ss, above.

consequence the consequent is not included in the antecedent—a kind intensional inclusion which, as a matter of fact, Ockham explicitly rejects—is consistent with Ockham's view that the goodness of a *consequentia materialis* rests exclusively on the material features—mainly necessity or impossibility—of its parts, and not on its formal features.

Burley also distinguishes between formal and material consequences, distinction which seems to overlap with that between natural and accidental consequences, respectively. Furthermore, he divides in turn the genus of formal consequences into two species, to wit: (1) those which hold 'by reason of the form of the whole structure',[154] and (2) those that hold 'by reason of the form of incomplex terms'.[155] Once again, Burley appears to be following Ockham in this regard. For this latter distinction seems to mirror Ockham's distinction between PME and PMI consequences.

In discussing what is that he means when saying that a consequence can hold 'by reason of the terms' (*ratione terminorum*), Burley explains that such a thing can occur in one of two ways—either *materially* by reason of the terms, in which case such a consequence will *eo ipso* be an accidental consequence; or formally by reason of the terms, in which case it would be a natural, formal consequence of the second species. What is interesting for us to notice is Burley's precise description of this latter kind of consequence: 'it holds formally by reason of the terms—that is, by the *formal* reason of the terms'.[156]

154. Walter Burley 1955b, II.1: 86[10s]: '…quaedam, quae tenet ratione formae totius complexionis…'.
155. Walter Burley 1955b, II.1: 86[12s]: 'Et quaedam est consequentia formalis tenens ratione formae incomplexorum'.
156. Walter Burley 1955b, II.1: 86[17s]: '…tenet formaliter ratione terminorum, hoc est ex ratione formali terminorum' (tr. Walter Burley 2000: 173; Spade's italics). I have argued elsewhere (see Vaughan 2009, § 3.1.1) that Burley's notion of *ratio formalis*, concretely with respect to consequential goodness, transcends the realm of logic and reaches that of metaphysics. This means that, for Burley, a formal consequence of the second species is good precisely because the very form of the consequent's subject is contained in the form of the antecedent's subject.

Now Burley's distinction between intrinsic and extrinsic Topics, and derivatively that between natural and accidental and natural consequences, appears to be somewhat blurry. For instance, in his response to an objection according to which the logical rule

(63) Every conditional is true in which an antecedent that includes opposites implies its contradictory,[157]

was not actually envisaged by Boethius in his topical theory, Burley contends that (63) would nonetheless fall under the Aristotelian topical Maxim

(64) Whatever follows from a consequent follows from the antecedent.[158]

This Maxim, Burley adds, corresponds indeed to the Topic from 'following from a consequent'.[159] However, the problem is that this Topic would govern consequences such as

(65) You know you are a stone; therefore, you do not know you are a stone,[160]

which in Burley's taxonomy undoubtedly are accidental consequences. But that Topic would also rule consequences like

(66) If a man runs an animal runs; if an animal runs a body runs; therefore, from first to last, if a man runs a body runs,[161]

157. Walter Burley 1955b, II.1: $70^{24s}$: '… omnis conditionalis est vera, in qua antecedens includens opposita infert suum contradictorium' (tr. Walter Burley 2000: 156).
158. Walter Burley 1955b, II.1: $76^{30s}$: 'Quidquid sequitur ad consequens, sequitur ad antecedens …' (tr. Walter Burley 2000: 163). See also Walter Burley 1955b, II.1: 62.
159. See Walter Burley 1955b, II.1: $77^{5-7}$: '… differentiae maximae istius regulae: "Quidquid sequitur ad consequens, sequitur ad antecedens", potest nominari "consecutio ad consequens"'.
160. Walter Burley 1955b, II.1: $70^{26s}$: 'Tu scis te esse lapidem, ergo tu non scis te esse lapidem …'.
161. Walter Burley 1955b, II.1: $77^{8-10}$: 'Si homo currit, animal currit, et si animal currit, corpus currit, ergo a primo ad ultimum, si homo currit, corpus currit' (tr. Walter Burley 2000: 163).

which seem to be natural rather than accidental. What we have here, therefore, is an instance of one Topic governing both natural and accidental consequences—which stands in contradiction with Burley's overt commitments regarding the matter. This is not to cast doubt, of course, upon Burley's logical competence; rather, it is to point out that in his attempt to embrace the topical tradition he inherited, some tension points inevitably stem.

Let us now sum up the last few pages, before moving on to Ockham. We saw that Abaelard fully embraced the classical topical tradition, inasmuch as he accepted in general the standard Boethian and Themistian divisions of Topics. Interestingly, Abaelard reified topical Differentiae, and understood topical Maxims as essentially dependent upon them. Topical Maxims, thought Abaelard, provide the ultimate ground (*sedes*) for the so-called 'imperfect inferences', which, despite being defective syllogisms, do no find their goodness in being completed and thus perfected by missing premises. One century later, William of Sherwood and Peter of Spain kept well alive that tradition. Sherwood, as we described, insisted on reducing all topical Maxims, and thus ultimately all topical arguments, to valid syllogistic schemata. For his part, Peter envisaged a contrived way of confirming topical arguments on the basis of the topical Differentia and Maxim, without recourse to syllogistic validity. Finally, Walter Burley, while accepting the terminology used by the classical topical theorists, and in appearance embracing as well their rationale, conceives of topical Maxims as logical rules broadly taken. In that sense, his "propositional" turn should also be understood as a departure from standard topical scholarship.

#### 6.4.2.2 *Ockham's Purported Absorption of the Topical Tradition*

Having briefly discussed the topical theories of these authors, we will now revisit Ockham's account of PMI consequences. As we mentioned at the outset, scholars have long noticed that Ockham's account nourished from the classical topical theory. The question, let us recall, is how and to what purpose and extent he did so.

One learned suggestion which was more or less influential at one time is that by Otto Bird.[162] Bird construes Ockham's extrinsic means as playing the same role as Peter of Spain's topical Maxims, while he takes Ockham's intrinsic means to be playing the same role as Peter's topical Differentiae. Bird illustrates his theoretical mapping in the following manner.

As regards the goodness of Topical argument

(67) An animal is not running, therefore a man is not running,

Bird claims that Peter would declare it as resting upon the Topic of the genus. Accordingly, his interpretation boils down to the following analysis:[163]

(68) Topical Maxim: Whatever is removed from the genus is also removed from the species.[164]

(69) Topical Differentia: 'Animal' is the genus of the species 'man'.

Bird thinks that in Peter's account, these topical Maxim and Differentia are sufficient to ground the goodness of argument (67). On the other hand, he claims that Ockham's analysis of consequence

162. See Bird 1961b, 1962.
163. See Bird 1961b: 73; 1962: 320.
164. Cf. Peter of Spain 1972, V.12: 63[208]: '…remoto genere sive toto universali removetur species sive pars subiectiva'.

(70) No animal is running therefore no ass is running

would prescribe as required for its goodness the following consequential media:[165]

(71) EXTRINSIC MEDIUM: Negatively from a distributed superior to a distributed inferior there is a simple consequence.[166]

(72) INTRINSIC MEDIUM: 'Every ass in an animal'.

The upshot of this interpretation, in Bird's mind, is that it makes it clear that both analyses 'formalize in the same way, i.e. they are realizations of the same form'[167] the same consequence or topical argument.

As appealing as this proposal might seem, several critics have pointed out its problems. Marilyn Adams, for one, has detected a couple of shortcomings in Bird's proposal which, in her view, prove fatal to it.[168] First, Adams claims that Bird's identification of topical Differentia (69) with the intrinsic means (72) is unsound. For while Peter's (69) is formulated metalinguistically, Ockham's (72) is formulated in the object language.[169]

Second, Adams argues that Bird's proposal has the undesirable effect of 'lumping together' under the same category of topical Maxims all SEMs and all NSEMs, which—she claims—Ockham himself was clear in keeping apart. She thereby concludes that Bird's likening of topical Maxims with extrinsic means ought to be rejected.[170]

165. See Bird 1961b: 73. Bird calls a 'medium' what we have been calling 'means', both of which are plausible renderings of Ockham's '*medium*'.
166. Cf. *SL* III-3.4: 598$^{9-11}$: '…a superiori distributo ad inferius distributum negative est consequentia simplex, qualecumque sit illud inferius: sive sit inferius per se sive per accidens.'
167. Bird 1961a: 73.
168. See Adams 1987a: 466–70.
169. See Adams 1987a: 467.
170. See Adams 1987a: 467s. Let us note, however, that Adams does not attribute to the SEM/NSEM distinction the theoretical relevance we attribute here, as we will shortly see.

Are Adams' charges justified? The view we will defend here is that while she is certainly right in her diagnosis, she is not so in her prognosis. Let us begin with the second objection. For even if one conceded with Bird that Ockham's category of extrinsic means—broadly taken—can be understood as a systematic overhaul of the traditional topical Maxims, one need not grant, however, that the distinction between SEMs and NSEMs collapses. Still if Bird's proposal were right, one should expect that this latter distinction proved functional within the traditional Topical theory, just as it is functional within Ockham's. Let us expound this idea in some detail now.

One of the central contentions of this chapter is that the distinction between PMI and PME consequences—i.e. between consequences which express the meaning of propositions containing categoremata essentially, on the one hand, and consequences which express the meaning of propositions containing syncategoremata essentially, on the other—is in the last analysis respectively dependent upon the distinction between NSEMs and SEMs. For, as we have argued, NSEMs serve to express the meaning of propositions which contain certain categoremata essentially, whereas SEMs serve to express the meaning of propositions which contain certain syncategoremata essentially.

If this is correct, and if Bird is right in mapping Peter's topical Maxims with Ockham's extrinsic means, then one should expect—indeed, one should demand—that any essential distinction within one *relatum* of the mapping is preserved within the other *relatum*. Concretely, one should expect that the NSEM/SEM distinction between Ockham's extrinsic means finds its set-theoretical image, so to say, within Peter's topical Maxims. Otherwise, Bird's theoretical paring would prove inadequate.

Perhaps the best candidate to fulfil this role, of course, is the Themistian topical distinction. Yet one first indication that this might not be the case

is that the latter is threefold—intrinsic, extrinsic, and intermediate Topics—while Ockham's is twofold. Still due to the ambiguous nature of intermediate Topics, one could wonder whether Ockham actually included them under any one of his twofold classification of extrinsic means. A careful examination of the text of *SL* III-3 brings about the ensuing results.

According to Peter of Spain's topical theory, the Themistian division of intermediate Topics comprises three of such *loci*: from conjugates, from grammatical case, and from division.[171]

The first two Topics are actually absorbed by the following Ockhamist SEMs:

> (73) If the principal [is predicated] of the principal, [then] the conjugate [is] also [predicated] of the conjugate, and the case [is] also [predicated] of the case; and vice versa.[172]

Ockham subsequently offers this clarification:

> A concrete [term] is called 'conjugate', an abstract [term] is called 'principal', and the corresponding adverb is called 'casus'. Whence it follows, 'Justice is a virtue, therefore the just is virtuous', and 'He who justly does something, virtuously does something'.[173]

It would thus seem that these two intermediate Topics are successfully identified by Ockham as SEMs, thereby governing PME consequences.[174] Strikingly, however, Ockham had previously discussed the following NSEM (explicitly

171. See Peter of Spain 1972, V.37–9: 76–8.

172. *SL* III-3.7: 610[68]: ' … si principale de principali et coniugatum de coniugato et casus de casu, et e converso.'

173. *SL* III-3.7: 610[7–10]: '"Coniugatum" vocatur concretum, "principale" abstractum, et "casus" vocatur adverbium correspondens. Unde sequitur "iustitia est virtus, igitur iustus est virtuosus", et "qui iuste aliquid facit, virtuose aliquid facit".'

174. Ockham expressly identifies rule (73) as one governing consequences 'which entail an affirmative from an[other] affirmative by an extrinsic means' ('inferentibus affirmativam ex affirmativa per medium extrinsecum' [*SL* III-3.7: 610[5]]). Indeed, whenever Ockham explicitly states that a consequence is ruled by an extrinsic means *simpliciter*, as opposed by an intrinsic means only, he is unambiguously referring to a PME consequence and thus to a SEM.

identified as such), which would seem to also absorb at least the Topic from conjugates:

(74) If the concrete is predicated of a distributed concrete, [then] the abstract is [also] predicated of the distributed abstract.[175]

So is the Topic from conjugates (and that from grammatical case) a SEM or a NSEM? Is Ockham thus inconsistent in his classification? Not in the least. As he explains, SEM (73) is appropriate only when 'the concrete and the abstract signify the same [things]'.[176] In other words, whenever, in a consequence essentially containing conjugate terms, the concrete and the abstract signify the same things, that is to say, whenever they can be taken as simply invariant, the consequence is a PME and is thus ruled by SEM (73); however, if the conjugates fail to signify the same things, they cannot be taken as invariants, and thus the consequence is a PMI ruled by NSEM (74).

As regards the intermediate Topic from division, which, as we may recall from our cursory exposition of Abaelard's topical theory, governs the logical dilemma,[177] it is clear that is would have to be understood by Ockham as a SEM. For in it the relations obtaining between syncategoremata, and not between categoremata, are essential to its goodness. Yet Ockham does not explicitly include it amongst the rules governing PME consequences. Still we could confidently envisage that such a Topic could find its place amongst the so-called 'general rules of the consequences' described in *SL* III-3.38, all of which—with the exception of the last two ones which are material—are SEMs.

175. *SL* III-3.3: 597[55s]: '…si concretum praedicatur de concreto distributo, et abstractum praedicabitur de abstracto distributo'.
176. *SL* III-3.7: 610[11s]: 'Notandum est hic quod ista regula habet intelligi si concretum et abstractum significent idem…'.
177. 'If either *p* or *q*, but ~*p*, then *q*'. And also, 'If either *p* or *q*, but *p*, then ~*q*'.

Table 6.1 shows the mapping of intermediate Topics on to Ockham's extrinsic means.

| Intermediate Topic | Extrinsic Means* | Kind |
|---|---|---|
| 1. From grammatical case | 7.3 | SEM |
| 2. From conjugates | 30.11? | SEM? |
| 3. From division | 30.11? | SEM? |

Table 6.1. Mapping of Extrinsic Topics on to Extrinsic Means

* The number preceding the period refers to the chapter number within *SL* III-3. The number following the period refers to the logical rule in the chapter. E.g. '1.4' means the fourth rule of *SL* III-3.1. (Note that Ockham does *not* usually number his rules.)

Having dealt with the Peter of Spain's intermediate Topics, it remains for us to consider intrinsic and extrinsic Topics. We shall spare the reader the details of this analysis, however, due both to its not being utterly interesting in and of itself, and to the material restrictions of the present work. We can sum up the results of mapping the Peter's topical Maxims into Ockham's extrinsic means as follows.[178] Table 6.3 contains Peter's intrinsic Topics mapped on to Ockham's extrinsic means; whilst Table 6.2 contains the mapping with respect to Peter's extrinsic Topics.

Let us make some comments regarding these figures. To begin with, as it is plain, this is but a rough sketch of a comprehensive mapping of Peter's Topics on to Ockham's extrinsic means. A detailed elaboration should take into account, amongst other things, the distinct subdivisions Peter discusses regarding each one of the Topics (e.g. the Topics from the whole-in-time and from whole-in-place). Further research is thus required to complement these findings. Moreover, the mappings should also be elaborated starting from the perspective of Ockham's logical rules. Both the mappings above sketched and

178. For his discussion regarding intrinsic Topics, see Peter of Spain 1972, V.5–26: 60–71; regarding extrinsic Topics, see V.27–36: 71–6.

| | Extrinsic Topic | Extrinsic Means* | Kind |
|---|---|---|---|
| 1. | From opposites | 5.1, 6.13, 30.2 | NSEM |
| 2. | From the greater | 30.11? | SEM? |
| 3. | From the lesser | 30.11? | SEM? |
| 4. | From what is similar | 30.11? | SEM? |
| 5. | From proportion | 6.13? | NSEM? |
| 6. | From transumption | — | — |
| 7. | From authority | 7.3 | SEM |

Table 6.2. Mapping of Extrinsic Topics on to Extrinsic Means

* The number preceding the period refers to the chapter number within *SL* III-3. The number following the period refers to the logical rule in the chapter. E.g. '1.4' means the fourth rule of *SL* III-3.1. (Note that Ockham does *not* usually number his rules.)

| | Intrinsic Topic | Extrinsic Means* | Kind |
|---|---|---|---|
| I. | From substance | | |
| 1. | From definition | 2.2, 2.8s, 4.2, 6.1, 8.1, 24.1–7? | NSEM |
| 2. | From description | 2.3, 2.8s, 4.2, 6.2 | NSEM |
| 3. | From name-interpretation | 2.4, 2.8s, 4.2, 6.3 | NSEM |
| II. | From the concomitants of substance | | |
| 4. | From the whole | 5.2, 18.1–70? | NSEM, NSEM? |
| 5. | From the parts | 5.2, 18.1–70? | NSEM, NSEM? |
| 6. | From the cause | — | — |
| 7. | From generation | 6.14s, 30.3 | SEM? |
| 8. | From corruption | 6.16, 30.3 | SEM? |
| 9. | From use | — | — |
| 10. | *A communiter accidentibus* | — | — |

Table 6.3. Mapping of Intrinsic Topics on to Extrinsic Means

* The number preceding the period refers to the chapter number within *SL* III-3. The number following the period refers to the logical rule in the chapter. E.g. '1.4' means the fourth rule of *SL* III-3.1. (Note that Ockham does *not* usually number his rules.)

Bird's interpretation might give the delusive impression that the relation obtaining between Peter's Topics and Ockham's extrinsic rules is roughly one-on-one; that is to say, that most of the Topics have a corresponding extrinsic rule, and vice versa. But this is far from the truth. Of the hundreds of logical rules—both SEM and NSEM—contained in Ockham's *Summa logicae*,[179] only a few actually correspond to Peter's twenty Topics. It is this overabundance that is actually disastrous for Bird's proposal. For if so many of Ockham's extrinsic means are simply unpaired—indeed unpairable—to Peter's Topics, then this surely is an indication that the very scope and purpose of these two logical approaches are somewhat different.

Related to this latter point, we should also point out that, according to the findings outlined in the three tables, it is also the case that some of Peter's Topics lack a counterpart in Ockham's extrinsic means (the Topics from transumption, from the cause, from use, and from things commonly conjoined); while, in some cases, the matching is uncertain (as in the Topics from conjugates, from division, from the greater, from the lesser, from what is similar, from proportion, from the whole, from the parts). Finally, notice as well that even when a Topic is actually matched in Ockham's classification, it is sometimes hard, if not impossible, to determine its precise extrinsic nature (as in the Topics from generation and corruption).

In all likelihood, then, there seems to be little evidence of any significant correlation—as statisticians would like to say—between Peter's and Ockham's approach to logical rules. The crucial thing to discern here, however, is that our initial presumption has been falsified—viz. that Ockham's SEM/NSEM distinction (and correspondingly that between PME and PMI consequences) is actually found in Peter of Spain's topical theory.

179. Pinzani (2005) has counted 201 rules, but this figure is clearly undervalued. Only in *SL* III-3 there are 252 explicitly designated rules (e.g. 'Est regula quod . . . ').

To be sure, Bird also rehearsed a piecemeal mapping of sorts, between Peter's Topics and Ockham's logical rules.[180]

Yet his analysis is flawed precisely because it is focused on Ockham's PMI consequences only, thereby leaving out the crucial distinction between SEMs and NSEMs. Indeed, it is this distinction, let us recall, that Adams accuses Bird of erasing (even though, as we mentioned already, she does not appear to explore its theoretical implications). Another way of putting this point is the following. Even if Peter and Ockham might actually converge on a number of argument schemes, this does not mean that they agree on their method and purpose to arriving to them. So is Adams unreservedly right in dismissing Bird's proposal?

Let us therefore go back and examine her first objection.[181] Remember that what Adams is complaining about is that in Bird's account, Ockham's intrinsic means are expressed in the object language, while Peter's topical Differentiae are expressed metalinguistically. Before explaining why this seems problematic to Adams, however, let us notice that Bird's opinions as to Peter's topical Differentia are prone to questioning. For Bird never explains, at least in the papers reviewed here, how does Peter actually use the topical Differentia. Strictly speaking, the Differentia governing an argument such as (67) is, unsurprisingly, Genus. Yet as Stump has argued, Peter's topical confirmatory procedure requires the interplay of both the topical Differentia and the topical Maxim. In point of fact, as analysis (58) makes it clear, the concrete deployment of topical Differentiae needs not be metalinguistic. It follows that Bird is wrong in matching in this manner what he takes to be Peter's topical Differentiae with Ockham's intrinsic means; but it also follows that Adams is

180. See Bird 1961b: 74–7.
181. See p.235, above.

wrong in attacking Bird's general hermeneutic rationale on the basis of this latter fault.

Now why does Adams think that the metalinguistic interpretation of intrinsic means is incorrect? As she makes it clear with regard to PMI consequences,

> …I am inclined to identify intrinsic means with the premisses that would have to be added to the original arguments to reduce them to valid syllogisms. The general metalinguistic inference rules offered by Ockham and not explicitly identified as extrinsic means would be rules to inform us—usually by reference to the comparative extensions of the categorematic terms in the original inference—when an inference can be so reduced.[182]

Hence she explicitly embraces the formalist, enthymematic interpretation of PMI consequences we discussed above. This is precisely the reason why she claims that intrinsic means ought to be formulated in the object language—for otherwise they would not be able to complete the defective syllogism in order to validate the PMI consequence. Note that what Adams calls 'general metalinguistic inference rules' are indeed our NSEMs, which—she purports—merely have an informative role as regards syllogistic reducibility.

This interpretation is perplexing, however. For in claiming that their role is merely informative, Adams is trivializing the 250-odd extrinsic means classified and examined by Ockham in *SL* III-3; but more crucially, she is rendering idle his overall systematic approach to consequential goodness. The reason is that from the standpoint of a hard-boiled formalist, syllogistic validity is sufficient in and of itself to account for the goodness of enthymemes. Hence the "information" bestowed by these extrinsic means is at best incidental and at worst irrelevant to enthymematic goodness. Indeed, if an extrinsic means—a NSEM, to be precise—*could* actually inform us that a certain reduction is *not* really possible, only then would it prove relevant to the purpose of settling

182. Adams 1987a: 470; see also pp.474s.

the goodness of a PMI consequence. But this eventuality can simply not occur in a formalist framework; for if an intrinsic means actually completes the syllogism, there should remain no further question as to whence and how the original consequence obtains.

Consider an analogy which may prove helpful to make our point clearer. Imagine we are driving our car on a British two-lane street, when a police officer decides to stop us in order to inform us that we can actually drive on the left lane of this particular street. Evidently, our knowing this new piece of information does not alter in any respect the (deontically framed) fact that it is permitted to drive on the left lane and prohibited on the right lane. By the same token, the (deontically framed) fact that a PMI consequence obtains does not depend—again from a formalist perspective—on the fact that, say, the subject of the consequent is a Porphyrian superior to the subject of the antecedent, a fact of which the NSEM would inform us. It depends upon the formal fact that an intrinsic means ultimately connects the consequence's extremes. This is indeed the reason why the ultraformalist William of Sherwood found it necessary to provide a reductionist justification for the logical authority of all topical Maxims. It is as if Sherwood were saying, 'You may use at ease these topical Maxims, as they are ultimately grounded upon the three syllogistic figures'.

Admittedly, a sophisticated formalist may retort along the following lines.[183] It is not the case that any proposition whatsoever which is composed from the extremes of the original PMI consequence can count as an intrinsic means proper. Ockham himself is committed to the view that the proposition linking antecedent and consequent must be *true*, for it to constitute an intrinsic means proper.[184] If this is right—so the formalist wraps up her argument—

183. Adams (1987: 472) hints on this suggestion, but does not really explore its implications.
184. See the quote and references on p.215, n.85, above.

the function of NSEMs is to determine when a putative proposition can serve as an intrinsic means.

The problem with this manoeuvre, of course, is that if Ockham's account of consequential goodness requires that intrinsic means be true, then NSEMs are clearly of no avail to that end. They are not "truth detectors", so to say, not even of the so-called 'logical truths', any more as any other kind of logical truth can be so. At most what a NSEM can tell, *of a true proposition*, is how it is related as intrinsic means to the consequence. Once again, therefore, we return to the original predicament of the formalist proposal—that NSEMs are bereft of any logical force whatsoever as regards consequential goodness.

Our contention, however, is that Ockham held no such a reductionist view, in the same way as most likely Abaelard, Peter of Spain, and Burley did neither. But before we proceed to spell out our proposal, let us finally address the two passages discussed above,[185] where Ockham purportedly embraces the enthymematic, reductionist view of PME consequences. Not surprisingly, Adams[186] appeals to the first of this passages to support her formalist interpretation.

### *Ockham's Enthymemes*

We have hitherto argued that the goodness of PMI consequences does not and cannot depend upon their being reduced to valid syllogistic schemata. Why then does Ockham speak of reducing enthymemes to syllogisms? And more to the point—how can our inferentialist construal account for this putative breaching of the materialist tenet with regard to inferential relations?

The answer we will now offer is actually two-pronged. Let us point, on the one hand, at the merely conceptual fact of classifying some argument as

185. See pp.211–214.
186. See Adams 1987a: 474s.

an enthymeme. To say that $\alpha$ is an enthymeme is nothing else than to explicitly classify $\alpha$ as a defective syllogism, i.e. one lacking a premise. Conceptually speaking, it is quite the same as labelling some person *a* as a one-legged: she clearly lacks a leg to be "complete", so to speak. Technically speaking, 'enthymeme' and 'one-legged' are connotative terms: they cannot be predicated of one thing (the one-premised consequence, the one-legged person) without bringing to mind their *connotata* (the missing premise, the missing limb). We should not be surprised, therefore, that when Ockham and other terminists talk about enthymemes, they invariably speak about their defectiveness and about how to make up for it by appeal to a missing premise. The moral of this quick ordinary-language argument is precisely that one need not be committed to a reductionist view of PMI consequences when speaking about enthymematic arguments. Indeed, one can very well defend a material-inferentialist theory of PMI consequences, while at the same time endorsing the view that there exist defective syllogisms. We actually believe this to be the case of Abaelard, Peter of Spain, and Burley, all of whom inscribe the discussion of enthymemes within their theory of syllogisms.[187]

But our view is that Ockham was *not* confined to this minimalist use of the term 'enthymeme'. Let us accordingly advance to the second part of our two-pronged argument. We will begin by recalling the normative interpretation of the DDO and DDN principles we defended above.[188] On such a reading, these principles govern BARBARA and CELARENT syllogisms in the following sense. Whenever someone commits herself to a universal claim, the expressive role played by any such syllogism is that of making explicit her ensuing commitment to a special subset of the claim's consequences of application.

187. See Petrus Abaelardus 1970, III.II: 461–6; Peter of Spain 1972, V, § 3: 535; Walter Burley 1955b, II.1, c.2: 93–8.
188. See § 6.4.1.1.

The purpose of the minor premise in that syllogism, let us remember, is to express the fact that this subset contains propositions which are invariant with respect to the predicate term (the major term) of the original premise (the major premise).

Once we have properly construed the expressive role of syllogisms within a normative, dialogical framework, the interpretation of enthymemes should follow suite. For to say that a proposition completes and thus perfects a syllogism, simply means that the very act of asserting the proposition serves to make explicit a doxastic commitment with respect to the enthymeme's antecedent. Consider, for example, the following enthymeme:

(75) All human beings are mortal; therefore, all Greeks are mortal.

If one claims that the proposition

(76) All Greeks are human beings

is the 'implicit' premise perfecting (75) into a BARBARA syllogism, then, in conformity with our previous analysis, one is solely saying that commitment to (75)'s antecedent *materially* entails a commitment to (75)'s consequent, amongst other propositions. In point of fact, the act of asserting proposition (76) simply narrows down the set of the consequences of application of (75)'s antecedent.

In other words, if a player in the game of giving and asking for reasons, or the Respondent in a medieval *obligatio*, commits herself to the claim, 'All human beings are mortal', she is thereby committing herself to the claim,

'All Greeks are mortal' as well, for the latter materially follows from the former. Put it in inferentialist terms, since the meaning of a sentence tokening is expressed by both its circumstances and consequences of application—normatively framed, let us recall—then what a sentence tokening of 'All human beings are mortal' means is that, in part, all Greeks are mortal as well. By further claiming that all Greeks are human beings, one simply makes it explicit that the consequent of the so-called 'enthymeme' is a propositional inferior to its antecedent (and, derivatively, that the term 'Greek' is a Porphyrian inferior to the term 'human being').

To sum up the last few paragraphs, in inferentially construing syllogistic goodness in terms of normative statuses and attitudes occurring in a dialogical setting, the purported logical priority of syllogisms over one-premised consequences is deemed unfounded. Syllogism are therefore to be taken as expressivist expedients of doxastic commitments, essentially dependent upon the material-inferential relations which obtain between discrete sentential tokenings. If this proposal is sound, as we are convinced it is, then one-premised consequences should not be understood as enthymemes, that is, as defective syllogisms. Rather, it is syllogisms that should be understood, not so much as defective, but as inferentially dependent upon one-premised consequences.

In support of the claim that Ockham indeed envisaged something more or less like the previous analysis of inferential relations, let us now review, through an inferentialist spectacle of sorts this time, the two passages where he refers to enthymematic consequences. Recall that, in both of cases, Ockham contends that in order to rightly judge upon the goodness of a certain kind of consequence which appears to commit some sort of fallacy, the proper thing to do is to reduce it to a syllogism. If the syllogism is formally and materially

good, the consequence is also; but if it is formally or materially defective, then the reason why the consequence is a bad one has been made clear.

Let us examine the first case.[189] Is the following consequence a good one?

(77) Socrates is running quickly; therefore, Socrates is running.

Ockham recommends that an additional premise be supplied, thus rendering the following BARBARA:

(78) Everything running quickly is running.
Socrates is running quickly.
Therefore, Socrates is running.

Now since the implicit major premise is true, if follows (78) is materially and formally good. But suppose it were not true. Then it would follow, as Ockham explains, that consequence (77) was faulty, for it would be committing a *Secundum quid et simpliciter* fallacy.

The second case concerns this other consequence:[190]

(79) Every man is running; therefore, every animal is running.

Ockham thinks that if one reduces it to the following syllogism,

(80) Every man is running.
Every animal is a man.
Therefore, every animal is running,

one can see that it does not commit the fallacy of affirming the consequent. It is simply a bad consequence due to the falsity of the minor premise of (80).

189. See *SL* III-3.6: 604s[140–65].
190. See *Exp. Elench.*, II.10, § 2 (*OPh* II: 262–6).

But what is the purpose of these reductive expedients? Is it, as the formalist claims, to *prove* an enthymeme's goodness (or lack thereof) by trying to make it conform to a certain syllogistic schema? Not in the least. By appealing to syllogistic schemata, one is intending to make the doxastic commitments at play explicit, in order to be able to evaluate and criticise the force of the argument. And this is precisely what is going on in the passages of Ockham's discussed above.

*The Rules of Commitment*

Let us bring to closure our examination of Ockham's account of PMI consequences by presenting our general view of the matter. PMI consequences, in Ockham's account, are those which obtain on the basis of the meaning of their constituent propositions, and thus derivatively upon the signification of the categorematic terms embedded in them. Because of this, it is flatly wrong to claim, as Adams and other formalist interpreters of Ockham's logico-semantic system have done, that PMI consequences are but defective syllogisms which lack a premise in order to ultimately reach closure. Our contention, by contrast, is that PMI consequences are as perfect as an inference can be, and all inferential force—the *vis inferentiae* of which Abaelard wrote—of other consequence kinds is ultimately founded upon theirs.

What is it, then, that Ockham intends when stating that PMI consequences are immediately good by virtue of an intrinsic means and mediately good by virtue of a NSEM? And why does he insist that the intrinsic means be good?

An intrinsic means, we know now, is simply a way of declaring a special kind doxastic commitment with respect to the antecedent of the PMI consequence. According to Ockham's prosentential account of truth,[191] to re-

191. See n.62, p.204, above.

quire that the intrinsic means be true is tantamount to saying that someone—usually the person making the argument—actually asserts that very proposition, that is, that she commits herself to its tokening. This commitment, moreover, is essential to choosing, amongst the wide range of possible consequences of application, the very conclusion of the particular inference in question.

This may be all good and sound; but why is there, as Ockham sustains, a 'mediate and remote' need for a NSEM? That is to say, what is the purpose of NSEMs? As opposed to the formalist interpretation, which sees NSEMs as needed either to confirm or to syllogistically reduce PMI consequences, our proposal points at the normative aspect of claim making. In order to make this aspect of Ockham's thought perspicuous, let us begin by picking up a lead we left open a while ago. When rebuffing Bird's identification of topical Differentia with NSEMs, we pointed out that Ockham's approach to classifying such logical rules differed vastly from that of the topical tradition. And this is true not only regarding the Themistian tripartite classification of Topics, but also as regards the Boethian account of topical Differentiae. Whereas this tradition conceived of topical Differentiae as theoretical places around which the multifarious topical Maxims are set, Ockham's taxonomy of his NSEMs follows another ordering paradigm. A list of the chapters from *SL* III-3, enumerated in Table 6.4, below, can help illustrate our point.

Regarding the contents of *SL* III-3, which presumably represent Ockham's classification of extrinsic means, it is not hard to notice an important trend. With respect the first nine chapters, all of them except one concerning PMI consequences, Ockham's taxonomic approach focuses on the kind of *proposition* (its quality and quantity) rather than on categorematic terms contained in it. This is the reason why several classical Topics (e.g. from definition, from

| Chapter | Content |
|---|---|
| 1. | The divisions of consequences |
| 2. | PMI: A ⊢ A, any predicate* |
| 3. | PMI: A ⊢ A, only some predicates |
| 4. | PMI: E ⊢ E, any predicate |
| 5. | PMI: E ⊢ E, only some predicates |
| 6. | PMI: particular/indefinite ⊢ particular/indefinite |
| 7. | PME: affirmative ⊢ affirmative |
| 8. | PMI: negative ⊢ negative |
| 9. | PMI: negative ⊢ affirmative / affirmative ⊢ negative |
| 10. – 16. | PME: Modal consequences |
| 17. – 30. | PMI: Simple supposition |
| 17. | Accident |
| 18. | Genus |
| 19. – 21. | Property |
| 22. – 26. | Definition |
| 27. | Species |
| 29. – 30. | On the same and the diverse |
| 31. – 36. | PME: Induction |
| 37. | PMI: Material supposition: equivocation |
| 38. | General rules (PME and *consequentiae materiales*) |
| 39. – 46. | *Obligationes* |

Table 6.4. Contents of *SL* III-3

* 'A' and 'E' denote universal affirmative and universal negative propositions, respectively. Rules 7–9 appear to be SEMs. Rule 4 appears to be a SEM.

description, from name-interpretation, as well as others which Ockham simply does not care to include but which would probably had to recur) appear under several headings of this classification.[192] However, it might seem counter-intuitive that Ockham should classify NSEMs, which—according to

192. See as well Table 6.3, p.240, above.

our interpretation—concern the meaning of propositions and derivatively the *signification of categorems*, on the basis of the formal features of propositions, determined in turn by the *meaning of syncategorems*. If NSEMs concern mainly the relations obtaining between categorematic terms, why did Ockham not follow the classical topical approach which appeals to topical Differentiae?

The answer to this puzzle is not as hard as it may seem, if we consistently endorse the inferentialist principles we have hitherto been advocating. For, as we argued previously,[193] categorematic signification can only be made sense of within a certain propositional context. Hence it is not true that NSEMs solely concern the signification of categorems taken in and of themselves—just as it is not true that SEMs solely concern the meaning of syncategorems. Meaning-endowing inferential relations obtain only between propositional units, and thus the rules *expressing* those relations concern propositions, not terms.

Our proposal as regards NSEMs boils down to the following. PMI consequences are good, in the last analysis, by virtue of the meaning of their propositional parts; that is to say, by virtue of the fact that the thought expressed by one proposition—the antecedent—*materially* entails the thought expressed by another proposition—the consequent. (This is simply what we take 'propositional meaning' to signify here.) We have already explained the role of intrinsic means in pinpointing a subset of the consequences of application of certain inference types. The role of NSEMs, on the other hand, is merely *expressive*, in Brandom's sense of the term, and thereby subservient to that of intrinsic means. While focusing on the essential occurrence of certain kinds of categorematic terms—Porphyrian superiors and inferiors, relatives, concretes and abstracts, and so on—within certain kinds of propositional con-

193. See Chapter 4.

texts, NSEMs express the normatively-framed fact that commitment to a certain kind of claim materially entails commitment to another kind of claim.

Once again, therefore, the order of explanation taken by formalists has been inverted. It is *not* that PMI consequences are good because they fall under the jurisdiction of certain NSEMs. It is because PMI consequences are materially, and thus self-sufficiently, good that certain NSEMs can express such a goodness. Borrowing an image suggested by Brandom,[194] we can say that all rational beings, if they are competent players in the game of giving and asking for reasons, can easily perform all sorts of PMI consequences. This is so, since this kind of inferences merely requires a reasonable command of the natural language. Yet only logical beings, that is, rational beings who have developed a logical vocabulary, can make explicit, and thus are able to evaluate and criticise, the inferential relations obtaining between sentential tokenings. NSEMs are precisely the logical vehicle to expressing these relations.

This is indeed the reason why, as we discussed in Chapter 1, the principles and propositions of Ockham's *scientia logica* contain mainly terms of second intention; and, by the very same token, this is the reason why Ockham's *scientia logica* is a *scientia rationalis* and not a *scientia realis*. And finally, this is also the reason why it is a *scientia practica ostensiva*. For one of its objectives—one of its *causae finales*—is to teach and explain not only that certain inferential relations *de facto* obtain, but also *why* they *de iure* ought to obtain; and this can only be done by expressing and by discussing, in the conceptual metalanguage of second intentions, the conceptual relations obtaining in the conceptual object-language of first intentions.

194. See Brandom, *MIE*: xxi. Cf. Wanderer 2008, c.2–3, *passim*.

## 6.5 Summary

In this long chapter we presented our inferentialist interpretation of Ockham's theory of consequences. Let us now summarise its main conclusions. To begin with, we took some hermeneutic distance from the standard way of construing the *consequentiae formales* / *consequentiae materiales* distinction, according to which the former ones are good by virtue of their structural features, while the latter ones are good by virtue only of their matter. We showed how the *consequentiae materiales* are good in a somewhat trivial sense, since there is no relevant connection between their propositional parts. Thus, as Ockham declares, they are in the end of no interest to the *scientia logica*, whose purpose is precisely to explicate—unfold, make explicit—the manner in which distinct sentence tokenings may be, and actually are, related to each other. Indeed, as Christopher Martin and other scholar have argued,[195] the very rules governing the *consequentiae materiales*—the 'Ex impossibile quodlibet', the 'Necessarium sequitur ad quodlibet', and the like—were often dismissed in medieval obligational theory, precisely due to the way in which them obstruct the natural course of a disputation.

We also construed the genus of *consequentiae formales* in consonance with the inferentialist tenets we have embraced here. For it is far from evident, even from the vantage point of a fully-fledged formalist, that PMI consequences are good by virtue of their form. Indeed, our central contention in this chapter is that PMI consequences precisely depict what Sellars and Brandom have dubbed 'material inferential relations'; that is, inferences which are good not because they instance a general rule concerning only the structure of the propositional parts, but because of the very content or meaning of these parts—the thought they convey. In accordance with this contention,

195. See p.170, n.23, above.

we rejected the simplistic topical interpretation of PMI consequences of Otto Bird; but we also undermined the enthymematic, reductive interpretation endorsed by Marilyn Adams and other scholars.

As to the first one, we took grate care in showing the spuriousness of Bird's mapping between Peter of Spain's topical Maxims and Ockham's NSEMs, and we accordingly argued that his ensuing analysis is essentially flawed. The first blunder of Bird's proposal, as we revealed here, is that he simply took no notice of Ockham's SEM/NSEM distinction—which in turn founds the PME/PMI distinction—as to the proper undertaking of proposed mapping. As a consequence, Bird failed to notice that such a distinction had no counterpart—no set-theoretical image—in Peter's topical theory, nor, to that matter, on that of any of the remaining three "topical" terminists we examined here. This allowed us to conclude that even if Peter and Ockham might have actually agreed on the relevance of a few logical rules (from definition, from authority, from integral whole, etc.), this falls short from demonstrating that they agreed on their methods, interests, and objectives as to the treatment of the logical rules. Moreover, we argued that the very strategy of the topical tradition in organising topical Maxims around topical Differentiae is ultimately at odds with Ockham's taxonomic strategy. For whereas the topical tradition conceived of topical Maxims as *term*-centred (even in Abaelard's reified account of topical Differentiae), and thus organised and ordered these Maxims accordingly; by contrast, Ockham's taxonomic approach is based upon the distinct kinds of *propositions* exhibiting certain material-inferential relations with other kinds of propositions.

By the same token, we argued that Adams' enthymematic interpretation of PMI consequences is ill-conceived as well. For in rejecting Bird's proposal, Adams threw the baby out with the bath water; that is, she firmly embraced

the opposite, formalist stance, according to which the content of the propositional parts of a PMI consequence is at best subservient, and at worst irrelevant, to its goodness. We sought to undermine this construal by showing how it fails to make sense of Ockham's systematic enterprise of organising, discussing, and evaluating the many NSEMs explicitly contained in *SL* III-3. For, as we argued, if the enthymematic interpretation of PMI consequences were right, then the role putatively performed by NSEMs as to the goodness of such consequences is essentially useless.

We concluded, against both Bird's and Adams' views, that the role performed by NSEMs is ultimately *expressive*, in Brandom's sense of the word. That is to say, NSEMs are important logical expedients for making explicit the discursive commitments of the players of the game of giving and asking for reasons; and, equivalently, of making explicit the very sense relations obtaining between the various sentence tokenings involved.

As to the second species of *consequentiae formales*, the PME consequences, we also inverted as well the formalist interpretative approach. For instead of conceiving of PMI consequences as essentially dependent upon PME consequences for their goodness, we argued that it is indeed the other way around. Thus we reinterpreted the role of PME consequences, and specially that of syllogisms, not as strongly proof-centred, but as outright expressive. PME consequences serve to make explicit certain kinds of discursive commitments with regard to certain kinds of of claims. It is in this light that our deontic-dialogic construal of the DDO and DDN principles governing syllogistic goodness ought to be read.

CHAPTER 7

# CONCLUSION

We have hitherto presented in some detail our inferentialist interpretation of Ockham's *scientia logica*, inasmuch as it ought to be construed, as he declares, as a *scientia rationalis practica ostensiva*. In order to do so, we begun by laying down the core tenets of Robert Brandom's inferentialist semantics. As we mentioned there, Brandom's theory is a normative strain of conceptual-role semantics. So, in his view, meaning is not only a function of the inferential role a sentence plays amongst and with respect to other sentences; but, most crucially, meaning is a semantic property which can only obtain within and by virtue of a definite normative framework. This is his view that to claim something meaningful is nothing else than to make a move, one which is properly accounted for as such, in the game of giving and asking for reasons.

In pursuance of this inferentialist interpretation, we rehearsed a two-pronged approach. First, we subverted the traditional interpretation of the medieval theory of *obligationes*, according to which this theory is but a subservient appendix to the medieval logical theory. Following the dialogical interpretation of Aristotelian logic by E. Kapp, C.H. Hamblin, and J. Woods, we displaced the normative-dialogical status of the theory of *obligationes* from the outskirts of the *scientia logica*, and accordingly reinstated it to its deserved centre. We thereby concluded that the very rational act of making an assertion—i.e. a *positio* or a *pro-positio*, to use the obligational terminology—can only be properly understood as the normatively framed act of assuming the two-fold commitment to provide the reasons for such a sentential token-

ing (its circumstances of application), as well as to embrace all and any of its possible ramifications (its consequences of application).

Second, we also subverted the order of explanation, and, most crucially, the order of justification, between the two species of Ockham's *consequentiae formales*, viz. PME and PMI consequences. For even if it was somewhat clear to scholars that Ockham subsumed syllogistic theory under the broader theory of consequences, they still understood PMI consequences as ancillary to their PME siblings. Following the pioneering work of Wilfrid Sellars, and the ensuing elaboration by Brandom, we could finally do justice to Ockham's account of consequential goodness. PMI consequences set the standard of inferential goodness, as they naturally spring from the very understanding of deontic claim-making by the language users. In other words, someone's making a claim, and someone's understanding a claim, can only be properly construed when seen as attributions of normative statuses; the pragmatic *expression* of these attributions are the *material* inferential relations which obtain to and from the original claim. Ockham's theory of PMI consequences, as well as his taxonomy of NSEMs explicating the relations expressed therein, is a systematic approach to studying the logic of material inferences.[1]

On the other hand, the various kinds of PME consequences—syllogisms proper, conversions, suppositional ascent and descent inferences, and hypothetical and exponible propositions—are ultimately built upon the inferential ground set down by PMI consequences. PME consequences express distinct ways in which deontic statuses can be attributed and undertaken with respect to certain kinds of claims. As we saw, PME consequences concern the meaning of syncategorematic terms. Yet as pieces of logical vocabulary, the meaning and the expressivist function of syncategorems are essentially intermingled.

1. Once again, we should be advised of not confusing Sellars' and Brandom's material inferences with Ockham's *consequentiae materiales*.

Syncategorems thus serve to make explicit discursive commitments with respect to certain kinds of claims. As such, PME consequences can be thought of as being a second level of logical abstraction because they serve to express the meaning of syncategorematic terms, which in turn serve as the logical expression of simple material commitments.

We therefore showed that the enthymematic interpretation of Ockham's PMI consequences is ill-founded. But we also argued against the rival interpretation of Ockham's theory of consequences—the topical reading of Otto Bird. Our argument was that Bird mistook Ockham's theory of PMI consequences, not only because he misconstrued Peter of Spain's topical theory, but more importantly because he saw in Ockham an endorser and perfecter of such a theory. However, as we showed, Ockham's rejection of topical Differentia as the theoretical centre around which the topical Maxims gravitate, is a corollary of his propositionalist semantics. For as categorematic signification cannot be understood apart from the suppositional role a term plays within a proposition, it follows that the logical rules cannot govern topical Differentiae—definition, integral whole, etc.—in abstract from the propositional contexts in which they occur. Accordingly, Ockham's NSEMs are classified on the basis of the propositional kinds governed by them. This means, in inferentialist terms, that NSEMs, inasmuch as they are logical expressivist expedients, fall under the very kinds of propositions whose inferential relations they express.

Sellars dubbed the non-formal rules which govern material inferences 'material principles of inference'.[2] Using this piece of logical vocabulary, we may say that Ockham's treatise of PMI consequences, as explicitly contained in *SL* III-3, is to be understood as a systematic investigation on the material princi-

2. See Sellars 1953: 4 & 7.

ples of inference, as applied fundamentally to categorical propositions. The moral of this analysis is that even if materially conceived, there is indeed a science which systematically investigates the properties of an important class of consequences. This, we claim, is Ockham's golden contribution to the science of logic.

## Key Findings

Let us succinctly summarise the three key findings of this thesis as follows.

(1) *Ockham's logic contains and is indeed a semantics.* The two cannot be dissected in the monstrous fashion which contemporary philosophers of language should take. Ockham's theory of the properties of terms—*significatio*, *suppositio*, and *connotatio*—cannot be conceived of in abstraction from his theory of the properties of propositions and, by the same token, from his theory of consequences.

(2) *Ockham's logico-semantic system is, by its very nature, normatively framed.* This is the upshot, as we claimed, of our displacement of the eccentric theoretical role of Ockham's theory of *obligationes*, and its proper replacement in the centre of his system. Our contention is that, just as it was clearly envisaged by Aristotle, Ockham conceived of logic as an intrinsically pragmatic, dialogical enterprise. As such, it concerns the concrete claim-makings of flesh-and-blood players in the game of giving and asking for reasons, normatively circumscribed and regulated by a set of rules.

(3) *Ockham's logico-semantic system cannot be construed either as an internalist nor as an externalist theory of meaning.* Indeed, as we claimed—following M. Greenberg—the internalist/externalist dichotomy is at best non-explanatory, and at worst pernicious as a theoretical expedient.

Historiographically, our contention as to the development of Ockham's view can be summarised as follows. As an heir to the Aristotelian cognitive and semantic doctrines, Ockham begun as a mental-content internalist, as crystallised in his *fictum*-theory. Yet, as he gradually became to acknowledge some of the shortcomings of that approach—in particular the underdeterminacy of reference of intuitive cognitive acts—he rehearsed for a while what Panaccio and others have described as an externalist theory of mental content. (This musings of Ockham have been captured in some of the unrevised passages of *Rep.* II, so fruitfully exploited by Panaccio.)

However, Ockham's temporary appeal to a rigid account of causation as a means of salvaging content determinacy cannot and should not be read as pointing at a fully-fledged externalist account of mental content. Is has to be read, we contend, as one of Ockham's attempts of solving the anomalies which arise from embracing the defective Aristotelian internalist paradigm—and thus should be accounted for in sheer internalist fashion.

When Ockham ultimately abandoned the *fictum*-theory of cognition, and consequently the so-called 'relational account of propositional content' (as Brower-Toland has dubbed it), he moved forward to finally adopting the *actus*-theory, and thus an 'adverbial' account of propositional content. Ockham's endorsing of the latter account of propositional content, as we argued, gave rise to his propositionalist theory of meaning, under which the internalist/externalist dichotomy of mental content had to be rejected in the last analysis.

Lastly, under the new propositionalist-cum-inferentialist paradigm, the multifarious semantic and ontological anomalies presented by the Aristotelian internalism disappear.

## Further Research

Several lines of research are still open, of course, and we shall pursue them further in future works. The two most conspicuous, to be sure, are the ones concerning the Ockhamist rendering of the last couple of inferentialist tenets.[3] We still need to offer a sound account of what we claim to be Ockham's prosentential theory of truth and of his theory of representation. Regarding the latter one, however, one can indeed claim that Ockham shares with Brandom, as well as with any other inferentialist, the burden of the proof. For if meaning is inferentially unfolded, and thus is a relational property of propositions, there remains the problem of explaining how can a word-word (or sentence-sentence) relation account for a word-world (or sentence-world) relation.[4]

Third, we left open the question of how to give proper reason, from Ockham's theory of cognition, of the semantics of proper names. Our suggestion appealed both to Ockham's account of intuitive cognition, but it also hinted on Brandom's theory of anaphoric reference. Still, this solution has to be thoroughly fleshed out.

Forth, we believe that Ockham's and more generally the late-medieval theory of *obligationes* have to be further investigated as to their sources and to the implications they bear upon two other areas. First, Ockham's political theory, which has been hitherto vastly underrated and, even when it has not (as in the pioneering works of Offler, Kilkullen, and McGrade), has been left disconnected from and unrelated to his core theological and philosophical preoccupations. And second, as Dutilh-Novaes herself suggests,[5] the broad medieval field of legal and juridical studies.

3. See § 3.3, above.
4. This serious objection to Brandom's inferentialism has been notably posed by John McDowell (esp. 1997; 2005). In my mind, Brandom's answers to McDowell have never been fully convincing.
5. Dutilh-Novaes 2011: 252, n.28.

# BIBLIOGRAPHY

## Primary Sources


Albertus de Saxonia (1522). *Logica Albertucii. Perutilis logica*. Ed. by Petrus Aurelius Sanutus. Venice.

Boethius (1847a). 'De topicis differentiis'. In: *Patrologiae Latinae Cursus Completus*. Ed. by J.-P. Migne. Vol. 64. Paris: Garnier, 1174–216.

——— (1847b). 'In Ciceronis topica'. In: *Patrologiae Latinae Cursus Completus*. Ed. by J.-P. Migne. Vol. 64. Paris: Garnier, 1040–174.

——— (1906). *In Isagoge*. Ed. by S. Brandt. Vienna / Leipzig: Tempsky / Freitag.

de Rijk, L. (1974). 'Some Thirteenth Century Tracts on the Game of Obligation. [Tractatus Emmeranus de falsi positione]'. In: *Vivarium* 12, 94–123.

Henry of Ghent (1994). *Summa (quaestiones ordinariae), art. xxxv–xl*. In: *Opera omnia*. Ed. by G. Wilson. Vol. xxviii. Leuven: Leuven up.

Jean Buridan (unpublished). *Summulae de Dialectica*. Ed. by H. Hubien. url: `http://bit.ly/bursd`.

John Duns Scotus (1639). *Opera Omnia*. Ed. by L. Wadding. Lyon: Laurentius Durand. Photoreprint, Hildesheim: Georg Olms, 1968.

Paul of Venice (1979). *Logica magna: Part I, Fascicule 1: Tractatus de terminis*. Oxford: oup.

——— (1988). *Logica magna: Part II, Fascicule 8: Tractatus de obligationibus*. Ed. and trans. by E. J. Ashworth. Oxford: oup.

Peter of Spain (1972). *Tractatus Called Afterwards Summule Logicales*. First Critical Edition from the Manuscripts with an Introduction. Ed. by L. de Rijk. Assen: Van Gorcum.

——— (1992). *Syncategoreumata. First Critical Edition with an Introduction & Indexes*. Ed. by L. de Rijk. Trans. by J. Spruyt. Leiden / New York / Köln: Brill. (Latin–English edition).

Petrus Abaelardus (1970). *Dialectica. First Complete Edition of the Parisian Manuscript*. 2nd, revised edition. Ed. by L. de Rijk. Assens: Van Gorcum.

Petrus Aureolus (1956). *Scriptum super primum Sententiarum*. Ed. by M. Buytaert. St. Bonaventure, NY: Franciscan Institute.

Poinsot, J. (1640). *Ars logica*. Pars II. Madrid: Carolus Sánchez.

Walter Burley (1955a). 'De puritate artis logicae tractatus brevior'. In: *De puritate artis logicae tractatus longior. With a Revised Edition of the Tractatus brevior*. St. Bonaventure, ny: Franciscan Institute, 199–260.

——— (1955b). 'De puritate artis logicae tractatus longior'. In: *De puritate artis logicae tractatus longior. With a Revised Edition of the Tractatus brevior*. St. Bonaventure, ny: Franciscan Institute, 1–197.

——— (1980). 'Walter Burley's "De consequentiis". An Edition'. In: *Franciscan Studies* 40. Ed. by N. J. Green-Pedersen, 102–63.

Walter Burley (1988). 'Obligations (selections)'. In: *The Cambridge Translations of Medieval Philosophical Texts. Vol. 1: Logic and Philosophy of Language*. Ed. and trans. by N. Kretzmann and E. Stump. Cambridge: CUP, 369–412.
——— (2000). *On The Purity of the Art of Logic. The Shorter And The Longer Treatises*. Trans. by P. V. Spade. Yale Library of Medieval Philosophy. New Haven/London: Yale UP.
——— (2002). 'Walter Burley über das Vorwissen des Schlusswissens. Eine provisorische Edition von Prolog und Kap. 1 der "Expositio super librum Posteriorum"'. In: *Traditio* 57. Ed. by M. von Perger, 239–88.
Walter Chatton (1989). *Reportatio et Lectura super Sententias: Collatio ad Librum Primum et Prologus*. Ed. by J. C. Wey. Toronto: Pontifical Institute of Mediaeval Studies.
William of Ockham (1956–97). *Opera politica*. Ed. by H. Offler et al. 4 vols. Manchester: Manchester UP. Vol. 4: Oxford: OUP, 1997; vol. I, revised 1974.
——— (1967–87). *Opera theologica*. Ed. by G. Gál et al. 10 vols. St. Bonaventure, NY: Franciscan Institute.
——— (1974). *Ockham's Theory of Terms. Part I of the Summa logicae*. Trans. by M. J. Loux. Notre Dame/London: University of Notre Dame Press.
——— (1974–88). *Opera philosophica*. Ed. by G. Gál et al. 7 vols. New York: Franciscan Institute.
——— (1980). *Ockham's Theory of Propositions. Part II of the Summa logicae*. Trans. by A. J. Freddoso and H. Schuurman. Notre Dame/London: University of Notre Dame Press.
——— (1991). *Quodlibetal Questions*. Trans. by A. J. Freddoso and F. E. Kelly. Yale Library of Medieval Philosophy. New Haven/London: Yale UP.
——— (1995). *Selections from Part I of William of Ockham's Summa logicae*. Trans. by P. Spade. URL: http://www.pvspade.com/Logic/docs/ockham.pdf.
——— (2007). *Demonstration and Scientific Knowledge in William of Ockham. A Translation of the* Summa logica *III-II: 'De syllogismo demonstrativo', and Seletions from the Prologue to the* Ordinatio. Trans. by J. L. Longeway. Notre Dame, IN: University of Notre Dame Press.
William of Sherwood (1995). *Introductiones in logicam / Einführung in die Logik*. Ed. by H. Brands and C. Kann. Hamburg: Felix Meiner.
——— (2012). *Syncategoremata*. Ed. and trans. by C. Kann and R. Kirchhoff. Hamburg: Meiner. (Latin–German edition).

## Secondary Sources

Adams, M. M. (1970). 'Intuitive Cognition, Certainty, and Scepticism in William Ockham'. English. In: *Traditio* 26, 389–98.
——— (1977). 'Ockham's Nominalism and Unreal Entities'. In: *The Philosophical Review* 86.2, 144–76.
——— (1978). 'Ockham's Theory of Natural Signification'. In: *The Monist* 61.3, 444–59.
——— (1987a). *William Ockham*. Notre Dame, IN: Franciscan Institute.
——— (1987b). 'William Ockham: Voluntarist or Naturalist'. In: *Studies in Medieval Philosophy*. Ed. by J. Wippel. Washington, DC: The Catholic University of America Press, 219–47.

Adams, M. M. (1999). 'Ockham on Will, Nature, and Morality'. In: *The Cambridge Companion to Ockham*. Ed. by P. Spade. Cambridge: CUP, 245–72.
Alféri, P. (1989). *Guillaume d'Ockham. Le singulier*. Paris: Minuit.
Besson, C. (2009). 'Externalism, Internalism, and Logical Truth'. In: *Review of Symbolic Logic* 2.1, 1–29.
Biard, J. (1981). 'La redéfinition ockhamiste de la signification'. In: *Sprache und Erkenntnis im Mittelalter*. Ed. by J. Beckmann and W. Kluxen. Berlin: De Gruyter, 451–8.
——— (1989). *Logique et théorie du signe au XIVe siècle*. Paris: Vrin.
——— (1997). *Guillaume d'Ockham. Logique et philosophie*. Paris: PUF.
Bird, O. (1961a). 'The Re-Discovery of the Topics'. In: *Mind* 70.280, 534–9.
——— (1961b). 'Topic and Consequence in Ockham's Logic'. In: *Notre Dame Journal of Formal Logic* 2.2, 65–78.
——— (1962). 'The Tradition of the Logical Topics: Aristotle to Ockham'. In: *Journal of the History of Ideas* 23.3, 307–23.
Bocheński, I. (1961). *A History of Formal Logic*. Notre Dame, IN: Univerisity of Notre Dame Press.
Boehner, P. (1943). 'The Notitia Intuitiva of Non-Existents According to William Ockham: With a Critical Study of the Text of Ockham's "Reportatio" and a Revised Edition of Rep. II, Q. 14–15'. English. In: *Traditio* 1, 223–75.
——— (1992). 'The Realistic Conceptualism of William of Ockham'. In: *Collected Articles on Ockham*. 2nd ed. St. Bonaventure, NY: The Franciscan Institute, 156–74.
Boh, I. (1982). 'Consequences'. In: *The Cambridge History of Late Medieval Philosophy*. Ed. by N. Kretzmann et al. Cambridge: CUP. Chap. 15, 300–14.
Bourget, D. and D. Chalmers, eds. (2009). *The PhilPapers Surveys*. URL: http://philpapers.org/surveys.
Bourget, D. and D. J. Chalmers (forthcoming). 'What Do Philosophers Believe?' In: *Philosophical Studies*. URL: http://philpapers.org/archive/BOUWDP.
Bradley Bassler, O. (1998). 'Leibniz on Intension, Extension, and the Representation of Syllogistic Inference'. In: *Synthese* 116.2, 117–39.
Brandis, C. A. (1833). 'Über die Reihenfolge der bücher des aristotelischen Organons'. In: *Abhandlungen der Königlichen Akademie der Wissenschaften zu Berlin*, 249–99.
Brandom, R. B. (1984). 'Reference Explained Away'. In: *Journal of Philosophy* 81.9, 469–92.
——— (1987). 'Singular Terms and Sentential Sign Designs'. In: *Philosophical Topics* 15.1, 125–67.
——— (1988). 'Inference, Expression, and Induction'. In: *Philosophical Studies* 54.2, 257–85.
——— (1993). 'The Social Anatomy of Inference'. In: *Philosophy and Phenomenological Research* 53.3, 661–6.
——— (1994a). 'Expressing and Attributing Beliefs'. In: *Philosophy and Phenomenological Research* 54.4, 905–12.
——— (1994b). *Making It Explicit. Reasoning, Representing, and Discursive Commitment*. Cambridge, MA: Harvard UP.

Brandom, R. B. (1997). 'From Truth to Semantics: A Path Through "Making It Explicit" '. In: *Philosophical Issues* 8, 141–54.
——— (1998). 'Insights and Blindspots of Reliabilism'. In: *The Monist* 81.3, 371–92.
——— (2000). *Articulating Reasons: An Introduction to Inferentialism*. Cambridge, MA: Harvard UP.
——— (2002a). 'Explanatory vs. Expressive Deflationism about Truth'. In: *What Is Truth?* Ed. by R. Schantz. Berlin: De Gruyter, 103–19.
——— (2002b). *Tales of the Mighty Dead: Historical Essays in the Metaphysics of Intentionality*. Cambridge, MA: Harvard UP.
——— (2007). 'Inferentialism and Some of its Challenges'. In: *Philosophy and Phenomenological Research* 74.3, 651–76. Reprinted in Weiss and Wanderer 2010: 159–180.
Broadie, A. (1993). *Introduction to Medieval Logic*. 2nd ed. Oxford: OUP.
Brower-Toland, S. (2002). 'Late-Medieval Theories of Propositions. Ockham and the 14th Century Debate about Objects of Judgement'. PhD Dissertation. Ithaca, NY: Cornell University.
——— (2006). 'Facts vs. Things: Adam Wodeham and the Later Medieval Debate About Objects of Judgment'. In: *Review of Metaphysics* 60.3, 597–642.
——— (2007a). 'Intuitition, Externalism, and Direct Reference in Ockham'. In: *History of Philosophy Quarterly* 24.4, 317–35.
——— (2007b). 'Ockham on Judgment, Concepts, and the Problem of Intentionality'. In: *Canadian Journal of Philosophy* 37.1, 67–110.
——— (forthcoming). 'How Chatton Changed Ockham's Mind: William Ockham and Walter Chatton on Objects and Acts of Judgment'. In: *Intentionality, Cognition and Mental Representation in Medieval Philosophy*. Ed. by G. Klima. Bronx, NY: Fordham UP.
Brown, J. (1995). 'The Incompatibility of Anti-Individualism and Privileged Access'. In: *Analysis* 55.3, 149–56.
Brown, J. (2007). 'Externalism in Mind and Epistemology'. In: *Internalism and Externalism in Semantics and Epistemology*. Ed. by S. Goldberg. New York: OUP, 13–34.
Burge, T. (1979). 'Individualism and the Mental'. In: *Midwest Studies in Philosophy* 4.1, 73–122.
Cash, M. (2009). 'Normativity Is the Mother of Intention: Wittgenstein, Normative Practices and Neurological Representations'. In: *New Ideas in Psychology* 27.2, 133–47.
Clark, D. (1971). 'Voluntarism and Rationalism in the Ethics of Ockham'. In: *Franciscan Studies* 31, 72–87.
——— (1973). 'William of Ockham on Right Reason'. In: *Speculum* 48, 13–36.
Couturat, L. (1901). *La logique de Leibniz*. Paris: Presses Universitaires de France. Reprinted Hildesheim: Georg Olms, 1961.
De Andrés, T. (1969). *El nominalismo de Guillermo de Ockham como filosofía del lenguage*. Madrid: Gredos.
Dougherty, M. (2011). *Moral Dilemmas in Medieval Thought. From Gratian to Aquinas*. Cambridge: CUP.
Dutilh-Novaes, C. (2005). 'Medieval Obligationes as Logical Games of Consistency Maintenance'. In: *Synthese* 145.3, 371–95.

Dutilh-Novaes, C. (2007). *Formalizing Medieval Logical Theories. Suppositio, Obligationes and Consequentia*. Berlin: Springer.
——— (2011). 'Medieval Obligationes as a Theory of Discursive Commitment Management'. In: *Vivarium* 49.1–3, 240–57.
Dutilh-Novaes, C. (2008). '14th Century logic after Ockham'. In: *Handbook of the History of Logic, Vol. 2*. Ed. by D. Gabbay and J. Woods. Amsterdam: Elsevier, 433–504.
Evans, G. (1982). *The Varieties of Reference*. Oxford: OUP.
——— (1985). 'The Causal Theory of Names'. In: Oxford: OUP, 1–24.
Falvey, K. (2000). 'The Compatibility of Anti-Individualism and Privileged Access'. In: *Analysis* 60.1, 137–42.
Farkas, K. (2003a). 'Does Twin Earth Rest on a Mistake?' In: *Croatian Journal of Philosophy* 3.8, 155–69.
——— (2003b). 'What is Externalism?' In: *Philosophical Studies* 112.3, 187–208.
——— (2006). 'Semantic Internalism and Externalism'. In: *Oxford Handbook of the Philosophy of Language*. Ed. by S. B.C. and L. E. New York: OUP, 323–40.
Forlivesi, M. (2009). 'Approaching the Debate on the Subject of Metaphysics Between Later Middle Ages and Early Modern Age. The Ancient and Medieval Antecedents'. In: *Medioevo* 34, 9–59.
Freddoso, A. J. (1980). 'Ockham's Theory of Truth Conditions'. In: *William of Ockham. Ockham's Theory of Proposition*. Notre Dame/London: University of Notre Dame Press, 1–76.
——— (1998). 'Ockham's Theory of Truth Conditions'. In: *William of Ockham. Ockham's Theory of Propositions. Part II of the 'Summa Logicae'*. Trans. by A. J. Freddoso and H. Schuurman. St. Augustine's Press, 1–76. (First published by University Notre Dame Press in 1980).
Fuchs, O. (1952). *The Psychology of Habit According to William Ockham*. St. Bonaventure, NY: Franciscan Institute.
Fumerton, R. (1988). 'The Internalism/Externalism Controversy'. In: *Philosophical Perspectives* 2, 443–59.
Geach, P. T. (1980). *Reference and Generality. An Examination of Some Medieval and Modern Theories*. 3rd ed. Ithaca / London: Cornell UP.
Gertler, B. (2012). 'Understanding the Internalism-Externalism Debate: What is the Boundary of the Thinker?' In: *Philosophical Perspectives 2012: Philosophy of Mind* 26.1, 51–75.
Ginsberg, M. L., ed. (1987). *Readings in Nonmonotonic Reasoning*. Los Altos, CA: Morgan Kaufmann.
Green, R. (1963). 'The logical Treatise "De Obligationibus": An Introduction with Critical Texts of William of Sherwood (?) and Walter Burley'. PhD Thesis. Université Catholique de Louvain.
Greenberg, M. (2005). 'A New Map of Theories of Mental Content: Constitutive Accounts and Normative Theories'. In: *Philosophical Issues* 15.1, 299–320.
Grover, J. and N. Belnap (1975). 'A Prosentential Theory of Truth'. In: *Philosophical Studies* 27.2, 73–125.
Hamblin, C. (1970). *Fallacies*. London: Methuen & Co Ltd.
Kapp, E. (1942). *Greek Foundations of Traditional Logic*. New York: Columbia UP.

Karger, E. (1980). 'Would Ockham Have Shaved Wyman's Beard'. In: *Franciscan Studies* 40, 244–64.

——— (1999). 'Ockham's Misunderstood Theory of Intuitive and Abstractive Cognition'. In: *The Cambridge Companion to Ockham*. Ed. by P. Spade. Cambridge: CUP, 204–26.

——— (2004). 'Ockham and Wodeham on Divine Deception as a Skeptical Hypothesis'. In: *Vivarium* 42.2, 225–36.

King, P. (1997). *The Failure of Ockham's Nominalism*. URL: http://faculty.fordham.edu/klima/pking.htm. Central Division Meeting of the American Philosophical Association, 26 Apr. 1997, Pittsburgh, PA.

——— (2004). 'Two Conceptions of Experience'. In: *Medieval Philosophy and Theology* II, 1–24.

——— (2007). 'Rethinking Representation in the Middle Ages: A Vade-Mecum to Mediaeval Theories of Mental Representation'. In: *Representation and Objects of Thought in Medieval Philosophy*. Ed. by H. Lagerlund. Aldershot: Ashgate, 87–108.

——— (forthcoming). 'Thinking about Things: Singular Thought in the Middle Ages'. In: *Intentionality, Cognition, and Representation in the Middle Ages*. Ed. by G. Klima. Bronx, NY: Fordham UP.

Klima, G. (1997). *Comments on Peter King 'The Failure of Ockham's Nominalism'*. URL: http://faculty.fordham.edu/klima/King.htm. Central Division Meeting of the American Philosophical Association, 26 Apr. 1997, Pittsburgh, PA.

——— (2005). *Is Ockham Off the Hook?* URL: http://faculty.fordham.edu/klima/FILES/Toronto.pdf. Presented in The University of Toronto Colloquium in Mediaeval Philosophy, 24 Sept. 2005.

Klima, G. and G. Sandu (1990). 'Numerical Quantifiers in Game-Theoretical Semantics'. In: *Theoria* 56.3, 173–92.

Kneale, W. and M. Kneale (1984). *The Development of Logic*. Clarendon Press: Oxford [1962].

Knuuttila, S. (1989). 'Modalities in Medieval Obligational Disputations'. In: *Atti del Convegno internazionale di storia della logica: le teorie delle modalità*. CLUEB. Ed. by C. Corsi et al. Bologna, 72–92.

Knuuttila, S. and M. Yrjönsuuri (1988). 'Norms and Action in Obligational Disputations'. In: *Die Philosophie im 14. und 15. Jahrhundert*. Ed. by O. Pluta. Bochumer Studien zur Philosophie 10. Amsterdam: Grüner, 191–202.

Kripke, S. A. (1980). *Naming and Necessity*. Cambridge, Mass.: Harvard UP.

Lau, J. and M. Deutsch (2010). 'Externalism About Mental Content'. In: *The Stanford Encyclopedia of Philosophy*. Ed. by E. N. Zalta. Fall 2010. URL: http://plato.stanford.edu/archives/fall2010/entries/content-externalism/.

Leff, G. (1975). *William of Ockham. The Metamorphosis of Scholastic Discourse*. Manchester: Manchester UP.

Locke, J. (1975). *An Essay Concerning Human Understanding*. Ed. by P. Nidditch. Oxford: Clarendon [1689].

Loux, M. J. (1979). 'Significatio and Suppositio: Reflections on Ockham's Semantics'. In: *The New Scholasticism* 53, 407–27.

MacFarlane, J. (2000). 'What Does it Mean to Say that Logic is Formal?' PhD. University of Pittsburgh. URL: http://johnmacfarlane.net/dissertation.pdf.

MacFarlane, J. (2012). *The Origins of Logical Hylomorphism*. URL: http://johnmacfarlane.net/origins.pdf.
Martin, C. J. (1992). 'The Logic of the Nominales, or, the Rise and Fall of Impossible Positio'. In: *Vivarium* 30.1, 110–26.
——— (1999). 'Theories of Inference and Entailment in the Middle Ages'. PhD Thesis. Princeton University.
——— (2001). 'Obligations and Liars'. In: *Medieval Formal Logic. Obligations, Insolubles, and Consequences*. Ed. by M. Yrjönsuuri. The New Synthese Historical Library 49. Dordrecht: Klewer, 63–94.
——— (2005). 'Formal Consequence in Scotus and Ockham. Towards an Account of Scotus' Logic'. In: *1302: Duns Scot à Paris 1302–2002*. Actes du colloque de Paris, septembre 2002. Ed. by O. Boulnois et al. Turnout: Brepols, 117–50.
——— (2010). 'The Develpment of Logic in the Twelfth Century'. In: *The Cambridge History of Medieval Philosophy*. Ed. by R. Pasnau. Cambridge: CUP, 129–45.
——— (2012). 'Logical Consequence'. In: *The Oxford Handbook of Medieval Philosophy*. Ed. by J. Marenbon. Oxford: OUP, 289–311.
Maurer, A. A. (1999). *The Philosophy of William of Ockham in Light of Its Principles*. Toronto: Pontifical Institute of Mediaeval Studies.
McDonnell, K. (1974). 'Does William of Ockham Have a Theory of Natural Law?' In: *Franciscan Studies* 34, 383–92.
McDowell, J. (1977). 'On the Sense and Reference of a Proper Name'. In: *Mind* 86.342, 159–85.
——— (1997). 'Brandom on Representation and Inference'. In: *Philosophy and Phenomenological Research* 57.1, 157–62.
——— (1998). 'Lecture III: Intentionality as a Relation'. In: *Journal of Philosophy* 95.9, 471–91.
——— (2005). 'Motivating Inferentialism: Comments on *Making It Explicit* (Ch. 2)'. In: *Pragmatics and Cognition* 13.1, 121–40.
McGinn, C. (1977). 'Charity, Interpretation, and Belief'. In: *Journal of Philosophy* 74.9, 521–35.
McGrade, A. (1985). 'Plenty of Nothing: Ockham's Commitment to Real Possibles'. In: *Franciscan Studies* 45, 145–56.
McKinsey, M. (1991). 'The Internal Basis of Meaning'. In: *Pacific Philosophical Quarterly* 72, 143–69.
McLaughlin, B. and K. Bennett (2011). 'Supervenience'. In: *The Stanford Encyclopedia of Philosophy*. Ed. by E. N. Zalta. Winter 2011. URL: http://plato.stanford.edu/archives/win2011/entries/supervenience/.
Mendola, J. (2008). *Anti-Externalism*. New York: OUP.
Millikan, R. G. (1993). *White Queen Psychology and Other Essays for Alice*. Cambridge, MA: MIT Press.
Moody, E. A. (1953). *Truth and Consequences in Mediaeval Logic*. Amsterdam: North-Holland Publishing Company.
——— (1967). 'Medieval Logic'. In: *Encyclopedia of Philosophy*. Ed. by P. Edwards. New York: Macmillan, 528–34.
Muralt, A. (1991a). 'La causalité divine et le primat de l'efficience chez Guillaume d'Occam'. In: *Historia philosophiae medii aevi. Studien zur Geschichte der*

*Philosophie des Mittelalters*. Festschrift für Kurt Flasch. Ed. by B. Mojsisch and O. Pluta. Amsterdam/Philadelphia: Grüner, 745–69.

Muralt, A. (1991b). 'L'univocité de l'être, Fondement critique de la négation chez Guillaume d'Occam de l'exemplarité divine'. In: *Mélanges Bérubé. Etudes de philosophie et de théologie médiévales offerts à Camille Bérubé pour son 80e anniversaire*. Rome: Istituto storico dei Cappuccini, 357–74.

——— (1993). 'Les conséquences de la doctrine occamienne de la toute-puissance divine: La connaissance intuitive d'une chose qui n'existe pas'. In: *L'enjeu de la philosophie médiévale. Études thomistes, scotistes, occamiennes et grégoriennes*. 2nd. ed. Leiden: Brill, 352–407.

Normore, C. G. (1990). 'Ockham on Mental Language'. In: *Historical Foundations of Cognitive Science*. Ed. by J. Smith. Dordrecht/Boston: Kluwer, 53–71.

——— (1999). 'Some Aspects of Ockham's Logic'. In: *The Cambridge Companion to Ockham*. Ed. by P. Spade. Cambridge: CUP, 17–30.

——— (2003). 'Burge, Descartes, and Us'. In: *Reflections and Replies. Essays in the Philosophy of Tyler Burge*. Ed. by H. M. and B. Ramberg. Cambridge, Mass.: MIT Press, 1–14.

Normore, C. (1974). 'The Logic of Time and Modality in the Middle Ages. The Contribution of William of Ockham'. PhD Thesis. Toronto: University of Toronto.

Osborne, T. M. (2005). 'Ockham as a Divine-Command Theorist'. In: *Religious Studies* 41.1, 1–22.

Panaccio, C. (1984). 'Propositionalism and Atomism in Ockham's Semantics'. In: *Franciscan Studies* 44, 61–70.

——— (1990). 'Connotative Terms in Ockham's Mental Language'. In: *Cahiers d'èpistèmologie no.9016*. Montreal: Université du Quebec a Montreal.

——— (1992). *Les mots, les concepts et les choses. La sémantique de Guillaume d'Occam et le nominalisme d'aujourd'hui*. French. Montreal/Paris: Bellarmin/Vrin.

——— (1999). 'Semantics and Mental Language'. In: *The Cambridge Companion to Ockham*. Ed. by P. Spade. Cambridge: CUP, 53–75.

——— (2000). 'Guillaume d'Ockham, les connotatifs et le langage mental'. In: *Documenti e studi sulla tradizione filosofica medievale. An International Journal on the Philosophical Tradition from the Late Antiquity to the Late Middle Ages of the Società Internazionale per lo Studio del Medioevo Latino (SISMEL)* xi, 292–318.

——— (2003). 'Connotative Terms and their Definitions in Ockham's Nominalism'. In: *La tradition médiévale des catégories (XIIe–XVe siècles). Actes du XIII Symposium européen de logique et de sémantique médiévales (Avignon, 6–10 juin 2000)*. Ed. by J. Biard and I. Rosier-Catach. Philosophes Médiévaux, Tome XLV. Peeters, 141–55.

——— (2004). *Ockham on Concepts*. Aldershot: Ashgate.

——— (2010). 'Intuition and Causality: Ockham's Externalism Revisited'. In: *Quaestio* 10, 241–53.

——— (forthcoming). 'Ockham's Externalism'. In: *Intentionality, Cognition, and Mental Representation in Medieval Philosophy*. Ed. by G. Klima. Bronx, NY: Fordham UP.

Panaccio, C. and D. Piché (2010). 'Ockham's Reliabilism and the Intuition of Non-Existents'. In: *Rethinking the History of Skepticism: The Missing Medieval Background*. Ed. by H. Lagerlund. Leiden: Brill, 97–118.
Pasnau, R. (1997). *Theories of Cognition in the Later Middle Ages*. Cambridge: CUP.
——— (2003). 'Cognition'. In: *The Cambridge Companion to Duns Scotus*. Ed. by T. Williams. Cambridge: CUP, 285–311.
Penco, C. (2005). 'Keeping Track of Individuals: Brandom's Analysis of Kripke's Puzzle and the Content of Belief'. In: *Pragmatics and Cognition* 13.1, 177–201.
Peregrin, J. (2012). 'What is Inferentialism?' In: *Inference, Consequence, and Meaning. Perspectives on Inferentialism*. Ed. by L. Gurova. Newcastle upon Tyne: Cambridge Scholars Publishing, 3–17.
Pinzani, R. (2005). *Le conseguenze di Ockham*. Rome: Aracne.
Pippin, R. (2007). 'Brandom's Hegel'. In: *German Idealism: Contemporary Perspectives*. Ed. by E. Hammer. London: Routledge, 153–80.
Putnam, H. (1973a). 'Explanation and Reference'. In: *Conceptual Change*. Dordrecht: Reidel, 196–214. Reprinted in Putnam 1975a: 196–214 [the pagination of this edition will be used].
——— (1973b). 'Meaning and Reference'. In: *The Journal of Philosophy* 70, 699–711.
——— (1975a). *Mind, Language and Reality. Philosophical Papers Vol. 2*. Cambridge, Mass.: CUP.
——— (1975b). 'The Meaning of "Meaning"'. In: *Minnesota Studies in the Philosophy of Science* 7, 131–93. Reprinted in Putnam 1975a: 215–71 [the pagination of this edition will be used].
——— (1983). 'Reference and Truth'. In: Cambridge, Mass.: CUP, 69–86.
Rodríguez-Pereyra, G. (2001). 'Resemblance Nominalism and Russell's Regress'. In: *Australasian Journal of Philosophy* 79.3, 395–408.
——— (2002). *Resemblance Nominalism: A Solution to the Problem of Universals*. Oxford: OUP.
Schierbaum, S. (2011). 'Knowing Lions and Understanding Lion: Two Jobs for Concepts in Ockham?' In: *Vivarium* 48.3–4, 327–48.
Schlechta, K. (2007). 'Nonmonotonic Logics: A Preferential Approach'. In: *Handbook of the History of Logic*. Ed. by D. M. Gabbay and J. Woods. Vol. 8. Amsterdam / London: Elsevier, 451–516.
Searle, J. R. (1983). *Intentionality: An Essay in the Philosophy of Mind*. Cambridge: CUP.
Segal, G. (2000). *A Slim Book About Narrow Content*. Cambridge, Mass./London: MIT Press.
Sellars, W. (1953). 'Inference and Meaning'. In: *Mind* 62.247, 313–38. Reprinted in Sellars 2007a: 3–27.
——— (1957). 'Counterfactuals, Dispositions, and the Causal Modalities'. In: *Minnesota Studies in The Philosophy of Science*. Ed. by M. S. Herbert Feigl and G. Maxwell. Vol. 2. Minneapolis: University of Minnesota Press, 225–308.
——— (1960). 'Being and Being Known'. In: *Proceedings of the American Catholic Philosophical Association* 34, 28–49.
——— (1962). 'Truth and "Correspondence"'. In: *Journal of Philosophy* 59.2, 29–56.

Sellars, W. (1975). 'The Structure of Knowledge'. The Matchette Foundation Lectures for 1971. In: *Action, Knowledge, and Reality: Critical Studies in Honor of Wilfrid Sellars*. Ed. by H.-N. Castaneda. Indianapolis, IN: Bobbs-Merrill, 295–347.
——— (1981). 'Mental Events'. In: *Philosophical Studies* 39, 232–45. Reprinted in Sellars 2007a: 282–300.
——— (1991). 'Is There a Synthetic A Priori?' In: *Science, Perception and Reality*. Atascadero, CA: Ridgeview Publishing Company, 276–95.
——— (1997). *Empiricism and the Philosophy of Mind: With an Introduction by Richard Rorty and a Study Guide by Robert Brandom*. Ed. by R. Brandom. Cambridge, MA: Harvard UP.
——— (2005). 'Concepts as Involving Laws and Inconceivable Without Them'. In: *Pure Pragmatics and Possible Worlds. The Early Essays of Wilfrid Sellars*. Ed. by J. F. Sicha. Atascadero, CA: Ridgeview Publishing Company, 86–114.
——— (2007a). *In the Space of Reasons. Selected Essays of Wilfrid Sellars*. Ed. by K. Scharp and R. Brandom. Cambridge, Mass. / London: Harvard UP.
——— (2007b). 'Some Reflections on Language Games'. In: *In the Space of Reasons. Selected Essays of Wilfrid Sellars*. Ed. by R. Brandom and K. Scharp. Cambridge, Mass.: Harvard UP, 28–57.
Serrano, G. (2006). *La querella en torno al silogismo 1605–1704: Conocimiento versus forma lógica*. Bogotá: Universidad Nacional de Colombia.
Spade, P. (1982). 'Obligations: Developments in the Fourteenth Century'. In: *The Cambridge History of Late Medieval Philosophy*. Ed. by N. Kretzmann et al. Cambridge: CUP. Chap. 16B, 335–41.
——— (1988). 'The Logic of the Categorical. The Medieval Theory of Descent and Ascent'. In: *Meaning and Inference in Medieval Philosophy. Studies in Memory of Jan Pinborg*. Ed. by N. Kretzmann. Synthese Historical Library, Vol. 32. Dordrecht/London: Kluwer Academic, 187–224.
——— (1992). 'If Obligationes Were Counterfactuals'. In: *Philosophical Topics* 20.2, 171–88.
——— (1999). 'Ockham's Nominalist Metaphysics: Some Main Themes'. In: *The Cambridge Companion to Ockham*. Ed. by P. Spade. Cambridge: CUP, 100–17.
——— (2000a). 'Introduction'. In: *Walter Burley. On the Purity of the Art of Logic. The Shorter and the Longer Treatises*. Ed. by P. Spade. New Haven/London: Yale UP, XIX–XXV.
——— (2000b). *Why Don't Mediaeval Logicians Ever Tell Us What They're Doing? Or, What Is This, A Conspiracy?* URL: http://pvspade.com/Logic/docs/Conspiracy.pdf.
——— (2007). *Thoughts, Words and Things. An Introduction to Late Mediaeval Logic and Semantic Theory (Ver. 1.2)*. URL: http://bit.ly/spadetwt. (Unpublished manuscript).
——— (2008). 'Medieval Theories of Obligationes'. In: *The Stanford Encyclopedia of Philosophy*. Ed. by E. N. Zalta. Fall 2008. URL: http://plato.stanford.edu/archives/fall2008/entries/obligationes/.
Spade, P. and C. Panaccio (2011). 'William of Ockham'. In: *The Stanford Encyclopedia of Philosophy*. Ed. by E. N. Zalta. Fall 2011.
Stump, E. (1978a). 'Introduction'. In: *Boethius's 'De topicis differentiis'*. Ed. and trans. by E. Stump. Ithaca / London: Cornell UP, 14–26.

Stump, E. (1978b). 'Peter of Spain and the Topics'. In: *Boethius's 'De topicis differentiis'*. Ed. and trans. by E. Stump. Ithaca / London: Cornell UP, 215–36.
——— (1982a). 'Obligations: From the Beginning to the Early Fourteenth Century'. In: *The Cambridge History of Late Medieval Philosophy*. Ed. by N. Kretzmann et al. Cambridge: CUP, 315–34.
——— (1982b). 'Topics: Their Development and Absorption into Consequences'. In: *The Cambridge History of Late Medieval Philosophy*. Ed. by N. Kretzmann et al. Cambridge: CUP, 273–99.
——— (1985). 'The Logic of Disputation in Walter Burley's Treatise on Obligations'. In: *Synthese* 63.3, 355–74.
——— (1989a). 'Abelard on the Topics'. In: *Dialectic and its Place in the Development of Medieval Logic*. Ithaca, NY: Cornell UP, 89–110.
——— (1989b). *Dialectic and its Place in the Development of Medieval Logic*. Ithaca, NY: Cornell UP.
——— (1999). 'The Mechanisms of Cognition: Ockham on Mediating Species'. In: *The Cambridge Companion to Ockham*. Ed. by P. Spade. Cambridge: CUP, 168–203.
Sullivan, A. (2010). 'Causal Theories of Reference'. In: *Concise Encyclopedia of Philosophy of Language and Linguistics*. Ed. by K. Brown, A. Barber, and R. J. Stainton. Amsterdam: Elsevier, 41–4.
Tachau, K. H. (1988). *Vision and Certitude in the Age of Ockham: Optics, Epistemology, and the Foundations of Semantics, 1250–1345*. Leiden: Brill.
Vaughan, N. (2009). 'Burleigh y Ockham sobre las consecuencias'. In: *Walter Burleigh: Sobre la pureza del arte de la lógica. Tratado breve*. Ed. by F. Castañeda. Bogotá: Universidad de los Andes, 229–359.
Vignaux, P. (1948). *Nominalism au XIV^e siècle*. Montréal/Paris: Institute d'Études Médiévales/Vrin.
Wanderer, J. (2008). *Brandom, Robert B.* Philosophy Now. Stocksfield: Acumen.
Webering, D. (1953). *Theory of Demonstration according to William of Ockham*. St. Bonaventure, NY: The Franciscan Institute.
Weisheipl, J. (1956). 'Early Fourteenth-Century Physics and the Merton "School" With Special Reference to Dumbleton and Heytesbury'. DPhil Thesis. Oxford: University of Oxford.
Weiss, B. and J. Wanderer, eds. (2010). *Reading Brandom On Making It Explicit*. London: Routledge.
Woodruff-Smith, D. and R. McIntyre (1982). *Husserl and Intentionality*. Dordrecht: Reidel.
Woods, J. (2002). 'Standard logics as theories of argument and inference: Deduction'. In: *Handbook of the Logic of Argument and Inference: The Turn Toward the Practical*. Ed. by D. M. Gabbay et al. Amsterdam: North-Holland, 41–103.
Yrjönsuuri, M. (2000). 'Disputations, Obligations and Logical Coherence'. In: *Theoria* 66.2, 205–23.
——— (2001). 'Duties, Rules and Interpretations in Obligational Disputations'. In: *Medieval Formal Logic. Obligations, Insolubles, and Consequences*. Ed. by M. Yrjönsuuri. The New Synthese Historical Library 49. Dordrecht: Klewer, 3–34.