

Walter  
Burley

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On the Purity of  
the Art of Logic

The Shorter and  
the Longer Treatises

Translated by Paul Vincent Spade

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*Walter Burley*

*On the  
Purity of the  
Art of Logic*

THE SHORTER  
AND THE LONGER  
TREATISES

*Translated by Paul Vincent Spade*

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# Contents

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Introduction *xix*  
*Walter Burley's Life, Writings, and Influence* *xix*  
*Burley's On the Purity of the Art of Logic* *xxii*  
*The Text and the Translation* *xxiii*

## THE SHORTER TREATISE ON THE PURITY OF THE ART OF LOGIC 1

### *The First Part: On General Rules* 3

#### The First Subpart: On General Rules of Inferences 3

Rule 1 3  
Rule 2 4  
    Sophisms 5  
    Reply to the Sophisms 5  
    Additional Rules 6  
    Counterexamples 7  
    Replies to the Counterexamples 8  
Rule 3 11  
Rule 4 12  
    Doubts and Replies 13  
        Copulative Propositions 13  
        Disjunctive Propositions 13  
        Conditional Propositions 13  
        Reduplicative Propositions 14  
        A General Rule 14  
Rule 5 14  
Rule 6 15  
Rule 7 16  
    Counterexamples 17  
    Replies to the Counterexamples 17  
Rule 8 18  
    Doubts 19  
        Doubt 1 19  
        Doubt 2 20  
    Reply to the Doubts 21  
        Reply to Doubt 1 21  
        Reply to Doubt 2 22



---

Rule 9	23
Rule 10	25
On Syllogistic Inference	26
The Second Subpart: The Treatise on Syncategoremata	27
The Division of Syncategoremata	27
'Alone' and 'Only'	30
On Exceptives	30
'Begins' and 'Stops'	30
'Not'	30
'Not' Taken Merely Negatively	31
Rule 1	31
A Sophism	31
A Sophism	32
A Sophism	33
Rule 2	33
A Sophism	34
Rule 3	35
A Sophism	35
Rule 4	36
A Sophism	36
A Sophism	37
Rule 5	38
A Sophism	39
On Infnitizing Negation	40
On Infinite Names	40
On the Negation of Infinite Verbs	42
On Modal Words	43
First Division of Necessity and Contingency	43
Second Division of Necessity and Contingency	43
That the Mode Is Not Predicated in Modal Propositions	44
First Proof	44
Second Proof	45
Third Proof	45
Fourth Proof	46
Fifth Proof	47
That the Mode Is Not a Disposition of the Predicate in Modal Propositions	47
Third Division of Necessity	48
A Sophism	49
Third Division of Contingency	49
A Rule	50

---

A Second Rule	50
A Sophism	51
A Second Sophism	52
'And'	52
A Sophism	53
A Rule	54
A Sophism	54
A Second Rule	54
A Third Rule	55
Disjunctive Words	55
'Or'	55
Two Sophisms	55
A Rule	57
Doubts	57
A Sophism	59
'Whether'	59
A Rule	60
A Second Rule	60
'If'	61
A Rule	62
A Sophism	62
A Second Sophism	63
A Second Rule	63
A Sophism	63
'Insofar As', 'According As'	63
A Sophism	64
'Every'	65
A Sophism	65
A Second Sophism	66
A Third Sophism	67
A Fourth Sophism	67
A Rule	68
A Sophism	68
'Both', 'Neither'	69
A Sophism	69
'The Whole'	70
A Sophism	70
'Whatever' and 'Whoever'	71
On Quantifiers Distributive of Accidents	71
A Sophism	72
A Second Sophism	73

A Third Sophism	74
'Infinite'	74
A Sophism	75

THE LONGER TREATISE ON THE PURITY OF THE ART OF LOGIC 77

*Tract 1: On the Properties of Terms* 79

Part One: On Supposition	79
Chapter 1: On the Division of Supposition	79
Chapter 2: On Material Supposition	82
Chapter 3: On Simple Supposition in Particular	86
On the Division of Simple Supposition	92
Objections	94
Replies to the Objections	95
Chapter 4: On Personal Supposition	101
Two Objections and Replies	110
On the Supposition of Relative Terms	111
Chapter 5: In Which Doubts Are Resolved by Means of the Above Statements	117
Difficulties	117
Replies to These Difficulties	118
Difficulties over Confused and Distributive Supposition	124
Difficulties over Relative Terms	129
Chapter 6: On Improper Supposition	130
Part Two: On Appellation	131
Part Three: On Copulation	139

*Tract 2: On Hypothetical Propositions and Syllogisms* 145

Part One: On Conditional Hypothetical Propositions	145
Chapter 1: On General Rules of Inferences	146
General Rules	147
First Main Rule	147
Two Subrules	147
Second Main Rule	147
Alternative Form of the Second Main Rule	147
Two False Rules	147
Two Subrules	148
Third Main Rule	148
Fourth Main Rule	148

---

First Subrule	149
Second Subrule	149
Third Subrule	149
Fifth Main Rule	150
First Subrule	151
Second Subrule	151
Chapter 2: On the Manner of Arguing Enthymematically with	
Conditionals	152
First Observation	152
Second Observation	152
Third Observation	153
Fourth Observation	153
Fifth Observation	154
Sixth Observation	154
Seventh Observation	155
Eighth Observation	155
Ninth Observation	156
First Doubt	158
Second Doubt	158
Third Doubt	158
A Confirming Argument	158
Reply to the First Doubt	159
Reply to the Second Doubt	159
Reply to the Third Doubt	160
Reply to the Confirming Argument	162
Objection 1	162
Objection 2	163
Reply to Objection 1	163
Reply to Objection 2	163
Tenth Observation	164
First Special Rule	164
Second Special Rule	164
Third Special Rule	164
Fourth Special Rule	165
Chapter 3: In Which Are Solved Difficulties That Seem to Be	
Against the Rules in the First Chapter	166
Doubts	166
Against the Second Main Rule	166
First Doubt	166
Second Doubt	166
Third Doubt	167

---

Against the First Subrule to the Second Main Rule	167
Against the Fifth Main Rule	167
Against the Third Main Rule	168
Replies to These Doubts	168
Replies to the Doubts Against the Second Main Rule	168
Reply to the First Doubt	168
Reply to the Second Doubt	169
Reply to the Third Doubt	170
Reply to the Doubt Against the First Subrule to the Second Main Rule	171
Reply to the Doubts Against the Fifth Main Rule	173
Reply to the Doubt Against the Third Rule	174
Clarification of an Earlier Rule	174
Part Two: On the Manner of Arguing Syllogistically in Hypothetical Conditionals	175
Chapter 1: On Conditional Syllogisms in the First Figure	176
Moods of the First Figure	177
Chapter 2: On Conditional Syllogisms in the Second Figure with Both Premises Conditional	180
Moods of the Second Figure	181
Affirmative Conditional Hypothetical Syllogisms	182
Conditional Syllogisms in One Premise of Which the Condition-Sign Is Affirmed and in the Other Denied	183
Chapter 3: On Conditional Syllogisms in the Third Figure	185
Moods of the Third Figure	187
Chapter 4: On Syllogisms from One Conditional and One Categorical Premise	190
Moods of Such Syllogisms	192
Part Three: On Other Hypothetical Propositions	194
Subpart 1: On Other Explicit Hypotheticals	194
Chapter 1	194
On Copulatives	197
The Truth, Possibility, and Impossibility of Copulatives	198
Doubt 1	199
Doubt 2	199
Reply to Doubt 1	199

---

Reply to Doubt 2	200
The Contradictory Opposite of a Copulative	200
Doubt 1	200
Doubt 2	201
Reply to Doubt 1	201
How to Form Syllogisms with Copulatives	202
On Disjunctives	203
The Truth, Necessity, Possibility, and Impossibility of Disjunctives	203
What Is the Contradictory of a Disjunctive?	206
On Disjunctive Syllogisms	206
On Disjunctives Formed with 'Or'	207
Objection 1	207
Objection 2	208
Reply to Objection 1	208
Reply to Objection 2	208
On Ways of Forming Syllogisms from Disjunctives	209
On the Word 'Whether'	210
On Causals	211
The Truth of Causals	212
The Necessity, Possibility and Impossibility of Causals	212
The Contradictory of a Causal	212
How to Form Syllogisms from Causals	213
A Sophism	214
Reply to the Sophism	215
On Temporals	216
The Truth of Temporals	216
The Necessity, Possibility, and Impossibility of a Temporal	217
The Contradictory of a Temporal	218
How to Form Syllogisms with Temporals	219
Subpart 2: On Implicit Hypotheticals	219
Chapter 1: On Exclusives	219
Rule 1	219
First Subrule	220
Second Subrule	220
Rule 2	220
A Subrule	222
First Subrule of the Subrule	222
Second Subrule of the Subrule	222

---

Rule 3	223
Rule 4	223
A Subrule	223
A Sophism	223
Summary of the Rules	224
Objections and Replies	225
First Objection	225
Reply to the First Objection	225
Second Objection: A Sophism	227
Reply to the Sophism	228
Third Objection: Another Sophism	228
Reply to the Sophism	229
Rule 5	229
Sophisms	230
First Sophism	230
Reply to the Sophism	230
Second Sophism	231
Reply to the Sophism	231
Third Sophism and Reply	232
Rule 6	232
First Sophism	232
Solution to the First Sophism	232
Second Sophism	233
Solution to the Second Sophism	233
Two Rules of the Old Authors	233
First Rule	233
Second Rule	234
Rejection of These Two Rules	234
Rule 7	235
A Sophism	236
Reply to the Sophism	236
Rule 8	237
A Putative Rule	237
Rejection of the Putative Rule	238
Rule 9	238
A Sophism	238
Reply to the Sophism	238
Another Sophism	239
Reply to the Sophism	240
On Exclusive Syllogisms	240
On Exclusive Syllogisms in the First Figure	241

---

Eight Rules for Exclusive Syllogisms in the First Figure	244
On Exclusive Syllogisms in the Second Figure	245
Nine Rules for Exclusive Syllogisms in the Second Figure	248
On Exclusive Syllogisms in the Third Figure	249
Nineteen Rules for Exclusive Syllogisms in the Third Figure	253
Chapter 2: On Exceptives	254
'Besides'	255
Rule 1	257
Rule 2	257
Rule 3	258
Rule 4	258
A Sophism	258
Reply to the Sophism	259
Rule 5	259
A Sophism	259
Solution to the Sophism	259
Rule 6	260
A Sophism	260
Solution to the Sophism	260
Rule 7	261
Rule 8	261
A Sophism	261
Solution to the Sophism	262
Another Sophism	262
Solution to the Sophism	262
A Remark	263
Another Remark	263
'Unless'	263
A Sophism	264
Solution to the Sophism	264
Another Sophism	265
Solution to the Sophism	265
On Exceptive Syllogisms	266
Chapter 3: On Reduplicatives	267
The Truth of a Reduplicative	267
Reduplicatives with Both the Reduplication and the Main Verb Affirmed	269
Sophisms	271



---

Reduplicatives in Which Both the Reduplication and That on Which the Reduplication Falls Are Affirmed and the Main Verb Is Denied	272
Reduplicatives in Which the Reduplication Is Denied and the Main Verb Is Affirmed	273
Reduplicatives in Which That on Which the Reduplication Falls Is Denied and Both the Reduplication and the Main Verb Are Affirmed	273
Reduplicatives in Which Both That on Which the Reduplication Falls and the Main Verb Are Denied	274
How Contradiction Is to Be Taken With Reduplicatives	274
First Doubt	275
Second Doubt	276
Reply to the First Doubt	276
Reply to the Second Doubt	276
How Terms Supposit in Reduplicatives	277
On Reduplicative Syllogisms	278
Reduplicative Syllogisms in the First Figure	278
Reduplicative Syllogisms in the Second Figure	279
Reduplicative Syllogisms in the Third Figure	282
Chapter 4: On Propositions in Which the Verbs ‘Begins’ and ‘Stops’ Occur	283
A Sophism	285
Other Verbs That Signify the Beginning or End of Being or Nonbeing	285
Which Expositions Yield True Propositions?	286
Rule 1	287
Rule 2	287
Rule 3	288
A Sophism	288
Solution to the Sophism	288
Rule 4	289
A Sophism	289
Solution to the Sophism	289
Another Sophism	289
Solution to the Sophism	290
Rule 5	290
A Sophism	290
Solution to the Sophism	290
Syllogisms Made up of Such Propositions	291

Appendix: Tables of Parallel Passages	293
Select Annotated Bibliography	295
Index of Persons	305
Index of Propositions, Rules, and Sophisms	307
Index of Topics	313



# Introduction

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## *Walter Burley's Life, Writings, and Influence*

Walter Burley (or Burleigh)<sup>1</sup> was a slightly younger contemporary of John Duns Scotus (c. 1266–1308) and a slightly older contemporary of William of Ockham (c. 1285–1347). Although nowadays he is discussed mainly in connection with intellectual currents at Oxford University, he also studied and taught at Paris for some sixteen years or more. If today he is not as well known as the more familiar figures of Scotus and Ockham to the generally educated reader, it is not through any fault of his. He was an important and influential philosopher in his own day, and a prolific author. One recent biographer describes him as “a man of impressive energy and versatility, whose literary output was markedly more extensive than that of any other individual of the early fourteenth-century group of thinkers produced by Merton College, Oxford.”<sup>2</sup>

According to an inscription in a manuscript copy of one of his works, Burley was in his “sixty-second year” on August 5, 1337. He was therefore born c. 1275.<sup>3</sup> He seems to have had a special connection with the diocese of York from the earliest days of his career, so that it is likely he was born at one of the two villages in Yorkshire named Burley, the more prominent of which at that time was Burley-in-Wharfedale.

Burley studied at Oxford in the 1290s, and by 1301 was a master of arts at Merton College. He remained there until at least 1305, and probably longer than that, but by 1310 at the latest he had left Oxford to study theology at Paris. He had become a master of theology there by 1324, although his interests quickly returned to the issues in logic and physics that were more typical of the faculty of arts than of theology.

In 1326/7, Burley left Paris to begin a series of diplomatic missions in Britain and to the papal court at Avignon. These tasks and travels continued inter-

1. For other variant forms of the name, see Emden, *Biographical Register*, vol. 1, p. 313.

2. Martin, “Walter Burley,” p. 194. On the Mertonians and their importance, see Edith Dudley Sylla, “The Oxford Calculators,” in Kretzmann, ed., *Cambridge History of Later Medieval Philosophy*, ch. 27 (pp. 540–563).

3. If the inscription means that he had already had his sixty-second birthday, then Burley was born in 1274/5. But if it is to be taken literally, as saying that he was still *in* his sixty-second year, and so had not yet completed it, then he was sixty-one at the time and was born in 1275/6.

mittently throughout the rest of his life, but did not stop his scholarly work. Around 1324, he joined the circle of distinguished intellectuals gathered in the household of the famous Richard de Bury, bishop of Durham. In a curious episode from the period, Burley was arrested and imprisoned for a few weeks in 1336 on the basis of a forestry offense,<sup>4</sup> although Richard de Bury, his patron, soon won his release and pardon.

From 1341 on, Burley moved to a series of locations in the south of England. Our last record of him shows that he was still alive as late as 1344, by which time he was around seventy years old. It is generally assumed that he died that year or the next, although there is no positive evidence that he did not live for several more years.

A recent study listed some sixty-one works of Burley's and rejected as spurious or doubtful several others attributed to him.<sup>5</sup> The list includes treatises on logic, physics, metaphysics, and psychology, commentaries on Porphyry and on many of Aristotle's writings, a (lost) commentary on the *Sentences* of Peter Lombard, and a widely circulated *Lives of the Philosophers* that contains many droll stories.

The number sixty-one is almost certainly an inflated estimate. First, the popular *Lives of the Philosophers* is now regarded as inauthentic,<sup>6</sup> and other works have been removed from the list as well.<sup>7</sup> Furthermore, even among the authentic writings, there is a problem about what to count as separate works. Burley very often produced several alternative drafts of his writings; *On the Purity of the Art of Logic* is itself a good example.<sup>8</sup> Sometimes one draft is merely an abbreviated version of the other; sometimes they are totally different works. Sometimes, as with *On the Purity of the Art of Logic*, the relation among the different versions is much more complicated. Taking all these factors into consideration, a much more reasonable count of Burley's authentic works would put their number at about fifty.<sup>9</sup> Still, even at that reduced number, it is plain that Burley was very productive.

He was not only prolific; he was also influential. Burley was one of the most important figures in the transformation of medieval logic and semantic theory that took place in the early fourteenth century. His *De suppositionibus* from

4. It was a matter of two oak trees that were cut down in Sherwood Forest.

5. Uña Juárez, *La filosofía del siglo xiv*, pp. 55–88. For other lists, see Weisheipl, "Ockham and Some Mertonians," pp. 177–188; Weisheipl, "*Repertorium Mertonense*," pp. 185–208; and Wood, "Studies on Walter Burley, 1968–1988," pp. 233–250.

6. Grignaschi, "Lo pseudo Walter Burley."

7. Ottman and Wood, "Walter of Burley: Life and Works."

8. See the discussion below.

9. Ottman and Wood, "Walter of Burley: Life and Works."

1302, for example, seems to mark the beginning of the revival of “supposition theory” in England after its decline in the last quarter of the thirteenth century.<sup>10</sup> His theory of the disputation-form known as *obligatio* became more or less the standard such theory to the end of the Middle Ages.<sup>11</sup> Likewise, his theory of how the temporal continuum is divided by instantaneous change (for example, the moment of death) became one standard view of the topic, although not the only view.<sup>12</sup> Burley’s theory of semantic paradoxes like the “Liar” was adopted by Ockham,<sup>13</sup> and Ockham’s treatment of the semantics of relative pronouns is in large measure taken wholesale from Burley’s earlier account.<sup>14</sup>

Although Burley played a major role in the development of many characteristic late medieval tools and techniques of logical and semantic analysis, in many cases he used those tools and techniques in the defense of quite traditional views. In metaphysics, for example, he maintained a decidedly realist position on the problem of “universals,” and in his semantic theory he held that such universal entities are what we mean by the general terms in our language. Thus, Burley was at once both an innovator and a conservative.

This fact makes him especially important in sorting out just what was and what was not involved in the revolutionary intellectual developments associated with Ockham’s nominalism in England, and slightly later, Jean Buridan’s at Paris. More than one modern researcher, for instance, has tried to find in Ockham’s purely logical views<sup>15</sup> 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.

10. Supposition theory is a theory of reference, combined with a theory of “ascent from” and “descent to singulars.” The latter part, although it was a universal and characteristic feature of late mediaeval semantics, is still not fully understood by modern scholars. See Spade, “Logic of the Categorical.” Supposition theory is featured prominently in the works translated below, particularly the *Longer Treatise*.

11. See Spade, “Three Theories of *Obligationes*.”

12. See Spade, “How to Start and Stop.”

13. Spade, “Ockham on Self-Reference,” p. 299.

14. Brown, “Walter Burleigh’s Treatise *De suppositionibus*,” p. 27.

15. As distinct from his semantic views. I am thinking of such logical doctrines as the theory of “descent to singulars.”

## *Burley's On the Purity of the Art of Logic*

*On the Purity of the Art of Logic* is a good place to see both the similarities and the differences between Burley and Ockham. There are two very different redactions of this work, the *Shorter Treatise* and the *Longer Treatise*. The relation between the two is uncertain and complicated, but what appears to have happened is something like this:<sup>16</sup> Burley began with what has survived as the *Shorter Treatise*. An introductory outline at the beginning of this version indicates that it was intended to cover most of the main divisions of the logic of the day.<sup>17</sup> But only a small part of this project was completed: (i) a discussion of general rules of inference, and (ii) a treatment of syncategorematic terms. Then Burley apparently set the project aside.

Eventually he returned to it, but seems to have rethought his original plan. For although the later *Longer Treatise* picks up where the *Shorter Treatise* had left off (with a discussion of the theory of "supposition"), it then continues with material that departs completely from the original outline: a discussion of "hypothetical" propositions,<sup>18</sup> and various kinds of reasoning based on them. Moreover, large sections of the *Shorter Treatise* are repeated verbatim in the *Longer Treatise*, indicating that the latter should not be thought of as simply the completion of the former, even under a revised plan. The result is that we are left with two treatises that plainly are closely related to one another and to some extent overlap, even though they in no sense form a neat unity.

The *Shorter Treatise* shows no awareness of Ockham's *Summa logicae*, which was written probably by c. 1323 and which makes clear use of Burley's own treatise *De suppositionibus*, from 1302.<sup>19</sup> By contrast, parts of the *Longer Treatise* are definitely directed against Ockham's semantic theories as found in his *Summa logicae*.<sup>20</sup> The obvious conjecture, then, is that Ockham's *Summa logicae* was written between the two versions of Burley's *On the Purity of the Art*

16. For details of the following discussion, see Boehner's introduction to his edition of Walter Burley, *De puritate artis logicae tractatus longior*.

17. See the *Shorter Treatise*, paragraphs (1)–(2), below.

18. Hypothetical propositions are propositions composed of two or more categoricals. A categorical proposition is, in modern logical terminology, either an atomic proposition or the negation of an atomic proposition. Hence the notion of a hypothetical proposition is not exactly the same as the modern notion of a "molecular" proposition, since the negations of atomic propositions are molecular but not hypothetical. Note that hypothetical propositions, in this sense, are not restricted to if-then conditionals.

19. For details and for an edition of the *De suppositionibus*, see Brown, "Walter Burleigh's Treatise *De suppositionibus*."

20. See the discussion in Boehner's introduction to his critical edition of Burley, *De puritate artis logicae tractatus longior*, pp. vii–viii.

of *Logic* and was what prompted Burley to return to his earlier project and defend his own more traditional semantic views against Ockham's attacks.<sup>21</sup>

The two versions of Burley's *On the Purity of the Art of Logic*, therefore, not only provide us with the logical views of a major fourteenth-century thinker; they also put us in a better position to identify and assess Ockham's own contribution to logic and semantic theory.

### *The Text and the Translation*

In 1951, Philotheus Boehner published a Latin edition of the *Shorter Treatise* on the basis of a single manuscript, the only one known at that time.<sup>22</sup> By 1955, a second manuscript had been discovered. Boehner took advantage of it to produce a revised edition of the *Shorter Treatise*, which he then published as a kind of appendix to his critical edition of the *Longer Treatise*. Of the many surviving manuscripts of the latter, Boehner used six early ones and an abbreviated copy in a seventh. There are many textual problems with the editions of both treatises, as Boehner was the first to admit. Nevertheless, the difficulties are not so serious as to warrant new full editions, and the text of both treatises seems firm enough that, with some revisions here and there, it can serve as the basis for a reasonably confident translation.

With the kind assistance of the late Rev. Leonard E. Boyle, O.P., then director of the Biblioteca Apostolica Vaticana, I have obtained a microfilm copy of MS Vat. Lat. 3066, the only manuscript to contain a copy of both versions. I used this manuscript as a check to correct Boehner's editions of both treatises where I found occasion to question his readings. It is this corrected version of Boehner's text that I have used as the basis for the translations below. In a volume of this nature, it would be tedious and out of place to burden the reader with the details of the corrections I have made. Nevertheless, simple honesty requires that I make known exactly what I have done. I have therefore written a separate article, detailing and justifying the changes I have made to Boehner's text. I have made it freely available to all interested persons under the title "Boehner's Text of Walter Burley's *De puritate artis logicae*: Some Corrections and Queries" on the World Wide Web, at my "Mediaeval Logic and Philosophy" page (<http://pvspace.com/Logic/>).

21. The *Shorter Treatise* already describes itself in paragraph (1) as "a kind of treatise on the purity of the art of logic." This fact would appear to dispose of the initially attractive hypothesis that the peculiar title of Burley's *On the Purity of the Art of Logic* refers to "purifying" logic from Ockhamist contamination.

22. Walter Burley, *De puritate artis logicae*, Philotheus Boehner, ed.



I have tried to translate these two works as literally as possible without being overly stilted. These treatises are not masterpieces of the literary art (the logical art is another matter), and I have resolutely avoided the temptation to produce a translation that is “even better than the original.” Nevertheless, I have likewise avoided the temptation to produce a translation so literal that one could in principle *reconstruct* the original Latin by running a kind of substitution algorithm on my translation. Thus, I have without fanfare inserted words or phrases here and there that are clearly required by Latin syntax or by the argument even though they are not present in the Latin text. In the few cases of more extensive insertions, I have used square brackets to set them off.

Because these texts continually refer back and forth from one passage to another, I have numbered the paragraphs of my translations in order to simplify cross-references. To minimize footnotes that were already threatening to become too numerous, I have in most cases included such cross-references in square brackets within the text itself.

For the benefit of readers who wish to compare my translation with the Latin, I have inserted page references in parentheses to Boehner’s Latin edition. They mark the beginning of a page of Latin text.

The many parallel passages between the *Shorter Treatise* and the *Longer Treatise* are often very useful for shedding light on difficulties. Where such passages occur, I have marked them as unobtrusively as possible by a simple dagger (†) inserted in the text, and have then included in an appendix a table showing where to find the parallel in the other treatise. In some cases, the parallels are so close and so extensive that they amount to copying almost verbatim whole passages from one treatise to the other. In such instances, Boehner printed the text in his edition of the *Longer Treatise*, and included in his revised edition of the *Shorter Treatise* only a reference to the *Longer Treatise*. I have followed this practice in my translation, as there is little to be gained by printing such passages twice.

These two treatises contain complicated and difficult material, and the reader will require a great deal of help in order to make sense of them. I have tried to provide some of this help in the footnotes without going into any more detail than is necessary. Technical expressions are often explained in a footnote on their first occurrence. Readers who are not reading this volume in sequence, from the beginning, may nevertheless find such explanations by consulting the index. Further help may be found by consulting various chapters of *The Cambridge History of Later Medieval Philosophy*.

The bibliography contains items in English that are likely to be of use to the reader, plus full details on all other sources cited in the footnotes.

Some portions of this material have appeared in other translations. Paragraphs (1)–(117) of the *Shorter Treatise* have been translated in *The Cambridge*

*Translations of Medieval Philosophical Texts*, volume 1.<sup>23</sup> Many years ago, I did a preliminary translation of paragraphs (1)–(248) of the *Longer Treatise* and deposited it with the Translation Clearing House at the Department of Philosophy, Oklahoma State University. Although I have revised it greatly, that translation formed the starting point for the present one.<sup>24</sup> The same passage from the *Longer Treatise* has also been published in a German translation by Peter Kunze.<sup>25</sup> Finally, paragraphs (250)–(396) of the *Longer Treatise* have appeared in a translation by Ivan Boh.<sup>26</sup>

23. Kretzmann and Stump, trans., *Cambridge Translations of Medieval Philosophical Texts*, vol. 1, pp. 283–311.

24. Walter Burley, *The Longer Treatise on the Purity of the Art of Logic*, Tract I: *On the Properties of Terms*.

25. Walter Burley, *Von der Reinheit der Kunst der Logik: Erster Traktat: Von den Eigenschaften der Termini*, Peter Kunze, trans.

26. Boh, "Burleigh: On Conditional Hypothetical Propositions."



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*The Shorter Treatise on the  
Purity of the Art of Logic*



(1) (p. 199) I propose to compile, if God grants it, a kind of treatise on the purity of the art of logic, so that youths who are arguing about any problem at all can be trained and can quickly dispose of it. The little book will contain four parts. In the first part certain general rules will be set out to be used in what follows. The second part will deal briefly and succinctly with certain points about the sophistical art, the third part about the art of training students, and the fourth part about demonstrative art.

(2) The first part will have three subparts: In the first, general rules of inferences will be established. The second will deal with the nature of syncategorematic words. The third will discuss certain matters concerning the suppositions of terms.

## The First Part: On General Rules

### *The First Subpart: On General Rules of Inferences*

(3) First therefore I assume a certain distinction, namely this one: †One kind of inference is simple, another kind is ‘as of now’. A simple inference is one that holds for every time. For example ‘A man runs; therefore, an animal runs’. An ‘as of now’ inference holds for a determinate time and not always. For example ‘Every man runs; therefore, Socrates runs’. For that inference does not hold always, but only while Socrates is a man.

#### RULE 1

(4) †The first rule of inferences is this: In every good simple inference, the antecedent cannot be true without the consequent. (p. 200) So if in some possible case the antecedent could be true without the consequent, then the inference was not a good one. But in an ‘as of now’ inference the antecedent cannot as of now be true without the consequent—that is, for the time for which the inference holds.

(5) From this rule there follow two other rules. The first is: The impossible does not follow from the contingent in a simple inference. The second is that

the contingent does not follow from the necessary. The reason for both of these is that the contingent can be without the impossible, and the necessary without the contingent.

## RULE 2

(6) The second main rule is that whatever follows from a consequent follows from the antecedent.

(7) There is another rule too, almost the same as this one: Whatever is antecedent to an antecedent is antecedent to the consequent.

(8) For these two rules [(6)–(7)] always produce a good argument.

(9) Two other rules, which always produce a fallacy of the consequent, are false. They are these: Whatever follows from an antecedent follows from the consequent, and: Whatever is antecedent to a consequent is antecedent to the antecedent.

(10) †When an argument proceeds through many intermediate inferences, an inference ‘from first to last’ holds by means of the rule ‘Whatever follows from a consequent follows from the antecedent’ [(6)]. You have to take into account that an inference ‘from first to last’ does not hold except when the same thing that is consequent in the preceding conditional is antecedent in the subsequent conditional. For if the antecedent in the subsequent conditional was other than the consequent was in the preceding conditional, the inference from first to last does not hold. Rather, there is a fallacy of accident, arising from a variation in the middle.<sup>1</sup> For the consequent in the preceding conditional is the middle that links the later conditional with the earlier one. So the same thing that is consequent in the preceding conditional has to be antecedent in the subsequent conditional.

(11) For example: ‘If a man exists, an animal exists; if an animal exists, a body exists; if a body exists, a substance exists; therefore, from first to last, if a man exists, a substance exists’. If all these inferences are linked with one another, the inference ‘If a man exists, a substance exists’ holds ‘from first to last’. (p. 201) For the same thing that was consequent in the earlier inference was antecedent in the later inference.

(12) †It is clear from this that if someone argues like this: ‘If no time exists, it is not day; and if it is not day and some time exists, it is night; and if it is night, some time exists; therefore, from first to last, if no time exists, some

1. The word ‘middle’ is here used by analogy with the ‘middle term’ in a categorical syllogism. In the present context, the ‘middle’ is not a term at all, but a whole proposition.

time exists', the inference from first to last does not hold. For the consequent in the preceding conditional is not the same as the antecedent is in the subsequent conditional. For the first inference was 'If no time exists, it is not day', so that the consequent in this inference was only 'It is not day'. And in the second inference the antecedent was only 'It is not day and some time exists'. Therefore, the inference from first to last is invalid, because the antecedent in the later inference was not the same as the consequent in the earlier one.

## Sophisms

(13) †From this rule, the solution to sophisms like these is plain: It is proved that to the extent that something is larger, to that extent it appears smaller. This goes as follows: To the extent that something is larger, to that extent it is seen from farther away; and to the extent that something is seen from farther away, to that extent it appears smaller; therefore, from first to last, to the extent that something is larger, to that extent it appears smaller.

(14) Likewise it is proved that to the extent that someone is uglier, to that extent he is handsomer. This goes as follows: To the extent that you are uglier, to that extent you dress yourself up more; but to the extent that you dress yourself up more, to that extent you are handsomer; therefore, from first to last, to the extent that you are uglier, to that extent you are handsomer.

(15) †Likewise it is proved that to the extent you are thirstier, to that extent you are less thirsty. For to the extent you are thirstier, to that extent you drink more; to the extent you drink more, to that extent you are less thirsty; therefore, from first to last, to the extent you are thirstier, to that extent you are less thirsty.

## Reply to the Sophisms

(16) The solution to such sophisms is plain. For it does *not* follow 'from first to last', because the consequent in the preceding conditional is not the same (p. 202) as the antecedent was in the subsequent conditional. For the consequent in the preceding conditional is taken with 'to that extent', and the antecedent in the subsequent conditional is taken with 'to the extent that'. Hence it is not the same proposition.<sup>2</sup>

2. This seems problematic. The propositions are not conditionals at all; they are not of the form 'if . . . then . . .', but of the form 'to the extent that . . . , to that extent . . .'.



## Additional Rules

(17) †From the rule ‘Whatever follows from a consequent follows from the antecedent’ [(6)] other rules follow. One is that just as in a universal proposition one can descend under the subject to any suppositum<sup>3</sup> of the subject with respect to the predicate, so in any good inference one can descend under the antecedent to any antecedent of that antecedent with respect to the same consequent.

(18) For example, the inference ‘If a man runs, an animal runs; therefore, if Socrates runs, an animal runs’ is a good one. And ‘If every man runs, Socrates runs; therefore, if every animal runs, Socrates runs’ is likewise good. In both cases one is arguing by the rule ‘Whatever follows from a consequent follows from the antecedent’. For example, because ‘A man runs’ follows from ‘Socrates runs’, therefore whatever follows from ‘A man runs’ follows from ‘Socrates runs’. Therefore, if it follows ‘A man runs; therefore, an animal runs’, then ‘If Socrates runs, an animal runs’ follows as well.

(19) †There is another rule, that in a conditional the antecedent of which is a universal proposition, the subject of the antecedent supposits immobilely with respect to the consequent in such a way that one cannot descend under the subject of the antecedent with respect to the consequent. But in a conditional the antecedent of which is an indefinite or particular proposition, the subject supposits confusedly, distributively, and mobilely with respect to the consequent.

(20) For example, in a conditional the antecedent of which is a universal proposition (like ‘If every man runs, Socrates runs’), one cannot descend under the subject of the antecedent. For it does not follow: ‘If every man runs, Socrates runs; therefore, if Plato runs, Socrates runs’. Rather, it is a fallacy of the consequent, because it argues by the false rule ‘What follows from the antecedent follows from the consequent’. Nevertheless it correctly follows ‘If a man runs, an animal runs; (p. 203) therefore, if Socrates runs, an animal runs’. And so in a conditional one can descend under the subject of the antecedent taken without distribution with respect to the consequent. But one cannot descend under the subject taken with distribution.

(21) †Once more, from the rule ‘Whatever follows from a consequent follows from the antecedent’ [(6)], there follow two other rules. One of them is: Whatever follows from a consequent and from its antecedent follows from the antecedent by itself.

3. That is, to anything for which the subject term has supposition. On the theory of supposition, see the *Longer Treatise*, tract 1, part one, and Burley’s earlier *De suppositionibus* (dated 1302), edited in Brown, “Walter Burleigh’s Treatise *De suppositionibus*.”

(22) The second rule is: Whatever follows from a consequent together with something added follows from the antecedent with the same thing added.

(23) The reason for the first rule is: Every proposition implies itself together with its consequent. For example, it follows: 'Socrates runs; therefore, Socrates runs and a man runs'. Therefore, since the antecedent implies the antecedent and the consequent, and whatever follows from a consequent follows from its antecedent [(6)], therefore it follows that whatever follows from an antecedent and its consequent follows from the antecedent by itself.<sup>4</sup>

(24) The reason for the second rule is: An antecedent together with something added implies the consequent with the same thing added. For it follows: 'Socrates runs and you are sitting; therefore, a man runs and you are sitting'. Therefore, since whatever follows from a consequent follows from the antecedent [(6)], whatever follows from a consequent together with something added has to follow from the antecedent with the same thing added.

## Counterexamples

(25) But there are arguments by counterexamples against the rule 'Whatever follows from a consequent follows from the antecedent' [(6)].<sup>5</sup>

(26) For the inference 'I say that you are an ass; therefore, I say that you are an animal' is a good one, and yet something follows from the consequent that does not follow from the antecedent. For it follows: 'I say that you are an animal; therefore, I say the truth'. And yet it does not follow: 'I say that you are an ass; therefore, I say the truth'.

(27) Or it could be proved by this rule that you are an ass. For it follows: 'I say that you are an ass; therefore, I say the truth; therefore, it is true that you are an ass; and consequently you are an ass'. Proof of the inference 'If I say that you are an ass, I say the truth': For it follows: 'If I say that you are an animal, I say the truth; but if I say that you are an ass, I say that you are an animal; therefore, by saying that you are an ass, I say the truth'. Therefore,

4. The sense of the passage is needlessly obscured by the fact that the words 'antecedent' and 'consequent' vary their reference in the course of the sentence. The idea is this: (a) Given that  $p \rightarrow q$ , we have  $p \rightarrow (p \& q)$ —that is, 'the antecedent implies the antecedent and the consequent'. (b) In general, (6) gives us: if  $\alpha \rightarrow \beta$  and  $\beta \rightarrow \gamma$  then  $\alpha \rightarrow \gamma$  ('whatever follows from a consequent follows from its antecedent'). Therefore, substituting  $p$  for  $\alpha$ ,  $(p \& q)$  for  $\beta$ , and  $r$  for  $\gamma$ , (a) and (b) yield: Given that  $p \rightarrow q$ , if  $(p \& q) \rightarrow r$ , then  $p \rightarrow r$  ('whatever follows from an antecedent and its consequent follows from the antecedent by itself').

5. Some of the following arguments, particularly those in (28)–(31), will be made much clearer if you consult Burley's replies in (32)–(39), below.

(p. 204) the consequent<sup>6</sup> is true. The inference is plain, because it argues by the rule 'Whatever follows from a consequent does so from the antecedent too' [(6)].

(28) †Again, there is once more an argument against the rule mentioned above [(6)]. For the disjunctive proposition 'Socrates runs or does not run' is a consequent of 'Socrates does not run'. Nevertheless, something follows from the disjunctive proposition that does not follow from 'Socrates does not run'. For from Socrates' running or not running it follows that a man runs, and yet from Socrates' not running it does not follow that a man runs. For it does not follow: 'Socrates does not run; therefore, a man runs'.

(29) Again, 'Socrates runs' is a consequent of 'Socrates runs alone', and yet something follows from Socrates' running that does not follow from Socrates' running alone. For from Socrates' running it follows that a man runs, and yet 'From Socrates' running alone it follows that a man runs' is false.

(30) Again, the proposition 'Some proposition is true' is a consequent of 'Every proposition is true', and yet something follows from the consequent that does not follow from the antecedent. For from some proposition's being true it follows that it is true that you are an ass. And yet 'From every proposition's being true it follows that it is true that you are an ass' is not true. For it follows: 'From every proposition's being true it follows that it is true that you are an ass; therefore, from God's existing's being true it follows that it is true that you are an ass'.

(31) Or it could be proved by this argument that you are an ass. For it follows: 'From every proposition's being true it follows that it is true that you are an ass; but it is true that God exists; therefore, it is true that you are an ass'. This is to argue as follows: 'God exists; therefore, you are an ass; the antecedent is true; therefore, the consequent is as well'. Proof of the inference: 'From its being true that God exists it follows that it is true that you are an ass' is true. Proof: For it follows 'From every proposition's being true it follows that it is true that you are an ass; therefore, from its being true that God exists it follows that it is true that you are an ass. The antecedent is true; therefore, the consequent is as well'.

## Replies to the Counterexamples

(32) (p. 205) To the first of these [(26)-(27)], it must be said that 'I say that you are an animal' has to be distinguished according to equivocation, inso-

6. That is, 'You are an ass'.

far as the dictum 'that you are an animal'<sup>7</sup> can supposit for an utterance<sup>8</sup> or for a thing. In the first sense it is signified that I say the utterance 'You are an animal'. In the second sense it is signified that I say the thing signified by that utterance. In the same way, any proposition has to be distinguished in which an act relevant to a mode<sup>9</sup> is denoted to take a dictum as its object. For such propositions have to be distinguished insofar as the act can take the dictum as its object either by reason of the dictum or by reason of the thing.

(33) For example, in saying 'He knows that you are a man' there can be two good ways of understanding it: (i) that he knows the utterance 'You are a man' (the layman who does not know Latin knows that), and (ii) that he knows what is really conveyed by the proposition 'You are a man' (he does not know that unless he is a cleric).

(34) In this way I say in the present case that if the act of saying in 'I say that you are an animal' takes the dictum as its object by reason of the utterance, then the inference 'I say that you are an ass; therefore, I say that you are an animal' is not valid. But if it takes the dictum as its object by reason of the thing, then the inference 'I say that you are an animal; therefore, I say the truth' is not valid, because the antecedent can be true without the consequent. For if I say that you are an ass, I say that you are an animal, insofar as the act of saying takes the dictum as its object by reason of the thing. And yet in saying that you are an ass I am not saying the truth.

(35) †To the second argument [(28)] it must be said that the proposition 'A man runs' does *not* follow from the disjunctive proposition 'Socrates runs or does not run'. And when it is said that 'From Socrates' running or not running it follows that a man runs' is true, I say that this is ambiguous according

7. A 'dictum' is an accusative + infinitive construction. Latin frequently uses such constructions in *oratio obliqua*, where English would prefix a 'for' or use a 'that'-clause. Thus 'It is impossible *for* a man to be an ass', 'It is impossible *that* a man be an ass'. The original Latin construction is sometimes retained in English, however, and is visible with some pronouns, where the accusative is distinguished from the nominative. Thus, 'They thought *him* to be mad', 'I would prefer *him* to keep quiet'. In some contexts, the Latin construction can also be translated with a possessive plus a gerund: 'I would prefer *his* keeping quiet'. I have used whichever translation seemed best on any given occasion.

8. 'utterance' = *vox*. There is no really satisfactory translation for this term. It refers to any block of speech, not necessarily consisting of meaningful words or meaningful combinations of words. 'Utterance' is probably accurate enough, and I have adopted it throughout; but it sometimes results in pretty lumpy English.

9. Here 'mode' seems to include more than the familiar 'modal' words ('necessary', 'contingent', 'possible', 'impossible') discussed in (212)–(252), below. Here it in effect includes any word than can take a propositional complement.

to composition and division. In the sense of composition it is false, because it is denoted that 'A man runs' follows from the proposition 'Socrates runs or does not run', and that is false. In the sense of division it is true, because it is denoted that from Socrates' running it follows that a man (p. 206) runs or else from Socrates' not running it follows that a man runs, and this disjunctive proposition is true. For the one part is true, namely 'From Socrates' running it follows that a man runs'.

(36) †To the third counterexample [(29)] it must be said whatever follows from 'Socrates runs' follows from 'Socrates runs alone'. And when it is said that 'From Socrates' running it follows that a man runs' is true, and 'From Socrates' running alone it follows that a man runs' is false, I say that 'From Socrates' running alone, etc.' is ambiguous according to composition and division. In the sense of composition it is true; in the sense of division it is false.

(37) To the fourth argument [(30)] it must be said that whatever follows from 'Some proposition is true' follows from 'Every proposition is true'. And when it is said 'From some proposition's being true it follows that your being an ass is true', I say that this is ambiguous according to composition and division. In the composite sense it is false, in the divided one it is true. And 'From every proposition's being true it follows that it is true that you are an ass' [(31)] has to be distinguished in the same way. In the divided sense it is false, and in that sense it is a universal proposition; in the composite sense it is true, and in that sense it is a singular proposition. In this sense it does not follow: 'From every proposition's being true it follows that it is true that you are an ass; therefore, from God's existing's being true it follows that it is true that you are an ass'. Rather, there is a fallacy of the consequent here, because it argues by the false rule 'What follows from an antecedent follows from the consequent'.

(38) Thus you have to know that when some dictum is made the subject and a mode is predicated, then the whole proposition is singular. And then a descent does not have to be made under the subject, even though the subject of the dictum is distributed by the universal quantifier. For this reason it does not follow: 'That every mule is sterile is known by me; therefore, that this mule is sterile is known by me'.

(39) †You have to know also that even though some antecedent implies a consequent, nevertheless when something is added to the antecedent, the result does not have to imply the consequent together with that addition. This is plain. For the inference 'I am stuck in the mud with a hundred pounds;<sup>10</sup> therefore, I am stuck in the mud' is a good one. And yet it does not follow: 'I would like to be stuck in the mud (p. 207) with a hundred pounds; therefore,

10. That is, pounds sterling, money.

I would like to be stuck in the mud'. For one who wishes the antecedent need not wish the consequent.

### RULE 3

(40) †The third main rule is that in every good inference that is not syllogistic, the opposite of the antecedent follows from the contradictory opposite of the consequent. For example, because it follows: 'A man runs; therefore, an animal runs', the opposite of the antecedent follows from the contradictory opposite of the consequent. For it follows: 'No animal runs; therefore, no man runs'. And if the opposite of the antecedent follows from the contradictory opposite of the consequent, then the first inference was a good one.

(41) The reason for this rule is this: For if the opposite of the antecedent does not follow from the contradictory opposite of the consequent, then the antecedent would be compatible with the opposite of the consequent. For if one opposite does not follow, the other one is compatible. But whatever is compatible with the antecedent is compatible with the consequent. Therefore, if the opposite of the consequent were compatible with the antecedent, it would follow that the opposite of the consequent would be compatible with the consequent. And so contradictories would be compatible with one another, which is impossible.

(42) †Note that in order for an inference to be a good one, it is required that the *contradictory* opposite of the antecedent follow from the *contradictory* opposite of the consequent. It is not enough that the *contrary* opposite of the antecedent follow from the *contrary* opposite of the consequent. For if that were enough, it would follow that the inference 'Every man is an animal; therefore, every animal is a man' would be a good one. For the opposite of the antecedent follows from the contrary opposite of the consequent. For it follows: 'No animal is a man; therefore, no man is an animal'.

(43) Note also that the opposite of the antecedent does not follow from the opposite of the consequent in every good inference, but only in nonsyllogistic inference. For in syllogistic inference the antecedent does not have an opposite, because a syllogistic antecedent (p. 208) is a multiple unconjoined proposition,<sup>11</sup> and an antecedent like that does not have an opposite at all. For it is not a proposition that is one simply or one conjointly.<sup>12</sup>

11. That is, the premises of a syllogism are not explicitly linked by any conjunction. See also n. 12, below.

12. That is, in modern terminology, it is neither an 'atomic' proposition nor a molecular

(44) Instead, in a syllogistic inference, from the opposite of the conclusion together with one of the premises the opposite of the other premise does follow. And if from the opposite of the conclusion together with one or the other of the premises there follows the opposite of the other one, then the first syllogism was a good one. For the Philosopher proves his syllogisms in this way, that is, by arguing from the opposite of the conclusion together with one of the premises, as is plain in *Prior Analytics* I.

#### RULE 4

(45) †But because it is not known for every proposition whatsoever what its contradictory is, therefore I posit a fourth main rule, which is this: The formal thing affirmed in one contradictory should be denied in the other.

(46) Thus what is the formal and main thing cannot be affirmed in both contradictories. Rather it should be affirmed in one and denied in the other. For since in assertoric propositions the verb coupling the predicate with the subject<sup>13</sup> is formal, therefore the same main verb does not stay affirmed in both contradictories. Instead, to give the contradictory of an affirmative assertoric proposition, one should add a negation to the main verb.

(47) In the same way, in modal propositions the mode is the main and formal thing. Therefore, in modals the contradictory is given by adding a negation to the mode, as the Philosopher says in *On Interpretation* II [= 12 21<sup>b</sup>23–22<sup>a</sup>13].<sup>14</sup> It is the same in other cases as well, for example, in copulatives and so on. For since in a copulative proposition<sup>15</sup> the copulative sign is the main thing, therefore the copulative sign will not remain affirmed in two contradictories, but should be affirmed in one and denied in the other.

(48) It is the same in other cases. For in disjunctives the disjunction is the main thing, in conditionals the condition,<sup>16</sup> in reduplicatives the reduplication

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proposition in which the components are joined by a ‘conjunction’. (The conjunction need not be ‘and’, so that such molecular propositions need not be ‘conjunctions’ in the sense familiar to modern logic. Conjunctions like ‘or’, ‘if’, ‘because’, ‘while’, etc., also count.)

13. That is, the ‘copula’ ‘is’.

14. In the Middle Ages, the *On Interpretation* was customarily divided into two ‘books’. The end of book I was the end of ch. 9 in the modern division.

15. That is, a ‘conjunction’ in the modern logical sense, a molecular proposition in which the main connective is ‘and’.

16. That is, the conditional sign, the ‘if’.

[is]. In all such cases the contradiction should be given by adding a negation to what is the formal thing.

(49) From this it is plain that the contradictory of 'Socrates runs and Plato runs' is not 'Socrates does not run and Plato does not run', because in both of them the coupling is affirmed, and also because they can be false together. Instead, the contradiction of 'Socrates runs and Plato runs' is 'Not: Socrates runs and Plato (p. 209) runs' because there the one negation denies the mark of coupling, and in that case the sense is 'The copulative 'Socrates runs and Plato runs' is not true'. It is the same for disjunctives, conditionals and all others cases.

## Doubts and Replies

(50) But perhaps someone might raise the doubt: What is the opposite of a copulative proposition equipollent to, and what is the opposite of a disjunctive proposition equipollent to, and so on?

### *Copulative Propositions*

(51) It must be said as a rule that the contradictory of a copulative proposition amounts to a disjunctive proposition having parts that contradict the parts of the copulative. For example, the contradictory of the copulative 'Socrates runs and Plato runs' amounts to 'Socrates does not run or Plato does not run'.

### *Disjunctive Propositions*

(52) Another rule is that the contradictory of a disjunctive proposition is equipollent to a copulative proposition made up of the contradictories of the parts of the disjunctive. For example, the contradictory of 'Socrates runs or Plato runs' amounts to 'Socrates does not run and Plato does not run'.

### *Conditional Propositions*

(53) Another rule is that the contradictory of a conditional proposition amounts to a proposition signifying that the opposite of its consequent is com-



patible with its antecedent. For the contradictory of 'If Socrates runs, a man runs' is 'Not: If Socrates runs, a man runs'. This amounts to 'These are compatible with one another: "Socrates runs" and "No man runs" '.

### *Reduplicative Propositions*

(54) Another rule is that the contradictory of a reduplicative proposition has two causes of truth. For the contradictory of a reduplicative proposition can be true either because the consequent does not follow from the antecedent or because the antecedent is not the cause of the consequent. For example, the contradictory of 'Insofar as you are an ass you are an animal' is 'Not: Insofar as you are an ass you are an animal'. This has two causes of truth: either because it does not follow 'You are an ass; therefore, you are an animal', or because the proposition 'You are an ass' is not the cause of 'You are an animal'.

### *A General Rule*

(55) Further, it needs to be known as a rule that although, for anything whatever, one of a pair of contradictories is truly affirmed of it absolutely; nevertheless, it is not necessary that, for anything whatever, one of a pair of contradictories is truly said of it under just any mode at all. Thus both of these are false: 'Insofar as you are a man, you are an ass' and 'Insofar as you are not a man, you are not an ass'. They do not contradict one another, because the reduplication is affirmed in both.

## RULE 5

(56) The fifth main rule is this: The negation of any inferior follows from the negation of the superior.<sup>17</sup> This rule is to be understood as holding when the negated superior supposits personally. For it follows: (p. 210) 'Socrates is not an animal; therefore, Socrates is not a man or an ass and so on'.

(57) For this reason, the truth of a certain statement made in other writings is clear,<sup>18</sup> that a negation negates more than an affirmation affirms. For

17. One term is 'inferior' to another if necessarily whatever the former is truly predicable of, the latter is truly predicable of, but not conversely.

18. I have not located this statement elsewhere.

the negation of a superior is the negation of any inferior, yet the affirmation of a superior is not the affirmation of each inferior. For it is not necessary that if running is affirmed of man, it is affirmed of each man.

(58) Nevertheless it needs to be known that, as the Philosopher says [*On Interpretation* 7 17<sup>b</sup>38–18<sup>a</sup>1], a negation primarily negates the same thing that an affirmation affirms, and no more. Yet a negation negates more ‘as a consequent’ and secondarily than an affirmation affirms.

## RULE 6

(59) The sixth main rule is that a negation has scope over what follows, not over what precedes.

(60) From this rule two other rules follow. The first is that an inference does not hold from an inferior to a superior with a negation put in front. This is clear. For it does not follow: ‘Socrates is not an ass; therefore, he is not an animal’.

(61) The second is that there is a good inference from an inferior to a superior particularly or indefinitely with a negation put afterward. For it quite well follows: ‘A man does not run; therefore, an animal does not run’. This is plain, because the opposite of the antecedent is inferred from the opposite of the consequent.

(62) Once more, from the rule ‘An inference does not hold from an inferior to a superior with a negation put in front’ [(60)] another rule follows, that an inference does not follow from an inferior to a superior with a word that conveys a negation put in front of the superior and inferior and reaching them.<sup>19</sup> Therefore, from a difference or otherness of an inferior there does not follow a difference or otherness of the superior. For it does not follow: ‘Socrates differs from an ass; therefore, Socrates differs from an animal’. Neither is it valid: ‘Socrates is other than an ass; therefore, he is other than an animal’. But the other way around, from a difference or otherness of a superior, there does follow a difference or otherness of the inferior. For it follows: ‘Socrates is other than an animal; therefore, he is other than an ass’.

(63) And because a superior taken with distribution is inferior to itself without a distribution, and to each one of its inferiors, therefore from a difference of a superior taken with distribution there does not follow a difference of the same taken without distribution, or even of any inferior. For it does not

19. That is, containing them within its scope.

follow: 'Socrates differs from each man; therefore, he differs from a man'.<sup>20</sup> Neither does it follow: 'Socrates differs from each (p. 211) man; therefore, Socrates differs from Socrates', because the antecedent is true and the consequent false. For 'Socrates differs from each man' is true, because it amounts to 'Socrates is not the same as each man', and this amounts to 'Socrates as some man is not the same'.<sup>21</sup> But 'Socrates as some man is not the same' is now true, and therefore 'Socrates differs from each man' is true.

(64) It is clear from this that 'You differ from each man' and 'You from each man differ' are not the same, because the first is true and the second false. For 'You differ from each man' is true, because it amounts to 'You as someone are not the same'. And 'You from each man differ' is false, because it amounts to 'You as no one are the same'.

(65) It is also plain that it does not follow: 'You differ from each person; therefore, you differ from yourself'. Instead, it is a fallacy of the consequent, as in 'You as someone are not the same; therefore, you as yourself are not the same'.

## RULE 7

(66) The seventh main rule is that an inference holds from a distributed superior to an inferior taken either with distribution or without distribution. But an inference does not hold from an inferior to a superior with distribution. For it follows: 'Every animal runs; therefore, every man runs, and a man runs',<sup>22</sup> but not conversely.

(67) From this rule there arises a certain other one, namely that when some inference is good with the terms taken without distribution, it is good the other way around with the terms taken with distribution. This rule is put in other words as follows:

(68) Whenever a consequent follows from an antecedent, the distribution of the antecedent follows from the distribution of the consequent. Because 'A

20. Read this in the sense 'Socrates is not each man; therefore, Socrates is not a man (at all)'. So too for the other 'difference' locutions throughout this section.

21. The word order, although awkward, is important. With 'some' *before* the negation, the sense is that there is some man such that Socrates is not the same as that man.

22. This is an abbreviated version of two distinct inferences, one with the 'inferior' term distributed ('Every animal runs; therefore, every man runs') and one with the same 'inferior' term undistributed ('Every animal runs; therefore, a man runs'). The claim is that both inferences are valid, but their converses are invalid.

man runs; therefore, an animal runs' follows, therefore 'Every animal runs; therefore, every man runs' follows.

## Counterexamples

(69) But there are counterexamples to this rule. For it follows: 'Socrates runs; therefore, a man runs'. And yet it does not follow: 'Every man runs; therefore, every Socrates runs', because the consequent is not intelligible.

(70) (p. 212) Again, it follows: 'A man is an ass; therefore, a man is an animal'. And yet it does not follow: 'Every man is an animal; therefore, every man is an ass'.

(71) Likewise it follows: 'An animal is a man; therefore, a man is an animal'. And yet it does not follow: 'Every man is an animal; therefore, every animal is a man'.

## Replies to the Counterexamples

(72) To the counterexamples, it must be said that the rule is true if three conditions are assumed. The first is that the first inference holds by reason of the incomplexes and not by reason of the whole complex.<sup>23</sup> Second, that the terms by reason of which the first inference held are distributable. The third condition is that the distribution be added to the terms by reason of which the first inference was good.

(73) On account of a failure of the first condition, 'Every man is an animal; therefore, every animal is a man' does not have to follow if 'An animal is a man; therefore, a man is an animal' follows. For the inference 'An animal is a man; therefore, a man is an animal' holds by reason of the whole complex and not by reason of the incomplexes.

(74) On account of a failure of the second condition, 'Every man runs; therefore, every Socrates runs', does not follow, although the converse follows without distribution.

23. That is, the inference must not be 'formal', as we would put it today. For example, the inference 'An *A* is a *B*; therefore, a *B* is an *A*' holds 'by reason of the whole complex' and not 'by reason of the incomplexes', since it does not depend on what the terms *A* and *B* are. Note that the constituent terms of a proposition are here called 'incomplex' only *with respect to* the whole complex expression of which they are parts; internally, they may themselves be complex expressions like 'flying horse', 'teacher of Plato'.

(75) On account of a failure of the third condition, 'Every man is an animal; therefore, every man is an ass' does not follow, even though the converse follows without distribution: 'A man is an ass; therefore, a man is an animal'. For the distribution is not added to the terms by reason of which the inference held. For the inference 'A man is an ass; therefore, a man is an animal' holds by reason of the predicates. And therefore, adding the distribution to the predicates, the converse inference holds. For it follows: 'A man is every animal; therefore, a man is every ass'.<sup>24</sup>

## RULE 8

(76) The eighth main rule is that an inference from a proposition having several causes of truth to one of them does not hold. Instead, it is a fallacy of the consequent. For example, if one argues as follows: 'Socrates is not ill; therefore, Socrates is healthy', there is a fallacy of the consequent. For 'Socrates is not ill' has two causes of truth, namely 'Socrates does not exist' (and therefore is not ill) and 'Socrates is healthy'. And the argument is to one of them. Therefore, there is a fallacy of the consequent.

(77) (p. 213) From this rule, some people derive a rule such that an affirmative proposition never follows from a purely negative one.<sup>25</sup> For a negative has two causes of truth, one of which is the affirmative with the opposite predicate, and the other is the establishing of the subject.<sup>26</sup> Also, because a negation posits nothing and an affirmative does posit something, [because] an inference does not hold when there is more posited by the consequent than by the antecedent.

(78) Yet some people<sup>27</sup> say that although an affirmative does not follow from a purely negative proposition, nevertheless an affirmative does follow from a negative together with the establishing of the subject. For although 'Socrates is not ill; therefore, Socrates is healthy' does not follow, neverthe-

24. Despite what Burley says, this would appear to be invalid. Consider a case in which only one animal existed, and it was a man.

25. I have not found this rule elsewhere.

26. 'establishing' = *constantia*, from the verb *constare* = to stand together, agree, exist, be established, to be well known. A *constantia* of a term is a proposition in the form of an existence claim with that term in subject position. For example, a *constantia* of the term 'Socrates' is a proposition of the form 'Socrates exists' or 'There is a Socrates'.

27. I have not identified these authors.

less 'Socrates is not ill, and Socrates exists; therefore, Socrates is healthy' does follow.

(79) Nevertheless, the claim that an affirmative does not follow from a purely negative proposition does not hold. For the proposition 'Some proposition is true' is affirmative, and yet it follows from every negative proposition, no matter how negative it is. For it follows: 'Socrates does not run; therefore, some proposition is true'. For it follows: 'Socrates does not run; therefore, that Socrates does not run is true', because each proposition asserts itself to be true. And it follows: 'That Socrates does not run is true; therefore, some proposition is true'. Therefore, from first to last: 'Socrates does not run; therefore, some proposition is true'. It is the same for any other negative proposition, namely that any negative proposition implies 'Some proposition is true'.

(80) Again, any negative implies a disjunction of which the negative is one part. For it follows: 'Socrates does not run; therefore, Socrates runs or does not run'. And this is affirmative, and so any negative implies an affirmative.

(81) But nevertheless, a purely negative proposition does not imply an affirmative with a contrary or privative predicate with respect to the same subject, unless the establishing of the subject is posited. For it does not follow: 'Socrates is not healthy; therefore, he is ill'. Rather it is a fallacy of the consequent, because the antecedent has another cause of truth. Neither does it follow: 'Socrates is not just; therefore, he is unjust'.

## Doubts

(82) But there is a doubt about whether from a purely negative proposition there follows an affirmative with the contradictory predicate.

### *Doubt 1*

(83) (p. 214) *First doubt*. Does it follow: 'Socrates is not white; therefore, he is nonwhite'? So too in other cases. This is to ask whether an affirmative with an infinite predicate follows from the negative with a finite predicate, and likewise whether an affirmative with a finite predicate follows from the negative with an infinite predicate. For example, does it follow: 'Socrates is not white; therefore, Socrates is nonwhite', and also 'Socrates is not nonwhite; therefore, Socrates is white'?

(84) For it seems that from a negative proposition there always follows the affirmative with the contradictory predicate. For one of two contradictories is said of anything whatever,<sup>28</sup> according to the Philosopher in *Metaphysics* V<sup>29</sup> and IV [7 1011<sup>b</sup>23–24], and in many other places. But a finite and an infinite term are contradictories. Therefore, from whatever the finite term is removed, the infinite term is attributed to the same thing.

(85) It is argued to the contrary, because it does not follow: ‘Socrates is not white wood; therefore, Socrates is nonwhite wood’. For the antecedent is true and the consequent false. The falsehood of the consequent is obvious. Likewise it does not follow: ‘Better than God there is not a man; therefore, better than God there is a nonman’. For the antecedent is true and the consequent false. The falsehood of the consequent is obvious, because it follows: ‘Better than God there is a nonman; therefore, a nonman is better than God’. The consequent is false; therefore, the antecedent is too.

### *Doubt 2*

(86) *Second doubt.* There is another doubt. Does each affirmative imply the negative with the contradictory predicate? That is, does the negative with an infinite predicate follow in general from an affirmative with a finite predicate, and does the negative with a finite predicate follow from an affirmative with an infinite one?

(87) For it seems not, because it does not follow: ‘Socrates was white; therefore, Socrates was not nonwhite’. Neither does it follow: ‘Socrates is not white; therefore, Socrates is nonwhite’.<sup>30</sup> Nor does it follow: ‘Socrates sees a nonman; therefore, Socrates does not see a man’.

(88) The Philosopher seems to intend the contrary in *On Interpretation* II [= 19<sup>b</sup>5–20<sup>b</sup>12].

28. Rather, anything whatever is such that one of a pair of contradictories is said of it. See also nn. 32, 35, and 73–74, below. Burley is not saying that one of the pair is said of absolutely everything, as his word order would suggest according to the normal convention that logical scope extends to the *right*, not to the left.

29. In fact, no such passage occurs in *Metaphysics* V.

30. This inference does not fit either of the patterns mentioned in (86). Note also that neither of the first two examples in (87) fits the description in the reply in (100), below. Nevertheless, Burley’s overall point is clear enough.

## Reply to the Doubts

### *Reply to Doubt 1*

(89) To the first of these doubts [(83)], it must be said that if both extremes are simple (that is, both the subject and the predicate), then in general an affirmative with an infinite predicate follows from the negative with a finite predicate, and an affirmative with a finite predicate follows from the negative with an infinite predicate. (p. 215) The reason for this is that of anything truly simple one of two contradictories is truly affirmed, and therefore of whatever the one contradictory is denied, the other one is affirmed of the same thing. But a finite term and an infinite one are contradictory.

(90) Therefore, I say that, with simple terms in general, a negative proposition with a finite predicate implies the affirmative with an infinite predicate, and a negative proposition with an infinite predicate implies the affirmative with a finite predicate. For it follows: 'A man is not just; therefore, a man is nonjust'. And it also follows: 'A man is nonjust; therefore, a man is not just'. But if either extreme (whether the subject or the predicate) is composite, it does not follow. For in that case a negative does not have to imply the affirmative.

(91) An example where there is composition on the side of the predicate: For it does not follow [(85)]: 'Socrates is not white wood; therefore, Socrates is nonwhite wood', because the antecedent is true and the consequent false.<sup>31</sup>

(92) An example where there is composition on the side of the subject: For it does not follow [(85)]: 'Better than God there is not a man; therefore, better than God there is a nonman', because the antecedent is true and the consequent false. The falsehood of the consequent is obvious. For it follows: 'Better than God there is a nonman; therefore, a nonman is better than God'. The consequent is false; therefore, the antecedent is, too.

(93) But it is argued as follows against what was just said. First, it is proved that for all terms, both simple and composite ones, an affirmative proposition with an infinite predicate follows from the negative with a finite predicate. For one of two contradictories is said of anything whatever;<sup>32</sup> therefore, from whatever a finite term is removed, the infinite term should be attributed to the same thing, because the finite term and the infinite one are contradictory.

(94) Second, it is proved that for simple terms an affirmative proposition with an infinite predicate does not follow from the negative with a finite predi-

31. See also (198)–(202), below.

32. See n. 28, above, and nn. 35, 73–74, below.



cate. For it does not follow: 'Caesar is not a man; therefore, Caesar is a non-man', because once Caesar is corrupted,<sup>33</sup> the antecedent is true and the consequent false. For when Caesar is dead, he is not then either a man or a nonman.

(95) To the first of these [(93)], one must reply by substituting the rule 'From whatever the one of two *contradictory* opposites is removed, the other one is attributed to the same thing'.<sup>34</sup> For when the predicate is composite, one does not argue by the rule 'From whatever the one of two opposites is removed, the other one is attributed to the same thing'. For 'white (p. 216) wood' and 'nonwhite wood' are not contradictories, because they are made false for the same thing. For both of these are false: 'Socrates is white wood' and 'Socrates is nonwhite wood'.

(96) The reason for this is that in saying 'nonwhite wood', the infinitizing negation does not affect anything but 'white', and therefore 'wood' remains affirmed. But if the infinitizing negation could infinitize the whole 'white wood', then the inference would be good.

(97) I say too that when the subject is composite and the predicate simple, an affirmative does not follow from the negative and one does not argue by the rule 'One of two contradictories is said of anything whatever'.<sup>35</sup> Thus, I grant 'From whatever "man" is removed, "nonman" is attributed to the same thing', and yet the inference 'Better than God there is not a man; therefore, better than God there is a nonman' is not valid, because 'Better than God there is something' is false. Thus, if better than God there were something, the inference would be good.

(98) To the other reasoning [(94)], I say that when Caesar does not exist, 'Caesar is a nonman' is true, because an infinite term is said both of a being and of a nonbeing. Also transcendental terms,<sup>36</sup> like 'something' and 'being' and the like, are said both of a being and of a nonbeing.

### *Reply to Doubt 2*

(99) To the second doubt [(86)], I say that, taking the predicate personally, both in the affirmative proposition and in the negative one, then an affirmative always implies a negative, both for simple and for composite terms, both in propositions about the present and in those about the past and future, both

33. That is, has died. The reference is not to political or moral corruption, but to the 'corruption' or 'coming apart' of the composite of body and soul in the living Caesar.

34. The sense is that this rule is to be substituted for the one stated at the end of (93).

35. As was claimed in (93). See also nn. 28 and 32, above, and nn. 73–74, below.

36. That is, terms referring to things not confined to a single Aristotelian category.

for adjectival verbs and for substantival ones.<sup>37</sup> An affirmative with a finite predicate implies a negative with an infinite predicate, and an affirmative with an infinite predicate implies a negative with a finite predicate. There is no counterexample with any kinds of terms. Nevertheless, if the predicate supposes materially or simply, the inference does not have to be valid. For it does not follow: 'Something common is noncommon (taking the antecedent according as the predicate supposes simply); therefore, something common is not common'. For the antecedent is true and the consequent false.<sup>38</sup> Nevertheless, if the predicate of the antecedent supposes personally, the inference will be good and the antecedent is false.

(100) To the counterexamples for the contrary [(87)], I say to the first one that the inference 'Socrates was nonwhite; therefore, Socrates was not white' does not hold, and one should not infer the negative.<sup>39</sup> Rather one should argue like this: 'Socrates was nonwhite; therefore, Socrates was not white *then*'. In the same way it follows: 'Socrates will be nonwhite; therefore, Socrates will not be white *then*'.

(101) (p. 217) To the second counterexample [(87)], I say that it does not follow: 'Socrates sees a nonman; therefore, Socrates does not see a man'. Neither is the antecedent an infinite predicate,<sup>40</sup> because in 'Socrates sees a nonman' the whole 'sees a nonman' is the predicate. And therefore, the antecedent does not have to imply a negative with a finite predicate.

## RULE 9

(102) The ninth rule is that whenever a term is taken in the consequent for something else than it was in the antecedent, the antecedent does not imply the consequent. But when the terms are taken for the same things in the antecedent and the consequent, then the inference is a good one. For this reason it does not follow: 'Socrates is a good blacksmith; therefore, Socrates is good'. For in the antecedent the goodness is taken for goodness according to the blacksmith's art, and in the consequent it is taken for goodness absolutely—that is, for moral goodness.

37. 'To be' and its forms are substantival verbs. All others are adjectival verbs.

38. Apparently the predicate of the consequent is to be taken personally. Otherwise, the consequent would be true, since, for Burley, there is something common that is not the common nature 'common'.

39. See n. 30, above.

40. Rather, the *predicate in* the antecedent is not an infinite predicate.

(103) Likewise, it does not follow: 'This laundress is a wife; this laundress is had by you; therefore, a wife is had by you'. Neither does it follow: 'You have a laundress and she is a wife; therefore, you have a wife', because 'having' is taken for different things in the conclusion and in the premises.

(104) From this rule it is plain when a conjoined predicate follows from divided predicates and when it does not, and also when divided predicates follow from a conjoined predicate and when they do not. Let us first see when a conjoined predicate follows from divided ones, and then when divided predicates follow from conjoined ones.

(105) As for the first point, it has to be known whether the divided predicates are such that one is naturally apt to determine the other or not. If neither is naturally apt to determine the other, a conjoined predicate certainly never follows from such divided ones. And therefore, it does not follow: 'Socrates is a man and Socrates is risible; therefore, Socrates is a risible man'. Neither does it follow: 'Socrates is a man and is two-footed; therefore, he is a two-footed man'.<sup>41</sup>

(106) But if one term is naturally apt to determine the other, it has to be seen whether the divided predicates are taken for the same things when they are taken dividedly and when they are taken conjointly, or whether they are taken for different things dividedly and conjointly. If they are taken for the same things dividedly and conjointly, then I say that a conjoined predicate always follows from the divided predicates. And for this reason it follows: 'Socrates is a man and Socrates is white; therefore, he is a white man'. On the other hand, if they are taken for one thing when they are taken dividedly and for another when (p. 218) they are taken in conjunction, the inference is not valid. And therefore, it does not follow: 'Socrates is good and is a blacksmith; therefore, he is a good blacksmith'.

(107) As for the second point [(104)], I say that when the term is taken dividedly for the same thing for which it was taken in conjunction, divided predicates always follow from conjoined predicates. But when they are not taken in conjunction for the same thing, then the term taken dividedly does not follow from the conjoined term.

(108) And for this reason it follows correctly: 'Socrates is a white man; therefore, Socrates is a man', because the term 'man' is taken for the same thing in both occurrences—that is, for the true man. But the inference 'Socrates is a good blacksmith; therefore, he is good' is not valid, because 'good' is taken in the consequent for something else than it was in the antecedent. Yet the inference 'Socrates is a good blacksmith; therefore, he is a blacksmith' is a

41. For these last two inferences, compare Aristotle, *Sophistic Refutations* 11 21<sup>a</sup>16–18.

good one, because 'blacksmith' is taken for the same thing in the antecedent and the consequent.

(109) Also, the inference 'Socrates is a dead man; therefore, he is a man' is not valid, because 'man' is taken for something else than it was in the antecedent. For in the consequent it is taken for a true man, and in the antecedent it is taken for a corpse. Yet the inference 'Socrates is a dead man; therefore, he is dead' is a good one, because 'dead' is taken for the same thing in the antecedent and the consequent.

(110) It has to be known also that the Philosopher, in *On Interpretation* II [= 11 21<sup>a</sup>7-16, 21-24], posits two conditions required in order that divided predicates follow from a conjoined predicate. One condition is that there not be an opposition by juxtaposition in the conjoined predicate.<sup>42</sup> Another condition is that the predication not be according to accident. And I understand by 'predication according to accident' what occurs when a determination added to the predicate, or to a determinable on the side of the predicate, posits neither the determinable nor the opposite of the determinable.<sup>43</sup>

(111) †Thus there are three kinds of determination. One kind posits, another kind takes away, and another kind is indifferent. An example of the first kind: 'Socrates is a white man; therefore, he is a man', because 'white' is a determination that posits its determinable. An example of the second kind: 'Socrates is a dead man; therefore, he is a man' does not follow. Rather the opposite follows: 'Therefore, he is *not* a man', because 'dead' is a determination that takes away, positing the opposite of its determinable. An example of the third kind: 'Socrates is white with respect to his teeth'. From this it does not follow: 'Therefore, he is white', and it does not follow: 'Socrates is not white', because the determination 'with respect to his teeth' is indifferent to white and nonwhite. And therefore, it does not posit either its determinable or its opposite.

## RULE 10

(112) (p. 219) The tenth rule is that the signified act follows from every exercised act, and conversely. For it follows: 'A man is an animal; therefore, "animal" is predicated of "man"'. For the verb 'is' exercises predication, and the

42. Aristotle's text (21<sup>a</sup>21-24) suggests that Burley is thinking of propositions like 'Socrates is a dead man', as in (111), below.

43. See (111) for an explanation.

verb 'is predicated' signifies predication. And syncategorematic words exercise acts and adjectival verbs signify such acts. For example, the quantifier 'every' exercises distribution, the verb 'distribute' signifies distribution. And the word 'if' exercises inference, and the verb 'follows' signifies inference.

(113) Nevertheless, it has to be known that an exercised act does not always imply the signified act in the same terms, and conversely. For 'A most general genus is truly predicated of a species' is true. Yet 'A species is a most general genus' is false. Nevertheless, the exercised act is true for the same things for which the signified act is true, and conversely. For 'A most general genus is predicated of a species' is true, because 'substance' is predicated of 'man'. And therefore, 'A man is a substance' is true.

### ON SYLLOGISTIC INFERENCE

(114) Now that we have seen general rules for every inference, certain things must be said that are special to syllogistic inferences.<sup>44</sup>

(115) Therefore, I say that there are two general rules for every syllogism, in no matter what figure or mood it occurs, namely that it have (a) one universal proposition and (b) one affirmative one.<sup>45</sup> For nothing follows syllogistically from negatives or from particulars.

(116) Besides these rules common to every figure, there are certain special rules in each figure. In the first figure there are two rules, namely that in moods that conclude directly (a) the major premise should be universal and (b) the minor premise affirmative. In the second figure there are other rules, namely (a) one, that the major premise should be universal and (b) the other one negative. Now in the third figure there are yet other rules, namely that (a) the minor always be affirmative and (b) the conclusion particular. If it happens another way, the syllogism is not valid.

(117) Let the above statements suffice about inferences.

44. Despite the implication that the ten rules just given apply to all inferences in general, Rule 3 does not. See (43), above.

45. That is, as premises.

## *The Second Subpart: The Treatise on Syncategoremata*

(118) (p. 220) After, with God's advice, some general rules have been clarified that are to be used in what follows, now in this second subpart of the first part, we must talk about syncategorematic words. We want to call this second subpart *The Treatise on Syncategoremata*.

(119) A syncategorema is said to be 'consignificative', that is, significative together with other words—namely with categoremata—not because it signifies nothing by itself, but because it does not have a finite and determinate signification (although it has finiteness from the words adjoined to it).

### THE DIVISION OF SYNCATEGOREMATA

(120) In order that the syncategoremata we mean to talk about may be combined into a short list, let the following division be given at the outset<sup>46</sup>: Every

46. The following outline summarizes the divisions sketched in (120)–(127):

- I. Disposition of the subject.
  - A. Conveys exclusion: 'alone'.
  - B. Conveys particularization: Particular quantifiers 'a certain', 'some', etc.
  - C. Conveys distribution.
    1. Of a substance: 'every', 'no'.
      - a) Distributes over integral parts: 'whole'.
      - b) Distributes over subjective parts.
        - (1) Disjunctively: 'infinite', 'two', 'three', etc.
        - (2) Copulatively.
          - (a) Over two supposita only: 'both', 'neither'.
          - (b) Over more than two supposita.
            - (i) Absolutely: 'every', 'no'.
              - (a) Over supposita taken one by one: 'each and every', 'any', etc.
              - (b) Indifferently over supposita taken together and over supposita taken one by one: 'every', 'one', 'two', etc. (Note that 'two' was also listed above under I.C.1.b.1.)
            - (ii) Under a determinate condition: 'whatever', 'whoever', etc.
    2. Of an accident: 'any kind', 'however much', etc.
- II. Disposition of the predicate.
  - A. Signified verbally: 'begins', 'stops'.
  - B. Signified adverbially: 'only'.
  - C. Equipollent to an adverbial determination: 'besides' with its object.

syncategorema is a disposition<sup>47</sup> of the subject or of the predicate or of the composition. If it is a disposition of the subject, it conveys exclusion, particularization, or distribution. If it expresses exclusion, the word 'alone' is like that; if, particularization, the particular quantifiers, such as 'a certain', 'some', and so on, are like that; but if it expresses distribution, therefore it expresses distribution either of a substance, like 'every' and 'no', or of an accident, like 'any kind', 'however much', and so on.

(121) Now whatever is signified in the manner of a substance is here called a 'substance', like a man, a quantity, a quality. An 'accident',<sup>48</sup> on the other hand, is what is signified after the manner of an accident or what is dependent, like an accident said in conjunction,<sup>49</sup> like 'such as', 'as much as', etc.

(122) Now among signs distributive of a substance, some distribute over the integral parts, like 'whole', and some over the subjective parts. Among the latter, some distribute disjunctively, like the sign 'infinite' and numerical words like 'two', 'three', etc. And some (p. 221) distribute copulatively. Among the latter, some distribute for two supposita only, like 'both' and 'neither', and some for more than two. Among the latter, some distribute absolutely, like 'every' and 'no', and some under a determinate condition, like 'whatever' or 'whoever' and the like.

### III. Disposition of the composition.

#### A. Puts together incomplexes.

1. Has the manner of a composition: modal words 'possible', 'contingent', 'necessary', 'impossible'.
2. Has the manner of a privation: 'not' and other words conveying a negation with respect to a composition.

#### B. Puts together complexes.

1. Absolutely.
  - a) Conveys copulation: 'and'.
  - b) Conveys disjunction.
    - (1) Disjunction only: 'or' (*vel*).
    - (2) Disjunction with a choice: 'whether'.
2. According to an order.
  - a) Expresses inference only: 'if'.
  - b) Adds something onto the inference.
    - (1) Adds negation: 'unless'.
    - (2) Adds disjunction: 'or' (*sive*).
    - (3) Adds causality: 'insofar as'.

47. That is, a modifying or affecting.

48. That is, what is *here* called an 'accident'. Metaphysically, quantities and qualities are accidents, even though they were called 'substances' in the preceding sentence.

49. The sense of this phrase can perhaps be gathered from the examples immediately following.

(123) Among absolutely distributive signs, some always do their distribution over supposita taken one by one, like 'each and every' and 'any'. And some do their distribution indifferently over supposita taken together and over supposita taken one by one, like 'every', 'one', 'two', and so on for other similar words.<sup>50</sup>

(124) If the syncategorematic word is a disposition of the predicate, it will be signified either verbally or adverbially, or else it is equipollent to an adverbial determination. If it is a verbally signified disposition, the words 'begins' and 'stops' are like that. If it is adverbially signified, the word 'only' is like that. But if it is a word equipollent to an adverbial determination, the word 'besides' with its object is like that.

(125) But if the syncategorematic word is a disposition of the composition, either it is a disposition that puts together incomplexes or it is a disposition that puts together complexes. If the former, therefore it has the manner either of a composition or of a privation. If it is a disposition after the manner of a composition, the four disposing words<sup>51</sup> that make a proposition modal are like this, namely, 'possible', 'contingent', 'necessary', and 'impossible'. On the other hand, if it has the manner of a privation, the word 'not' is like that, together with other words conveying negation with respect to a composition.

(126) Now if it is a disposition that puts together complexes, it is a disposition either absolutely or according to an order. If absolutely, it conveys either copulation or disjunction. If copulation, the conjunction 'and' is like that. If it expresses disjunction, either it expresses a disjunction only, and the word 'or' is like that, or it expresses a disjunction with a choice, and the disjunction 'whether' is like that.

(127) But if it is a disposition of a composition, puts together complexes, and expresses an order, therefore either it expresses inference only, and the word 'if' is like that, or it adds something to the inference. And in that case, it adds negation, and the word 'unless' is like that, or it adds disjunction, and the word 'or'<sup>52</sup> is like that, or it adds causality, and the word 'insofar as' is like that.

(128) (p. 222) As for these divisions, we would have to speak about all of them, and set forth sophisms for each of these words and argue them briefly,

50. See n. 46 and (122), above.

51. That is, the four 'dispositions.' Recall from (120) that syncategoremata are 'dispositions' of the subject, the predicate or the composition.

52. The difference between 'or' (= *sive*) here and 'or' (= *vel*) in (126) appears minimal. Perhaps Burley only means to capture the conditional force (and therefore the 'order') in the etymology of '*sive*' as '*si + ve*' (= *or if*). His actual practice does not distinguish these two forms of disjunction.



if longwindedness were not an obstacle. In any event, certain more necessary points need to be touched on about some of these words, although not about all of them individually.

### 'ALONE' AND 'ONLY'

(129) Now we must begin with dispositions of the subject. And first we must talk about the disposition of the subject that conveys an exclusion. The word 'alone' is like this. †And because the words 'alone' and 'only' convey exclusion in the same way, therefore they are to be treated together and without distinction. [The remainder of this section continues as does the *Longer Treatise* (634)–(756).]

### ON EXCEPTIVES

[This section duplicates the *Longer Treatise* (858)–(928)].

### 'BEGINS' AND 'STOPS'

[This section duplicates the *Longer Treatise* (1007)–(1052).]

### 'NOT'

(130) Having talked about syncategorematic words that determine the predicate, and about determination of the subject that conveys exclusion with respect to the subject, we now have to talk about syncategorematic words that determine composition. And first, we must talk about those that determine an incomplex composition, and first about the word 'not', which expresses a privation with respect to composition.

(131) (p. 223) Therefore, you have to know that the negation 'not' can be

taken merely negatively or else infinitively. When it is taken merely negatively, it always negates some composition, or something that is formal in a proposition. But when it is taken infinitively, it negates some extreme in a proposition, that is, the subject or the predicate.

## ‘Not’ Taken Merely Negatively

(132) Let us, therefore, talk first about the word ‘not’ as it is taken merely negatively, and about certain other words that include a mere negation. Then we shall say some things about it as it is taken infinitively.

### *Rule 1*

(133) Therefore, it needs to be known as a rule that whenever the word ‘not’ occurs in an expression together with many determinables, the expression is ambiguous insofar as the negation ‘not’ can negate one of these determinables or another.

### A SOPHISM

(134) In this way the sophism ‘Not something you are and you are an ass’ is solved.

(135) It is proved as follows: ‘Something you are and you are an ass’.<sup>53</sup> This is false. Therefore, ‘Not something you are and you are an ass’ is true.

(136) It is disproved as follows: Not something you are and you are an ass; ‘not something’ and ‘nothing’ are equipollent; therefore, nothing you are and you are an ass, which is false.

(137) Solution: The sophism-proposition is ambiguous, insofar as the negation ‘not’ can negate the verb ‘is’ in its first occurrence,<sup>54</sup> and in that case the proposition is false because it amounts to the copulative ‘Nothing you are and you are an ass’. Or the ‘not’ can negate the copulative sign, and in that case the proposition is true and it is denoted that the copulative ‘Something you are and you are an ass’ is not true. And then the proposition is equipollent to the disjunctive ‘Nothing you are or you are not an ass’. According as the ‘not’ negated the copulative sign, ‘Something you are and you are an ass’ and

53. Read this in the sense ‘Something is such that you are it, and you are an ass’.

54. Actually, the verb is the second person ‘are’, not the third person ‘is’.

'Not something you are and you are an ass' contradict one another. But in the other sense they do not contradict one another.

#### A SOPHISM

(138) On this point another sophism is posited, like this: 'Nothing and a chimera are brothers'.

(139) It is proved as follows: 'Something and a chimera are brothers'. This is false; therefore, its opposite, 'Nothing and a chimera are brothers', will be true.

(140) It is disproved as follows: Whatever are brothers exist; but nothing and a chimera are brothers; therefore, nothing and a chimera exist. The conclusion is false; therefore, one of the premises is false. Not the major; therefore, the minor.

(141) (p. 224) Again, whatever are brothers had the same father and the same mother; therefore, if nothing and a chimera are brothers, it follows that they had the same father and the same mother.

(142) Some people<sup>55</sup> say that the sophism-proposition is absolutely true, because the negation understood in the word 'nothing' is necessarily referred to the composition. Therefore, it is denoted by the sophism-proposition that something and a chimera are not brothers, and that is true. And for this reason it is said to the disproof that both conclusions [(140)-(141)] are true. For 'Nothing and a chimera are brothers' is true, because its opposite, 'Something and a chimera are brothers', is false. And likewise 'Nothing and a chimera had the same father and the same mother' is true, because its contradictory, 'Something and a chimera had the same father and the same mother', is false.

(143) Nevertheless it could be said otherwise, that the sophism-proposition is ambiguous insofar as the word 'nothing' can be taken categorematically or syncategorematically. If it is taken categorematically, then the negation understood in 'nothing' is not referred to the verb. And in that case it is denoted that these two, nothing and a chimera, are brothers, and that is false. But if it is taken syncategorematically, then the negation understood in the word 'nothing' is referred to the composition. And in that case it is denoted that something and a chimera are not brothers. For then 'Nothing and a chimera are brothers' is equipollent to 'Not something and a chimera are brothers'. And this is equipollent to 'Anyone<sup>56</sup> and a chimera are not brothers'.

55. I have not identified these authors.

56. The switch of pronouns is in the Latin and is apparently not significant.

## A SOPHISM

(144) Here is a similar case: 'That no man sits is necessary'.

(145) It is proved as follows: Neither that this man nor that that man sits is necessary, and so on; therefore, that no man sits is necessary.

(146) It is disproved as follows: Whatever is necessary is true; that no man sits is necessary; therefore, that no man sits is true; therefore, 'No man sits' is true.

(147) Solution: The sophism-proposition is ambiguous, insofar as the negation understood in 'no' can be referred to the material or the formal composition. If it is referred to the material composition, then it is denoted that the dictum 'that no man sits' is necessary, (p. 225) that is, that the proposition 'No man sits' is necessary. And that is false. And in this sense the proposition is a singular and is not induced<sup>57</sup> from singulars. For it does not follow: 'That this man sits is not necessary, nor that that one, and so on; therefore, that no man sits is necessary', according as the negation is referred to the material composition. For as such it is not a universal proposition.

(148) But if the negation is referred to the formal composition, then it is true, and the sense is: 'That every man sits is not necessary, that is, that this man sits is not necessary, nor that one, and so on; therefore, that no man sits is necessary'. But that is a fallacy of the consequent, arguing from an inferior to the superior with a negation. For the necessary is inferior to the true.<sup>58</sup>

(149) To the argument [(146)]: In this sense it is not valid: 'Everything necessary is true; that no man sits is necessary; therefore, that no man sits is true'. For the minor is a negative in the first figure.<sup>59</sup>

*Rule 2*

(150) Again, there is a rule that whenever a negation occurs in an expression together with some other syncategorematic word, the locution is ambiguous insofar as the one of these syncategorematic words can include the other one or conversely. This rule is a general one, about *all* syncategorematic words. For wherever many or even two syncategoremata occur in the same locution,

57. That is, not inferred by an 'induction' from *all* the singulars. This kind of induction is not the same as the kind that gives rise to the Humean 'problem of induction'.

58. The last two sentences appear to be addressed to the disproof in (146). But there are reasons to suspect textual problems here. Note that there is another, different response to (146) given in (149), below.

59. Violating the rule given in (116).

the locution is ambiguous insofar as the one of them can include the other or conversely.

#### A SOPHISM

(151) In this way the sophism 'No man exists if some man exists' is solved.

(152) It is proved as follows: Not Socrates exists if some man exists; not Plato exists if some man exists, and so on; therefore, no man exists if some man exists.

(153) It is disproved as follows: As is denoted here, one of the opposites follows from the other; and the antecedent is possible; therefore, the conditional is false.<sup>60</sup>

(154) The solution to this is that the sophism-proposition is ambiguous insofar as the negation conveyed by the quantifier 'no' can include the condition (p. 226) or conversely. In the first way, the proposition is true, because it is denoted that neither this man exists if some man exists, nor that one, and so on. This is because none of these inferences is true: 'This man exists if some man exists', and 'This [other man exists if some man exists, etc.]. And this<sup>61</sup> is true. And in this sense the proposition is a categorical, and the whole predicate is 'exists if some man exists'. But if the condition includes the negation, then the proposition is false, because it is denoted that the inference 'If some man exists no man exists' is a good one, and that is false.

(155) Nevertheless, it could be said otherwise that the sophism-proposition is absolutely false because the negation conveyed in the quantifier 'no' cannot be referred to the condition. For a negation occurring in a distribution in one categorical cannot be referred to another categorical. Therefore, the condition stays affirmative, and it is denoted that if some man exists no man exists, and that is false.

(156) To the proof [(152)], I say that each of 'Not this man exists if some man exists' and 'Not that man exists if some man exists' is ambiguous insofar as the negation can include the condition (and in that case each of them is true) or conversely (and in that case each of them is false).

60. That is, the sophism-proposition is of the form  $p \rightarrow \neg p$ , so that if it is true,  $p$  is impossible. Thus if  $p$  ('the antecedent') is possible, the conditional is false.

61. That is, the claim that none of these inferences is true.

*Rule 3*

(157) Again, it is a rule that two negations make one affirmation. This is to be understood in such a way that two negations, one of which is referred to the other, so that the one negates the other, make one affirmation. So too if they are referred to entirely the same thing.

(158) The reason for this is that negation and affirmation are contradictory opposites, and when one of a pair of contradictories is negated, the other is posited, as is clear through the first principle 'Of anything, one of a pair of contradictories is affirmed'. Therefore, given the negation of a negation there is posited the positing of the affirmation. And therefore, two negations, one of which negates the other, amount to one affirmation.

(159) So too if the two negations are referred to the same thing, one of them has to negate the other, because the earlier negation negates the later one. Therefore, if two negations are referred to the same thing, they are equipollent to one affirmation.

(160) From this rule there follows a certain other common rule, that whenever two universal negative quantifiers occur in some locution, (p. 227) the first is equipollent to its contrary, the second to its contradictory.<sup>62</sup>

## A SOPHISM

(161) In this way the sophism 'Nothing is nothing' is solved.

(162) It is proved as follows: Its contradictory, 'Something is nothing', is false.

(163) It is disproved as follows: Nothing is nothing; therefore, nothing is no substance. The consequent is false; therefore, the antecedent is too.

(164) Solution: The sophism-proposition is true, because it is equipollent to 'Anything is something', which is true. This is obvious. For 'nothing' is the same as 'anything not'. Therefore, to say 'Nothing is nothing' is the same as saying 'Anything is not nothing. And that amounts to 'Anything is something'.

(165) To the disproof [(163)], I say that here there is a fallacy of the consequent: 'Nothing is nothing; therefore, nothing is no substance', just as there is here: 'Anything is something; therefore, anything is a substance'.

(166) Again, it needs to be known that two negations referred to different things are not equipollent to one affirmation unless the one negation is re-

62. For the sense of this rule, see the sophism discussed in (161)–(166), below, where 'anything' (universal affirmative) is the contrary of 'nothing' (universal negative) and 'something' (particular affirmative) is its contradictory.

ferred to the formal composition and the other to a material composition.<sup>63</sup> For example, 'A man who is not moved does not run' is not equipollent to 'A man who is moved runs'. For, positing that no man runs but some man is moved by some other motion and someone is moved by no motion, then 'A man who is not moved does not run' is true and 'A man who is moved runs' is false.

#### *Rule 4*

(167) Again, it is a rule that in order for a negation and a quantifier to make an equipollence, they have to be referred to the same thing.

#### A SOPHISM

(168) In this way the sophism 'If some proposition is true, every proposition is true' is solved.

(169) It is proved as follows: If some proposition is true, it follows: that some proposition is true is true. And further: therefore, that no proposition is true is false. And further: therefore, that no proposition is true is not true. And it follows: That no (p. 228) proposition is true is not true; and 'no not' and 'every' are equipollent; therefore, that every proposition is true is true; therefore, every proposition is true. Therefore, from first to last, if some proposition is true, every proposition is true.

(170) It is disproved as follows: The antecedent is true and the consequent false; therefore, the inference is not valid.

(171) Solution: The sophism-proposition is false. And to the proof [(169)], it has to be said that 'That no proposition is true is not true' is ambiguous according to composition and division. In the sense of division it is false, because the sense is 'Neither that this nor that that proposition is true is not true, nor that that other one', and so on.<sup>64</sup> And therefore, it does not follow:

63. Formal composition is what the main copula or other main polyadic operator in a proposition does. (See [45]–[49], above, and [215]–[217], below.) Material composition is harder to define precisely, but see the examples in (173) and (216), below. For an example where one negation is referred to the formal composition and the other to a material composition, consider 'It is not possible for some even number not to be evenly divisible by two'. The two negations here make the proposition equipollent to the affirmation 'It is necessary for every even number to be evenly divisible by two'.

64. That is, in the 'sense of division' the proposition means 'For no proposition  $p$  is it the case that ' $p$  is true' is not true'.

'That some proposition is true is true; therefore, that no proposition is true is not true', just as it does not follow: 'That some proposition is true is true; therefore, neither that this proposition is true is not true nor that that one', and so on.

(172) In the sense of composition it is true, because in that case it is denoted that the proposition 'No proposition is true' is not true. And in that sense, that every proposition is true does not follow from 'That no proposition is true is not true'.

(173) When it is said [(169)] that 'no not' and 'every' are equipollent, I say this is true when they are referred to the same proposition. It is not like that in the case at hand, because the negation 'not' is referred to the main composition, whereas the quantifier 'no' is referred to the material composition. For it distributes with respect to the material composition.

#### A SOPHISM

(174) 'With no one running, you are an ass'<sup>65</sup> is similar in part.

(175) It is proved as follows: Its contradictory is false, namely 'With someone running, you are an ass'; therefore, 'With no one running, you are an ass' is true.

(176) Again, each singular is true: 'With this person not running, you are an ass', 'With that person not running, you are an ass', and so on; therefore, if no one is running, you are an ass.

(177) (p. 229) It is disproved as follows: If, with no one running, you are an ass, therefore (a) *if* no one is running you are an ass, or (b) *because* no one is running you are an ass, or (c) *while* no one is running you are an ass. The consequent is false; therefore, the antecedent is false too.

(178) Solution: According to some people<sup>66</sup> this is ambiguous insofar as the negation understood in the quantifier 'no' can be (a) referred to the participle or referred to the act conveyed by the participle. In that case it is false and the sense is that with any one of these not running, you are an ass, and that is false. Or (b) it can be referred to the verb, and in that case it is true and the sense is that with anyone running, you are not an ass, and that is true.

(179) But because some people<sup>67</sup> do not like this, they say in the proposed case that the negation cannot be referred to the verb. For it is a rule that when

65. The construction in the first part of the sentence is an ablative absolute in Latin. Paragraph (177) in effect gives various ways of translating it more naturally into English.

66. I have not identified these authors.

67. Again, I have not identified these authors.



a negation and a distribution are together in some one word, the one is relevant to nothing the other is not relevant to. And since in the word 'no' there occurs a negation and a distribution, and the distribution is not with respect to the verb but with respect to the participle, therefore the negation is referred to the participle and in no way is referred to the verb. And according to this, 'With no one running, you are an ass' is absolutely false, because the sense is 'With anyone not running, you are an ass'.

(180) To the first proof [(176)], it must be said that 'With no one running, you are an ass' and 'With someone running, you are an ass' are not contradictories.

(181) To the second proof [(176)], it must be said that each of 'With this person not running, you are an ass', 'With that person not running, you are an ass', etc., is ambiguous, insofar as the negation can be referred either to the participle or to the verb. If it is referred to the participle, in that case they are singulars of the sophism-proposition, and in that case each is false and the sense is 'With that person not running, you are an ass', 'With this person not running, you are an ass', and so on. But if the negation is referred to the verb, in that case each is true and the sense is 'With this person running, you are not an ass'.

### *Rule 5*

(182) Again, it is a rule that a negation has no force over what precedes it. Therefore, each of the following is true: 'By an eye you do not see' and 'By a mouth you do not talk'. For the contradictories of each of these is false: 'By every eye you see' and 'By every mouth you talk'.

(183) In this way it is plain that 'A truth is not in the proposition "God exists"' is true, because its contradictory is false, (p. 230) namely 'Every truth is in the proposition "God exists"'. Likewise, 'A falsehood is not in the proposition "You are an ass"' is true, because its opposite is false too, namely 'Every falsehood is in the proposition "You are an ass"'.

(184) In this way, the fallacy is plain in the arguments whereby I can prove generally that every proposition is true. †It can also be proved that 'You are an ass' is true, like this: A truth or a falsehood is in the proposition 'You are an ass'; and a falsehood is not in the proposition 'You are an ass'; therefore, a truth is in this proposition; but a proposition in which there is a truth is true; therefore, 'You are an ass' is true.

(185) †In the same way any false proposition can be proved to be true, and a true one can be proved to be false as well. For it is proved that 'A man is an

animal' is false, because a truth or a falsehood is in the proposition 'A man is an animal'; but a truth is not in this proposition; therefore, a falsehood is in it; therefore, it is false.

(186) Now I prove that a truth is not in it, because its opposite is false, namely 'Every truth is in it'. And 'A truth or a falsehood is in it' holds through the topic from division,<sup>68</sup> because it is a disjunctive proposition in which one part follows from the negation of the other part, as is plain. For it follows: 'He is either healthy or ill; but he is not healthy; therefore, he is ill'.

(187) Solution: I say it does not follow: 'A truth or a falsehood is in the proposition; and a truth is not in it; therefore, a falsehood is in it'. This is because 'A truth is not in it' is not incompatible with or contradictory to the other part of the disjunctive. For 'A truth is in it' and 'A truth is not in it' are not incompatible, because they are subcontraries, and subcontraries are not incompatible.

(188) I say, therefore, that for an argument by the topic from division to be valid, the one *contradictory* part has to be taken. Therefore, it does not follow: 'A truth or a falsehood is in it; and a truth is not in it; therefore, a falsehood is in it'. But it does correctly follow: 'A truth or a falsehood is in it; and *no* truth is in it; therefore, a falsehood is in it'.

#### A SOPHISM

(189) (p. 231) In this way, the solution to the sophism 'Some cause is not a man' is plain.

(190) It is proved as follows: Its contradictory, 'Every cause is a man', is false; therefore, 'Some cause is not a man' is true.

(191) It is disproved as follows: Some cause is not a man; therefore, a man is not a cause. The consequent is false; therefore, the antecedent is too.

(192) Solution: The sophism-proposition is true. And there is a fallacy of the consequent and of figure of speech in the disproof [(191)], when it says 'Some cause is not a man; therefore, a man is not some cause'. For it follows the other way around, and not this way, because in the antecedent the term 'cause' supposits disjunctively and determinately, and so expresses a 'kind of thing', and in the consequent it supposits confusedly and distributively, and so for each one determinately, and so expresses a 'this something'. So a 'kind of thing' is changed into a 'this something'.

68. On 'topical reasoning,' see Stump, "Topics," and Stump, *Dialectic and Its Place*.

## On Infitizing Negation

### *On Infinite Names*

(193) Now that we have talked about merely negating negation, we must talk about infinitizing negation, and first about the negation in an infinite name. You have to know that nothing can be infinitized but what signifies some finite thing. For this reason 'no', 'every', and the like cannot be infinitized. Thus, Aristotle says in *On Interpretation* II [= 10 20<sup>a</sup>8–10], a negation is not to be added to the quantifier 'every', because it does not signify a universal but signifies universally.

(194) Something else too is required for something to be infinitized, namely that the infinitizing negation destroy the nature of what the negation is added to<sup>69</sup> and leave behind another nature.

(195) So in short, in order for some word to be infinitized, four conditions are required. First, the word to be infinitized should signify some finite thing.

(196) The second condition is that the infinitizing negation added to the word destroy the things conveyed by the word.

(197) The third condition is that the infinitizing negation leave behind, or allow, other natures. Thus an infinitizing negation should not destroy every nature, but only the nature conveyed by the word it is added to. These conditions can be gathered from Boethius' statements (p. 232) about the book *On Interpretation*.<sup>70</sup>

(198) The fourth condition is that the term to be infinitized should be simple and not composed of a substantive and an adjective, or of adjectives. For what is to be infinitized should be one. But an aggregate term like that is not absolutely one. Thus the term 'white wood' cannot be infinitized. And if a negation is added, by saying 'non white wood', nothing is infinitized but the term 'wood'.<sup>71</sup>

(199) Because of the first condition, syncategoremata cannot be infinitized, because they do not convey a finite signification.

(200) Because of the second condition, an infinite name differs from a privative name. For a privative term does not entirely destroy the nature of

69. That is, it implies the absence of that nature.

70. Boethius, *In Peri Hermeneias*, Meiser, ed., vol. 2, i.2–3 (pp. 61.8–65.28).

71. See also (89)–(91), above. There is no completely satisfactory way to translate this example into English. The Latin is '*non lignum album*', and the issue is whether the '*non*' infinitizes the whole expression '*lignum album*' (in which case '*non lignum album*' would refer to whatever is not white wood) or infinitizes only the noun '*lignum*' (in which case '*non lignum album*' refers to whatever is white but not wood—to white nonwood). Burley here rules out the former reading, with the result that it is impossible to infinitize the *whole* composite expression 'white wood'. See also n. 72.

what it is added to, but destroys the form and posits the subject of that form. For example, 'blindness' destroys sight and posits the eye. But an infinitizing negation does not posit the subject of the form destroyed by the infinitizing negation.

(201) Because of the third condition, transcendental names cannot be infinitized, because if they were infinitized, no nature would be left behind of which they could be said. Thus if 'nonbeing' were an infinite term, it could not be said of any being, and this is contrary to the notion of an infinite term. For an infinite term should be said of a being. Therefore, I say that 'being' in its greatest commonness cannot be infinitized. Neither does it have a contradictory, except verbally.

(202) Because of the fourth condition, it does not follow: 'Socrates is not white wood; and Socrates exists; therefore, Socrates is non white wood', because in the consequent the whole is not infinitized, but only 'white'.<sup>72</sup>

(203) Again, it has to be noted as a rule than whenever some finite terms are related in order, so that the one is superior and the other inferior, the order will be the contrary when an infinitizing negation is added. For by an infinitizing negation what was at first superior is made inferior. For example, man is something inferior to animal; therefore, nonman is something superior to nonanimal. For it correctly follows: 'This is a nonanimal; therefore, he is a nonman', but not the converse.

(204) You have to know that finite and infinite names, like 'man' and 'nonman', are incomplex contradictories. And what is said in general should be understood of all these contradictories, that one of two contradictories is said of anything.<sup>73</sup> For that is to be understood as holding for incomplex contradictories and not for complex ones.

(205) (p. 233) Again, you have to know that although a finite term and the corresponding infinite term taken in the singular number are contradictories, and consequently one of them is said of anything,<sup>74</sup> nevertheless a finite term and the corresponding infinite one in the plural number are not contradictories, and it is not necessary that of anything whatever the one of them is said.<sup>75</sup> For the terms 'men' and 'nonmen' are not contradictories. For Socrates is neither men nor nonmen.

(206) Likewise, pointing to Socrates and an ass, both 'These are men' and 'These are nonmen' are false. For if these are nonmen, they are two nonmen

72. See also (91), above. Here the Latin is '*non album lignum*'. Contrast '*non lignum album*' in n. 71.

73. See nn. 28, 32, 35, above, and n. 74, below.

74. See nn. 28, 32, 35, and 73, above.

75. Note that this time Burley says it correctly.

or three or four, and so on. Neither is 'These are not men; and they exist; therefore, they are nonmen' valid, because the stated rules for contradictories among propositions with a finite and an infinite predicate<sup>76</sup> are to be understood as holding when the predicates are taken in the singular number. If it is said that a term taken in the plural number has a contradictory, I say that is false.

### *On the Negation of Infinite Verbs*

(207) Now that we have talked about the infinite name, it needs to be noted about an infinite verb that, according to some people,<sup>77</sup> an infinite verb cannot occur in an expression. For according to Boethius, an infinite verb occurring in an expression does not differ from a purely negated verb.<sup>78</sup>

(208) But I do not hold this. Rather, I say that an infinite verb can stay infinite in an expression, because otherwise the infinite verb would not be part of the expression. Likewise, an infinite participle can stay infinite in an expression, as is plain in 'Socrates is nonrunning'. Since therefore, an infinite verb, like any other verb, is converted with a participle in the same tense and with the same signification as the verb, it follows that just as an infinite participle can stay infinite in an expression, so too can a verb. For if 'nonruns' and 'is nonrunning' are converted, the inference 'Socrates is nonrunning; therefore, Socrates nonruns' is a good one, taking 'nonruns' in the consequent insofar as it is an infinite verb.<sup>79</sup>

(209) Therefore, I say that an infinite verb can stay infinite in an expression. Nevertheless, 'Socrates does not run' is ambiguous, insofar as my phrase 'does not run' can be an infinite verb or a purely negated verb.<sup>80</sup>

(210) This distinction can be drawn according to accent,<sup>81</sup> insofar as 'not run' can be one word or several. (p. 234) If it is one word, in that case it is infinitival and affirmative, and the sense is 'Socrates is not running'. But if it is two words, then it is purely negated.

76. It is not clear exactly what rules Burley is referring to here. Presumably the rule is more or less of the form 'If  $x$  is not  $y$  and  $x$  exists, then  $x$  is non- $y$ '. But no rule to that effect has been stated previously.

77. I have not identified these authors.

78. In Latin, this is because the word '*non*' serves to produce both a negated verb ('*non currit*' = 'does not run') and an infinite verb ('*non currit*' = 'does not-run' or 'non-runs'). Boethius, *In Peri Hermeneias*, Meiser, ed., vol. 2, iv.10 (p. 258.16–17).

79. 'Non currit' (= non-runs) can also be read in Latin as simply 'does not run'.

80. That is, it can be read either as 'does not run' or as 'does not-run'.

81. See Aristotle, *Sophistic Refutations* 21 177<sup>b</sup>35–178<sup>a</sup>3.

(211) As for what Boethius says [(207)], that an infinite verb occurring in an expression does not differ from a purely negated verb, that is to be understood insofar as the proposition's truth and falsehood is concerned, and this holds in the case of simple terms, but not insofar as the quality of affirmation and negation is concerned. For when it is an infinite verb, the expression is affirmative, and when it is a purely negated verb, the expression is negative.

## ON MODAL WORDS

(212) Now that we have talked about negation, which with respect to the composition expresses a privation and a removing of the predicate from the subject, it now remains to talk about the words 'necessary', 'contingent', 'possible', and 'impossible', and their adverbs, which determine the composition and are said with respect to the composition itself.

### First Division of Necessity and Contingency

(213) About these words, first you have to know that necessity or contingency is of two kinds. One kind is the necessity of complexes, another kind is of incomplexes. Contingency is of two kinds in the same way, either the contingency of complexes or the contingency of incomplexes.

(214) The necessity of incomplexes is the necessity of terms. So we say God is a necessary thing, and these generables and corruptibles are contingent things. The necessity or contingency of complexes is the necessity or contingency of propositions. For example, we say that 'A man is an animal' is necessary and 'A man is white' is contingent.

### Second Division of Necessity and Contingency

(215) Once again, necessity or contingency can be taken in two ways: in one way as a thing, and in another way as a mode. For when a mode is the subject or predicate in a proposition, then it is taken as a thing. But when it is a determination of the composition, then it is taken as a mode. For in saying 'That a man is an animal is necessary', insofar as 'necessary' is predicated it is taken as a thing and does not make the proposition modal. Rather in that case it is an assertoric proposition. But when necessity or contingency determines the

composition (p. 235) of the predicate's inherence in the subject, then there is a modal proposition: for example, 'A man necessarily is an animal', 'A man contingently is white'. And in that case the mode is not the predicate or a part of the predicate, and it is not a disposition of the predicate. It is not the subject either, or a part of the subject, or even a disposition of the subject. Rather it is a disposition of the main composition that unites the predicate with the subject.

(216) But if the mode is added to the material composition, and disposes<sup>82</sup> a nonformal composition, then the proposition is not modal. For 'That Socrates contingently runs is true' is not modal.

(217) Thus, just as in order for an assertoric proposition to be negative, the negation has to negate the formal composition, so in order for a proposition to be modal, the mode has to dispose the formal composition.

### *That the Mode Is Not Predicated in Modal Propositions*

(218) It is plain from this that what is commonly said is false, that the mode is predicated in modal propositions. And I prove in five ways that the mode is *not* predicated in modal propositions:

#### FIRST PROOF

(219) First, as follows: What is predicated in the converting proposition should be the subject in the converse one, and the other way around. Therefore, if in a modal proposition the mode is predicated, it will be in subject position in the converse proposition. But when a mode is in subject position, the proposition is not modal. Therefore, if the mode is predicated in modal propositions, a modal proposition is never converted into a modal. But this is inconsistent and contrary to the Philosopher in *Prior Analytics* I [3 25<sup>a</sup>27<sup>b</sup>-25].

(220) Thus, if the mode of necessity is predicated in 'That a man is an animal is necessary', insofar as it is modal, then the proposition should be converted like this: 'Something necessary is that a man is an animal'. But this is assertoric and not modal even according to you,<sup>83</sup> since the mode is not predicated. Therefore, a modal proposition will be converted into an assertoric proposition, and could not be converted into any other proposition.

(221) This reasoning is confirmed. For 'Something possible is that a man

82. That is, is a disposition of.

83. Burley is imagining himself engaged in disputation with someone who holds that the mode is the predicate in modal propositions.

runs' is assertoric. And this is converted into another assertoric proposition. It is not converted into anything but 'That a man runs is possible', insofar as 'possible' is an assertoric predicate.

#### SECOND PROOF

(222) Second, I argue like this: Whenever a predicate is attributed to a subject by means of the verb 'is' taken absolutely, the proposition is assertoric,<sup>84</sup> because that is what the name means. For a proposition is called 'assertoric' because the predicate is denoted to be in the subject absolutely by means of the verb 'is'. But in saying 'That a man is an animal (p. 236) is necessary', insofar as 'necessary' is predicated here, it is denoted that the predicate 'necessary' is in the subject 'that a man is an animal' absolutely and by means of the verb 'is'. Therefore, when a mode is predicated the proposition is assertoric and not modal.

(223) This reasoning is confirmed, because there is similar inherence in 'A man is an animal' and in 'That a man is an animal is necessary'. For the predicate is attributed to the subject the same way in both. Therefore, since 'A man is an animal' is assertoric, 'That a man is an animal is necessary' has to be assertoric, since in both the predicate is attributed to the subject the same way.

#### THIRD PROOF

(224) Third, I prove the same thing as follows: 'A necessary is "that a man is an animal is necessary"' is true insofar as it is modal; therefore, what remains of the aforesaid mode of necessity<sup>85</sup> will be an assertoric proposition; but what remains of the aforesaid mode of necessity<sup>86</sup> is 'that a man is an animal is necessary'; therefore, insofar as 'necessary' is predicated in this, the proposition is assertoric.<sup>87</sup>

84. 'Assertoric' = *de inesse*, literally 'about being in'.

85. There is a problem in the syntax here. The exact sense is not clear.

86. The syntax is awkward, but the sense seems to be 'what remains if the mode of necessity is deleted'.

87. The entire paragraph is extremely difficult. The first premise concerns the proposition '*Necessarium est hominem esse animal est necessarium*'. This can be construed either as (a) '[Something] necessary is [the proposition] 'That a man is an animal is necessary' (= *Necessarium est 'Hominem esse animal est necessarium'*) or as (b) "'It is necessary that a man is an animal" is necessary' (= '*Necessarium est hominem esse animal est necessarium*'). On reading (a) the first '*necessarium*' looks like the subject, and on reading (b) the second '*necessarium*' looks like the predicate. In virtue of (215)–(217), therefore, on neither reading will the whole proposition be modal, as the first premise claims, unless '*necessarium est*' (respectively, '*est*



(225) This reasoning is confirmed as follows: A modal proposition cannot be modalized by a mode of anything, because then there would be two modes. And in that case, if it is the same mode, there will be negation. If they are different modes, either there will be an opposite by juxtaposition<sup>88</sup> or there will be negation, as will happen if the one mode occurs in more cases than the other.<sup>89</sup> (For example, the possible occurs in more than the necessary does.) But ‘That a man is an animal is necessary’ can be modalized. For ‘That a man necessarily is an animal is necessary’ is well formed. Therefore, ‘That a man is an animal is necessary’ is not modal.<sup>90</sup>

#### FOURTH PROOF

(226) Fourth, I prove the same thing as follows: If the proposition were modal where a mode is predicated, it follows that from an assertoric major premise and a minor about the possible, there would be a rule-governed syllogism<sup>91</sup> with respect to an assertoric conclusion. But this is false and contrary

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*necessarium*) is taken as a *modal operator* and not as a genuine subject-plus-copula (respectively, copula-plus-predicate). Paragraph (227), below, confirms that such readings are permitted. When, later in (224), it is said that what remains when the modal operator is deleted is ‘That a man is an animal is necessary’ (= *Hominem esse animal est necessarium*), this indicates that reading (a) above is the correct one. (On reading (b), what remains would instead be ‘*Necessarium est hominem esse animal*’.) In ‘That a man is an animal is necessary’, the ‘is necessary’ (= *est necessarium*) is taken as a genuine copula-plus-predicate, so that the fact that the proposition is assertoric means that a modal predicate does not render a proposition modal.

88. For this phrase, see (110), above, and n. 42 there.

89. This seems fallacious. The idea appears to be that if the ‘extension’ of one mode is contained in the extension of the other, then there is negation. An ‘opposite by juxtaposition’ occurs if the ‘extensions’ are disjoint, so that nothing falls under both of them. What is left out is the case where the extensions overlap, but neither one is contained in the other.

90. The argument throughout this paragraph seems dubious. For ‘That a man necessarily is an animal is necessary’ does not appear to be a modalization of ‘That a man is an animal is necessary’. That would violate (217), according to which a modalizing word has to modify the *formal* composition, not—as here—the material one in the subject. See also n. 89, above.

91. Apparently, this means a syllogism governed by ‘Being said of every or of none,’ the so-called *dici de omni vel de nullo* (*Prior Analytics* I.1 24<sup>b</sup>26–30): ‘That one term should be included in another as in a whole is the same as for the other to be predicated of all of the first. And we say that one term is predicated of all of another, whenever no instance of the subject can be found of which the other term cannot be asserted: “to be predicated of none” must be understood in the same way.’ On this passage, see Bocheński, *A History of Formal Logic*, §§ 14.23, 33.05, 33.20.

to Aristotle;<sup>92</sup> therefore, etc. I prove that an assertoric conclusion follows. For the syllogism 'Everything possible differs from an impossible; that you run is possible; therefore, that you run differs from an impossible' is a good one. This syllogism is rule-governed and in the third mood of the first figure. For the minor premise explains the relation between the middle term and the contents of the major term. And the major premise is assertoric and the minor is about the possible. Therefore, if a proposition in which a mode is predicated is modal, then in the first figure there will be a rule-governed mood, and the major will be assertoric and the minor about the possible. This is contrary to Aristotle<sup>93</sup> and contrary to the truth.

#### FIFTH PROOF

(227) (p. 237) Fifth, I prove the same thing as follows: In contradictories the terms should be the same; but 'It is necessary that every *B* is an *A*' and 'It is possible that some *B* is not an *A*' are contradictories; therefore, the terms are the same; but if the mode were predicated, they would not be the same terms because 'possible' and 'necessary' are not the same terms; therefore, the mode is not predicated in modal propositions.<sup>94</sup>

#### *That the Mode Is Not a Disposition of the Predicate in Modal Propositions*

(228) For the same reasons it follows that a modal term does not make a proposition modal insofar as it is a disposition of the predicate, because in that case in the converse proposition it would have to become a disposition of the subject. For every disposition of the predicate is a part of the predicate, since there cannot be any syncategorema merely syncategorematically on the side of the predicate unless it is a part of the predicate.

92. The reference is uncertain. Aristotle discusses such inferences in the *Prior Analytics* I.15 33<sup>b</sup>24–29 but says only that they are 'imperfect'.

93. See n. 92, above.

94. The Latin sentences are '*Necessarium est B esse A*', and '*Possibile est aliquod B non esse A*'. In both, the apparently modal word is first in the sentence, normally the subject position. This step of the argument, however, requires that they be read in the unusual order *predicate-copula-subject*.

### Third Division of Necessity

(229) Further, it must be noted that necessity is of two kinds, absolute and respective. Respective necessity is that which denotes only the continuation,<sup>95</sup> with respect to predication and putting the predicate together with the subject, under a condition on something else. There is necessity like this in a conditional or temporal proposition. It occurs in a conditional, as in ‘Socrates necessarily is moved if he runs’; in a temporal, as in ‘That you are sitting while you are sitting is necessary’. And the Philosopher speaks of such necessity in *On Interpretation* I [9 19<sup>a</sup>23–27], where he says that although not everything that is necessary to be, nevertheless everything that is, when it is, necessarily is.

(230) Nevertheless, you have to know that when ‘necessary’ occurs in a conditional, the locution is ambiguous insofar as the necessity can express a necessity of the consequent or of the inference. If of the inference, in that case ‘Socrates necessarily is moved if he runs’ is true.

(231) It is the same way for a temporal proposition, namely that the necessity can express a necessity either of the whole or of one part of the temporal. In that case, ‘That you are sitting while you are sitting is necessary’ has to be distinguished, insofar as the necessity can determine the whole temporal proposition or a determinate part of the temporal proposition. If it determines the whole temporal, then here is the sense: “‘You are sitting while you are sitting’ is necessary’. Or it can determine the one part, and then the sense is: ‘While you are sitting, “You are sitting” is necessary’. (p. 238) This is false, because while you are sitting ‘You are sitting’ is contingent. For otherwise it would *never* be contingent. For while it is false, its opposite is true. And if its opposite is true, its opposite is necessary.<sup>96</sup> In that case, while ‘You are sitting’ is false, ‘You are sitting’ would be impossible. And when one opposite is necessary, the remaining one is impossible. So ‘You are sitting’ would never be contingent, since it would not be contingent when . . .<sup>97</sup>

(232) About absolute necessity, you have to know that such necessity is of two kinds, simple and temporal. The simple kind occurs when it expresses a thing’s continuation in its duration of being for each part of time. In this way, that God exists is necessary, and also that a man is an animal is true. In this way the necessary is true for every part of time.

(233) Temporal necessity is that which expresses the necessity of being for

95. For this word, compare (232), below.

96. That is, it is necessary (presumably for the same reasons) if while you are sitting ‘You are sitting’ is not contingent but necessary.

97. There is a lacuna in the text here.

a determinate part of time and not for the whole of time. In this way, that you are moved is necessary, and that the sun is rising is necessary. In this way too, that the heaven is moved is not necessary in such a way that it is *always* true, but for some determinate part of time it cannot help but be true. Hence 'necessary' is, in this way, the same as 'inevitable for some part of time'.

### *A Sophism*

(234) Accordingly, a question arises about the sophism 'If Socrates of necessity is mortal, Socrates of necessity is immortal'.

(235) It is proved like this: If Socrates of necessity is mortal, Socrates of necessity is something; therefore, Socrates of necessity exists; and if Socrates of necessity exists, therefore he is immortal. Therefore, from first to last, if Socrates of necessity is mortal, Socrates of necessity is immortal.

(236) It is disproved like this: Here it is denoted that one of two opposites follows from the other; therefore, the proposition is false.

(237) Solution: I say that the sophism-proposition is ambiguous insofar as 'of necessity' can express simple necessity or temporal necessity. If simple necessity, in that case the sophism-proposition is true and the antecedent is an impossible proposition that includes opposites. For by reason of the necessity, it is denoted (p. 239) that Socrates always exists, and by reason of the predicate (that is, 'mortal'), it is denoted that Socrates sometimes does not exist. And in that case the antecedent posits that Socrates always exists and does not always exist. And in this sense the disproof does not work. For the antecedent includes opposites, and an antecedent that includes opposites can correctly imply its opposite.

(238) But if the necessity is taken for temporal necessity, in that case the sophism-proposition is false. And to the proof [(235)], I say that the inference 'Socrates of necessity exists; therefore, Socrates of necessity is immortal' is not valid, taking necessity in the antecedent for temporal necessity. Accordingly, it is a fallacy of the consequent, because it follows the other way around and not this way.

### Third Division of Contingency

(239) Again, you have to know that 'contingent' is taken in two ways. (a) In one way, for the contingent in common, according as it is common to everything that is possible, whether necessary or not necessary, whether contingent

'both ways'<sup>98</sup> or contingent 'by natural aptitude'.<sup>99</sup> (b) In the other way, 'contingent' is taken for the noncommon, but rather 'special' contingent, which is divisible into the contingent 'both ways' (or the 'infinite' contingent, which is the same thing) and the contingent 'by natural aptitude'. The contingent 'by natural aptitude' is divided into the contingent 'in more cases' and the contingent 'in fewer cases'.<sup>100</sup>

## A Rule

(240) Again, it is to be noted as a rule that whenever a modal mode<sup>101</sup> is construed with a dictum, the locution is ambiguous according to composition and division. In the composite sense, the mode is predicated. In that case the proposition is assertoric and singular, because the singular dictum is in subject position. But in the divided sense, the proposition is modal, because in that case the mode is a determination of the composition, and then the proposition is of the same quantity as its dictum.

## A Second Rule

(241) Again, you need to know that when 'possible' or 'contingent' is construed with a dictum, if the locution is taken in the sense of division, then a distinction can be made further according to equivocation. For the terms can be taken in two ways, either for the things that *are* actually under the term, or for the things that *can be* under the term, as is plain from Aristotle in *Prior Analytics* I [13 32<sup>b</sup>26–28], who says: There are two ways to take *B* contingently

98. That is, whatever is equally likely to happen as not to happen. See also n. 100, below.

99. That is, whatever can happen according to the laws of nature. See also n. 100, below.

100. That is, into what, according to the laws of nature, occurs most of the time (for example, normal offspring) and what, according to the laws of nature, occurs only rarely (for example, 'freaks of nature'). Note that the contingent 'both ways' is contrasted with the contingent 'by natural aptitude'. The idea seems to be that with the latter, the laws of nature *incline* the outcome one way or the other without completely *determining* it, whereas with the former, the laws of nature do not incline the outcome either way. (See Aristotle, *Prior Analytics* I.13 32<sup>b</sup>5–18.) The difference between senses (a) and (b), the 'contingent in common' and the 'special contingent', is that in the former, 'contingent' just means 'possible', and so includes the necessary, whereas in the latter it means what is neither necessary nor impossible.

101. The sense of this phrase is not clear.

to be *A*. For there are two ways to take the proposition that *B* contingently is *A*. (p. 240) One of them is 'What is *B* is contingently *A*'. The other is 'What is contingently *B* is contingently *A*'.

(242) Now whether these ways of taking it are senses of an ambiguity or a being of the mind<sup>102</sup> is hinted at in the book *Prior Analytics*.<sup>103</sup> But for the present let this be said only insofar as in the sense of division, in a proposition about the possible or in a proposition about the contingent, the subject, if it is a common term, can be taken for what *is* it or *is contingently* it.<sup>104</sup>

### *A Sophism*

(243) From these statements the solution is plain to the sophism 'The white can be black'.

(244) It is proved as follows: Socrates can be black; and Socrates is white; therefore, the white can be black.

(245) It is disproved as follows: When the possible is posited as existing, nothing impossible happens;<sup>105</sup> but when it is posited that the white is black, the impossible happens, namely that one contrary is predicated of the other; therefore, that the white is black is not possible.

(246) Solution: The sophism-proposition is ambiguous according to composition and division. In the sense of composition it is false, because it is denoted that the dictum 'that the white is black' is a possible. In the sense of division it is ambiguous further, insofar as the subject can be taken for that which *is* white or for that which *can be* white, and in either sense the proposition is true. For what *is* white can be black, and likewise what *can be* white can be black. The proof [(244)] proceeds in this sense.

(247) To the disproof [(245)], I say that when the possible is posited as existing, nothing impossible happens. Nevertheless when a proposition about the possible is posited, and also an assertoric one as in its act, the impossible very well happens.<sup>106</sup> Thus if a proposition is true about the possible, its act does

102. The role of this phrase here is not clear.

103. The reference is uncertain.

104. That is, the subject '*S*' can be taken either for what *is* an *S* or for what can *contingently* be an *S*.

105. See Aristotle, *Prior Analytics* I.13 32<sup>a</sup>18–20; *Metaphysics* IX.4 1047<sup>b</sup>10–12.

106. That is, *can* happen. The phrase 'its act' is explained by the remainder of the paragraph. Note that *two* propositions are said to be posited here. The first one merely posits a possible proposition; it does not posit that the possibility is realized ('posited as existing'). It is the second proposition that purports to do that, although the paragraph says it does so incorrectly.

not on this account have to be possible. For it is not denoted by a proposition about the possible in the sense of division that its act is possible, understanding by 'its act' the assertoric proposition that remains when the mode is taken away.<sup>107</sup>

### *A Second Sophism*

(248) Likewise, 'The impossible can be true'.

(249) (p. 241) It is proved as follows: What can be possible can be true; but the impossible can be possible; therefore, the impossible can be true. The antecedent is true; therefore, the consequent is too.

(250) It is disproved as follows: Everything that can be true is possible; but the impossible can be true; therefore, the impossible is possible. The conclusion is false; therefore, one of the premises is false too; not the major; therefore, the minor.

(251) Solution: The sophism-proposition is ambiguous according to composition and division. In the sense of composition it is false, and it is denoted that 'The impossible is true' is possible. In the sense of division it is further ambiguous, insofar as the impossible can be taken for what *is* impossible (and in that case the proposition is false), or for what *can be* impossible (and in that case the proposition is true).<sup>108</sup> The proof [(249)] proceeds in this way.

(252) To the disproof [(250)], I say: Taking the major premise according as it is true, the conclusion 'The impossible is possible' does not follow, but rather 'What can be impossible is possible', and that is true.

### 'AND'

(253) Now that we have talked about syncategorematic words that determine a composition putting together incomplexes, we need to talk about those

107. That is, given 'The white can be black', the proposition 'The white *is* black' is 'its act'. From the former proposition, it does not follow that the latter is possible. The correct way of 'positing the possibility as existing' in this case is given in (246): 'What is white can be black' or, alternatively, 'What can be white can be black'.

108. Consider a contingent proposition about something that might happen tomorrow. Since it is contingent it can come true. But it can also fail to come true, in which case what it claims will be not only false but *impossible* the day after tomorrow (since it is impossible to change the past). Thus what *can be* impossible is nevertheless (still) possible.

that determine a composition putting together complexes, for instance, the copulative conjunction, like the conjunction 'and'. This conjunction is called 'copulative' not because it *signifies* copulation but because copulation has existence through it. Now a copulative word signifies the union of some two things with respect to a third. For in saying 'Socrates and Plato run', the word 'and' denotes the union of Socrates and Plato with respect to a third thing, in this case with respect to the act of running.

(254) But there is a doubt: Does the copulative word signify a union of things with respect to the same time?

## A Sophism

(255) †Accordingly, a question arises about the sophism 'Adam and Noah existed'.

(256) It is proved as follows: Adam existed; and Noah existed; therefore, Adam and Noah existed.

(257) It is disproved as follows: 'Adam and Noah exist' was never true;<sup>109</sup> therefore, 'Adam and Noah existed' is false.

(258) (p. 242) Solution: The sophism-proposition is true. And to the disproof, I say that 'Adam and Noah exist' was never true, and yet 'Adam and Noah existed' is true. And it is not required for the truth of a proposition about the past that it have some corresponding true proposition about the present.<sup>110</sup> Rather it suffices that it have some *several* true propositions about the present. Thus 'Adam and Noah existed' has these about the present: 'Adam exists' and 'Noah exists', which were true sometime. Neither is it valid: 'Sometime they existed; therefore, at some *one* time they existed'. For in order that sometime they existed, it suffices that at some *times* they existed, so that one existed at one time and the other at another.

(259) Nevertheless, other people<sup>111</sup> say, plausibly enough, that the sophism-proposition is false because it is denoted that the predicate was in the subject for some one time or instant, and this is false.

(260) To the proof [(259)],<sup>112</sup> I say it is a fallacy of missing the point, because

109. Because they lived at different times.

110. That is, some *one* proposition about the present that *was* true at some time.

111. I have not identified these authors.

112. The correct reference here is uncertain. It seems the reference cannot be back to (256), because Burley has *accepted* the sophism-proposition as true (although, to be sure, not necessarily the argument there *for* its truth). This suggests that the correct reference is to the argument in (259). But in that case the words 'plausibly enough' in (259) seem out of place.



the premises are true for different times. For 'Adam exists' was true for one time, and 'Noah exists' was true for another time.

## A Rule

(261) †Again, it is to be noted as a rule that whenever a copulative sign occurs between two terms with respect to some one extreme, the locution is ambiguous insofar as the sign can couple either the terms or the propositions. This distinction is according to composition and division. According as the sign couples the terms, the proposition has the sense of composition, but according as it couples the propositions, the proposition has the sense of division.

## *A Sophism*

(262) †By means of this distinction the sophism 'Two and three are five' is solved.

(263) It is proved as follows: Two and three are something; and they are not more than five, or less; therefore, two and three are five.

(264) It is disproved as follows: It follows: 'Two and three are five; therefore, three are five'. The consequent is false; therefore, the antecedent is too.

(265) Solution: The sophism-proposition is ambiguous according to composition and division. In the sense of composition copulation occurs between the terms, and in that case the proposition is true and is a categorical. In the sense of division, it is false, and is a copulative with both parts false.

## A Second Rule

(266) (p. 243) Again, it is to be noted that whenever a universal quantifier in the singular number is added to a term of some copulative, only the part to which the universal quantifier is immediately added is distributed. But if the quantifier is taken in the plural number, it can indifferently distribute the whole copulative or one part.

(267) Accordingly, it is clear what is distributed in 'That everything true exists and that God exists are different'. For nothing will be distributed but the term 'true'. And there should not be anything else predicated in the minor

premise.<sup>113</sup> Thus it has to be argued like this: 'That everything true exists and that God exists are different; that God exists is true; therefore, that God exists and that God exists are different'.<sup>114</sup>

### A Third Rule

(268) †Again, it is to be noted as a rule that in order for a copulative to be true it is required that both parts be true, and in order for a copulative to be false it suffices that one part be false.

## DISJUNCTIVE WORDS

### 'Or'

(269) Next are disjunctive words. First we have to talk about the word 'or', which conveys a disjunction absolutely.

(270) †You have to know that whenever the word 'or' occurs between two terms, the locution is ambiguous insofar as the word can disjoin either terms or propositions. If it disjoins propositions, then the proposition is disjunctive. If it disjoins terms, then it is a proposition with a disjoint extreme. This distinction is according to composition and division. According as the word disjoins two terms in a proposition, the proposition has the sense of division. According as it disjoins propositions, the proposition has the sense of composition.

### *Two Sophisms*

(271) By means of this distinction, the solution is plain to the sophism 'Every proposition or its contradictory is true', 'Everything good or not good is to be chosen', and so on.

(272) The sophism 'Every proposition or its contradictory is true' is proved

113. The 'minor premise' has to be the one occurring in the syllogism that *follows*, since there is no syllogism up to this point.

114. The point is that since the conclusion is false and the minor is true, the major premise is false.

as follows: This proposition or its contradictory is true, and that one, and so on; therefore, etc.

(273) It is disproved as follows: Every proposition or its contradictory is true; 'You are an ass' is a proposition or its contradictory; therefore, 'You are an ass' is true. The conclusion is false, and the minor is not; therefore, the major is false.

(274) (p. 244) Solution: The sophism-proposition is ambiguous according to composition and division. In the sense of composition the whole 'proposition or its contradictory' is distributed, and it is denoted that everything of which the whole 'proposition or its contradictory' is said is true. And that is false, because the whole 'proposition or its contradictory' is said of every proposition, and so it is denoted that every proposition is true.

(275) But in the sense of division the proposition is true and nothing is distributed but the term 'proposition'. In that case the sense is that every proposition or its contradictory is true.<sup>115</sup> And that is true.

(276) To the proof [(272)], I say that many of the proposition's singulars are false in the sense of composition. For, 'This proposition or its contradictory is true' is false in the sense of composition, indicating 'You are an ass'. For it is denoted that 'You are an ass', of which the whole 'proposition or its contradictory' is said, is true. And that is false.

(277) Thus the truth of 'This proposition or its contradictory is true' depends on these two claims: 'This proposition is true' and 'This proposition is a proposition or its contradictory'.

(278) To the disproof [(273)], I say that it does not follow: 'Every proposition or its contradictory is true; "You are an ass" is a proposition or its contradictory; therefore, "You are an ass" is true'. For the middle term is varied. For in the sense of division nothing is distributed but the term 'proposition', and nothing but the term 'proposition' is said to be the middle in forming the syllogism. In the minor premise the whole 'proposition or its contradictory' is predicated. Therefore, since the middle term is varied, I say the syllogism should be formed like this: 'Every proposition or its contradictory is true; "You are an ass" is a proposition; therefore, "You are an ass" or its contradictory is true'.

(279) In the same way, I say that 'Everything good or not good is to be chosen' [(271)] has to be distinguished. In the sense of composition it is false, because then the whole 'good or not good' is distributed. In the sense of division it is true, because then it is a disjunctive proposition, one part of which is true.

<sup>115</sup>. As it stands, this is uninformative. It is merely a repetition of the sophism-proposition itself. The question is how we are to *understand* that proposition.

### *A Rule*

(280) †Again, it must be noted that for the truth of a disjunctive the truth of one part is sufficient. The reason for this is that each part of a disjunctive is antecedent to the disjunctive. But now for the truth (p. 245) of a consequent, it suffices that one antecedent is true. Therefore, for the truth of a disjunctive the truth of one part is sufficient.

### DOUBTS

(281) But there is a doubt whether in order for a disjunctive to be true, it is always required that one part be true.

(282) It is also doubted whether for the truth of a disjunctive it is always required that one part be false.

(283) †To the second doubt, some people<sup>116</sup> say that for the truth of a disjunctive it is always required that one part be false, because if both parts were true, the disjunctive would not be true. For a disjunction does not allow what it disjoins to exist together, as Boethius says.<sup>117</sup>

(284) Nevertheless, I do not like that. In fact, I say that if both parts of a disjunctive are true, the whole disjunctive is true. I prove this as follows: If both parts of a disjunctive are true, one part is true; and if one part is true, the disjunctive is true; therefore, from first to last, if both parts of a disjunctive are true, the disjunctive is true.

(285) Again, a disjunctive is a consequent of both parts; but there is an infallible rule that if an antecedent is true, the consequent is true; therefore, if both parts are true, the disjunctive is true.

(286) †I say, therefore, that for the truth of a disjunctive it is not required that one part be false. As for what Boethius says, that a disjunction does not allow what it disjoins to exist together [(283)], I say this is true for a 'togetherness of identity'. Nevertheless, they can exist together by a 'togetherness of truth'.

(287) To the first doubt [(281)], I say that a disjunctive can be true even if neither part is determinately true,<sup>118</sup> as is plain with propositions about the future in a matter concerning the contingent. For 'The Antichrist will exist or the Antichrist will not exist' is true, and yet neither part is determinately true.

(288) Thus you have to know that every disjunction between contradicto-

116. Apparently Giles of Rome. See n. 232 to the *Longer Treatise*, below.

117. Boethius, *On Hypothetical Syllogisms*, Obertello, ed., III.xi.6.48–7.57, p. 388.

118. On the notion of 'determinate truth', see the *Longer Treatise*, (555)–(557), below.

ries is necessary. Hence 'Socrates will exist or Socrates will not exist' is necessary. For the necessity of a disjunctive the necessity of one part is not required.

(289) Now it is demonstrated that every disjunctive proposition is necessary in which the disjunction occurs between contradictories: A proposition is necessary the opposite of which is impossible; but the opposite of a proposition in which there is a disjunction between contradictories is impossible; (p. 246) therefore, etc. The major premise is obvious. I prove the minor premise as follows: 'Socrates runs or does not run' is necessary, because its contradictory, 'Not: Socrates runs or does not run' is impossible. For a proposition that includes and implies contradictory opposites is impossible. But 'Not: Socrates runs or does not run' is like that. For it follows: 'Not: Socrates runs or does not run; therefore, Socrates runs', because the opposite [of the antecedent] follows from the opposite [of the consequent]. For it follows: 'Socrates does not run; therefore, Socrates runs or does not run'. Likewise it follows: 'Not: Socrates runs or does not run; therefore, Socrates does not run'. For the opposite [of the antecedent] follows from the opposite [of the consequent]: 'Socrates runs; therefore, Socrates runs or does not run'. Therefore, the proposition 'Not: Socrates runs or Socrates does not run' is impossible, because it includes two opposites, 'Socrates runs' and 'Socrates does not run'. And what holds for this proposition holds for any disjunctive proposition between contradictory opposites.

(290) To the contrary: If each such disjunctive is necessary, therefore by saying 'necessary' of such a disjunctive, there will be a necessary proposition; therefore, 'That the Antichrist will exist or will not exist is necessary' will be a necessary proposition, which is false because both parts of this disjunctive are false.<sup>119</sup>

(291) It must be said that 'That the Antichrist will exist or will not exist is necessary' is ambiguous. In the sense of division it is a disjunctive, and in that case it is false because both parts are false. For in this sense it is denoted that it is necessary that the Antichrist will exist or it is necessary that the Antichrist will not exist. But in the sense of composition it is true, and it is denoted that the dictum 'that the Antichrist will exist or will not exist' is necessary. In that case it is not a disjunctive proposition but a proposition with a disjoint subject. Thus when 'necessary' is said of the disjunctive 'The Antichrist will exist or will not exist', the whole proposition is not disjunctive. Rather that of which the predicate is said is disjoint.

119. The sense seems to be that it is false that it is necessary for the Antichrist to be going to exist, and also false that it is necessary for the Antichrist not to be going to exist.

## A SOPHISM

(292) From these statements the solution to the sophism 'Every animal is rational or irrational' is plain.

(293) It is proved by induction.

(294) It is disproved as follows: Every animal is rational or irrational; but not every animal is rational; therefore, every animal is irrational. The conclusion is false; and the minor premise is not; therefore, the major is false. The inference is plain by the topic 'from division'.

(295) (p. 247) Solution: The sophism-proposition is ambiguous according to composition and division. In the sense of composition it is true, in the sense of division false. And the induction [(293)] is not valid in the sense of division, because in the sense of division the proposition is not a categorical proposition but a hypothetical<sup>120</sup> proposition with universal quantity. So it is plain what to say to the proof.

(296) To the disproof, I say that in the sense of composition the inference is not valid and is not argued by the topic 'from division'. For the topic 'from division' occurs when one argues from a disjunctive, together with the negation of one part, to the other part. But in the sense of composition the proposition is not disjunctive. Rather it is a categorical proposition.

## 'Whether'

(297) †Next is the word 'whether',<sup>121</sup> which adds a choice onto a disjunction. Now you have to know that the word 'whether' exercises both disjunction and interrogation. Yet it mainly exercises disjunction, but does not always exercise interrogation. This is plain. For when one says 'You see whether Socrates runs', it does not exercise interrogation.

120. In particular a disjunctive.

121. 'Whether' = *an*. The word is a disjunctive interrogative particle in Latin. It cannot be uniformly translated into English in such a way as to fit everything Burley says about it in the following paragraphs. It occurs, for example, in the following kinds of contexts: 'You know *whether* Socrates runs' (*an Sortes currit*); 'You know whether Socrates runs or not' (*an Sortes currit an non*); 'You know whether Socrates runs or *whether* he does not run' (*an Sortes currit an non currit*); and even 'Does Socrates run?' (*An Sortes currit?*)

### *A Rule*

(298) There is a rule given about the word ‘whether’, such that whenever the word occurs once in an expression, it disjoins two contradictory opposites. But when it occurs twice, it disjoins things found<sup>122</sup> or proposed. In that case the truth of one part of the disjunctive proposition is needed.<sup>123</sup>

### *A Second Rule*

(299) Again, there is a rule that when the one disjunct is taken with a universal quantifier, the inference to the same disjunct taken particularly does not hold with the word ‘whether’. For it does not follow: ‘You know whether every man runs; therefore, you know whether some man runs’. For assuming that you did not know whether some man runs and do know that some man sits, ‘You know whether every man runs’ is true, because you know that *not* every man runs. Yet ‘You know whether some man runs’ is false.

(300) †I say universally that the inference from an inferior term to its superior does not hold with the word ‘whether’. For it does not follow: ‘You know whether Socrates runs; therefore, you know whether some man runs’. For assuming that you know that Socrates sits and doubt whether some man runs, then ‘You know whether Socrates runs’ is true and ‘You know whether some man runs’ is false.

(301) †From this it is plain that the inference from the word ‘whether’ occurring once to the word ‘whether’ occurring twice does not hold unless the disjunction takes place between contradictory opposites in the consequent. (p. 248) For it correctly follows: ‘You know whether Socrates runs; therefore, you know whether Socrates runs or whether Socrates does not run’, since the sign ‘not’ disjoins contradictory opposites. Yet it does not follow: ‘You know whether Socrates runs; therefore, you know whether Socrates runs or whether Plato runs’. For assuming that you know whether Socrates runs and doubt whether Plato runs, the antecedent is true and the consequent false. For ‘You know whether Socrates runs’ is true, and ‘You know whether Socrates runs or whether Plato runs’ is false.<sup>124</sup> This is so, taking the proposition insofar as

122. For this phrase, see Peter of Spain, *Synkategoreumata* VIII.9–11 (De Rijk, ed., pp. 314–316). See also the *Longer Treatise*, (592).

123. That is, is needed in order to make the whole proposition true.

124. Burley’s basic point here seems correct, but he states the reason for it too strongly. The reason he gives holds if (a) you know that Socrates in fact does *not* run (and therefore know *whether* he runs) and doubt whether Plato runs. For in that case you know whether Socrates runs (since you know he does not) but do not know whether Socrates runs or whether

it has a disjoint predicate. Nevertheless, taking it insofar as it is a disjunctive proposition, it does correctly follow.<sup>125</sup>

### ‘IF’

(302) Now that we have talked about syncategorematic words that determine a composition putting together complexes and conveying one thing, we must talk about those that determine a composition putting together complexes and conveying an order. First, let us take the word ‘if’, which conveys an inference. But because the rules for inferences were given in the first sub-part of this work [(3)–(117)], therefore only a few things remain to be said once those rules are assumed.

(303) I say that there is a certain rule such that anything follows from the impossible, and the necessary follows from anything. For every inference in which the consequent is necessary is a good one, and also every inference in which the antecedent is impossible is a good one. Nevertheless these rules can be narrowed down more, so that they are put like this: The necessary follows from anything contingent, and anything contingent follows from the impossible.

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Plato runs (that is, you do not know whether the disjunction ‘Socrates runs or Plato runs’ is true). But if (b) you know *whether* Socrates runs, and in fact he does run, then you know both whether Socrates runs and whether Socrates runs or whether Plato runs (that is, whether the disjunction ‘Socrates runs or Plato runs’ is true). In any case, Burley is correct that the *inference* ‘You know whether Socrates runs; therefore, you know whether Socrates runs or whether Plato runs’ does not hold. Note that, despite what Burley says in the next sentence, strictly speaking the proposition ‘You know whether Socrates runs or whether Plato runs’ does not have a ‘disjoint extreme’. The subject is obviously not disjoint, and the predicate is *not* the genuinely disjoint predicate ‘know whether Socrates runs or know whether Plato runs’ (for that reading, see n. 125 below), but rather ‘know whether Socrates runs or whether Plato runs’. That is, the disjunction is not in the main verb of the predicate (‘know’) but in the *direct object* of that verb.

125. That is, Burley’s point in the paragraph holds, and the inference he mentions at the beginning fails, if we take ‘You know whether Socrates runs or whether Plato runs’ in the sense of n. 124, above—as ‘You know whether the disjunction “Socrates runs or Plato runs” is true’. In that case the question is whether you have one (disjunctive) point of knowledge. But Burley’s main point in the paragraph does *not* apply, and the inference is correct, if we interpret ‘You know whether Socrates runs or whether Plato runs’ as ‘You know whether Socrates runs or you know whether Plato runs’—that is, in such a way that the question is whether you have one (nondisjunctive) point of knowledge *or* another (nondisjunctive) point of knowledge.



(304) For it follows: 'Socrates runs; therefore, God exists'. And it follows: 'A man is an ass; therefore, Socrates runs'. This is obvious. For in both cases it is argued affirmatively through the topic 'from the less'. For it is less apparent that 'Socrates runs' is true than that 'God exists' is. And if what is less apparent is true, what is more apparent is true. Therefore, it follows: 'Socrates runs; therefore, God exists'.

(305) Likewise, it is less apparent that 'A man is an ass' is true than that 'Socrates runs' is true. And if what is less apparent exists, what is more apparent will exist. Therefore, if a man is an ass, 'Socrates runs' follows. This holds through the topic 'from the less'.

(306) Yet perhaps from the impossible there need not follow just anything whatever. For from the less impossible the more impossible does not follow. (p. 249) Nevertheless, from the impossible there does follow anything less impossible, anything necessary, and anything contingent. This holds through the topic 'from the less'.

## A Rule

(307) Note as a rule that every proposition that includes its opposite implies its opposite.

## *A Sophism*

(308) In this way the solution is plain to sophisms like 'If every proposition is true, not every proposition is true'.

(309) It is proved as follows: If every proposition is true, 'You sit' is true; and if this is true, its opposite is not true; and further, therefore not every proposition is true. Therefore, if every proposition is true, not every proposition is true.

(310) It is disproved as follows: Here it is denoted that an opposite follows from its opposite; therefore, the sophism-proposition is false.

(311) Solution: It has to be said that the sophism-proposition is true. For the antecedent includes the two opposites 'This proposition is true' and 'This proposition is not true'. And every proposition including opposites implies its opposite. What is said in the disproof does not prevent this, because when a proposition includes its opposite it does imply its opposite.

## A Second Sophism

(312) Here is a similar case: 'If you are everywhere, you are not everywhere', 'If you know you are a stone, you do not know you are a stone', and so on.

### *A Second Rule*

(313) Again, it has to be noted that where the word 'if' does not occur at the beginning of a locution, the expression in which it occurs is ambiguous insofar as it can be conditional or a proposition with a conditioned predicate. This ambiguity is according to composition and division.

## A Sophism

(314) In this way, the sophism 'Socrates is saying the truth if Plato alone is speaking' is solved, assuming that Socrates says 'Plato alone is speaking'.

(315) It is proved as follows: Socrates says that Plato alone is speaking; but that Plato alone is speaking is true if Plato alone is speaking; therefore, Socrates says the truth if Plato alone is speaking.

(316) It is disproved as follows: If Plato alone is speaking, Socrates is not speaking; and if Socrates is not speaking, Socrates is not saying the truth; therefore, from first (p. 250) to last, if Plato alone is speaking, Socrates is not saying the truth; therefore, 'Socrates is saying the truth if Plato alone is saying' is false.

(317) Solution: It has to be said that the sophism-proposition is ambiguous according to composition and division. In the sense of composition it is true, and the sense is 'Socrates is saying something, which something is true if Plato alone is speaking'. In the sense of division it is false, and it is denoted that the conditional 'If Plato alone is speaking, Socrates is saying the truth' is true. And that is false, since the antecedent is possible, and a possible proposition does not imply its opposite.

### 'INSOFAR AS', 'ACCORDING AS'

(318) Next come expressions that express an inference and, in their own ways, add something to the inference. The words 'insofar' and 'according as' and the like are like this.

(319) †It has to be known, therefore, that these words can be considered in two ways: in one way specificatively, in the other way reduplicatively. According as it<sup>126</sup> is taken specificatively, it does not denote any causality but rather a mode of the consideration under which a thing is considered. So it is commonly accepted that being insofar as it is being is the subject of metaphysics. Likewise, [it is taken specificatively] when someone says ‘Mobile body insofar as it is mobile is the subject of natural science’. For it is denoted that being under such a consideration and not under another is the subject of metaphysics. In this way, ‘insofar as’, according as it is taken specificatively, does not posit a causality and does not denote that the cause of the predicate is in the subject. Rather, it denotes only that the predicate is in the subject under such a mode or aspect of considering it.

(320) †But when it is taken reduplicatively, it expresses the cause of the predicate’s inhering in the subject. And therefore, according as there are diverse causes, the reduplication is diversified accordingly.

(321) For sometimes it expresses or reduplicates an efficient cause, as in: ‘Fire insofar as it is hot makes things hot’. Sometimes it reduplicates a material cause, as in: ‘Man insofar as he is composed of contraries is corruptible’. Sometimes it reduplicates the notion of a formal cause, as in: ‘Socrates insofar as he is animate is able to understand’. Sometimes it reduplicates by reason of a final cause, as in: ‘Medicine insofar as it is medicine is useful for health’.

(322) According as the reduplication comes about by reason of the one or the other cause, an affirmation and a negation can be verified of the same subject. (p. 251) For ‘Socrates insofar as he is a man is able to understand’ is true according as the reduplication comes about by reason of the formal cause. Likewise, ‘Socrates, not insofar as he is a man, is able to understand’ is true according as the reduplication comes about by reason of the matter.

## A Sophism

(323) †In this way, the sophism is solved: ‘Some things, insofar as they agree, are different’.

(324) It is proved as follows: Some things, insofar as they agree, exist; and insofar as they exist, they are many; and insofar as they are many, they are different. Therefore, from first to last, some things, insofar as they agree, are different.

(325) It is disproved as follows: Here it is denoted that an opposite is the cause of its opposite, since agreement and difference are opposites.

126. The switch to the singular is in the Latin.

(326) It must be said that the sophism-proposition is ambiguous insofar as the reduplication can come about by reason of the matter or by reason of the form. If the reduplication comes about by reason of the matter, then the proposition is true and the sense is 'Some things, insofar as they are the subjects of an agreement, are different', and that is true. If, however, the reduplication comes about by reason of the form, then the proposition is false and it is denoted that agreeing things are different by reason of the agreement, and that is false. For agreement is not the reason for the difference. Rather the multitude underlying the agreement is the reason for the difference. Now as for the terms of this sophism, whether the reduplication should be of the major extremity or the minor or the middle, that has to be seen in *Prior Analytics* I [38 49<sup>a</sup>25-26].

### 'EVERY'

(327) Now that we have talked about terms that determine the predicate and the composition,<sup>127</sup> we must say a few things about those that determine the subject. First, about the quantifier 'every'.

(328) First, you have to know that the quantifier 'every' occurring on the side of the predicate, like every other syncategorema occurring on the side of the predicate, is necessarily a *part* of the predicate. It cannot be taken on the side of the predicate merely syncategorematically, so that it is neither the predicate nor a part of the predicate.<sup>128</sup>

### A Sophism

(329) Therefore, there occurs a difficulty when the same thing is predicated of a universal quantifier taken on both sides, as in the sophism (p. 252) 'Every man is every man'.

(330) It is proved as follows: This man is this man; that man is that man, and so on; therefore, every man is every man.

(331) Again, here the same thing is predicated of itself. And, from Boethius,<sup>129</sup> there is no truer predication than that in which the same thing is predicated of itself.

127. See the outline in n. 46, above.

128. The sense of this paragraph, and the exact contrast it is drawing, are obscure.

129. Boethius, *In Peri Hermeneias*, Meiser, ed., vol. 1, ii.14 (p. 215.18-22), vol. 2, vi.14 (p. 480.7-9).

(332) It is disproved as follows: Its contrary is true, namely 'No man is every man', and its contradictory likewise, namely 'Some man is not every man'. Therefore, 'Every man is every man' is false.

(333) Solution: The sophism-proposition is ambiguous according to equivocation, insofar as 'every man' on the side of the subject can be taken (a) for the whole aggregate of all singular men. In that case the proposition is singular and true, and it is denoted that the whole, every man, is every man, and that is true.<sup>130</sup>

(334) The distinction could be put in other words, namely that the sophism-proposition is ambiguous insofar as 'every man' can be taken (a) collectively—in that case the proposition is singular and true—or (b) distributively—in that case the proposition is universal and false. According as it is universal, one has to reply to the proofs as follows:

(335) To the first one [(330)], it has to be said that 'This man is this man; that man is that man, and so on; therefore, every man is every man' does not follow. Neither is it an induction, because the singulars do not communicate in the predicate. For in order that some singulars induce a universal, they have to communicate in the predicate. That is not so in the proposed case. Therefore, etc.

(336) To the other proof [(331)], I say that the same thing is *not* predicated of itself insofar as the proposition is universal, because the whole 'every man' is predicated, and nothing is in subject position but the term 'man'.

(337) But according as the proposition is singular, I say to the disproof [(332)] that 'No man is every man' is not its contrary, and 'Some man is not every man' is not its contradictory.

## A Second Sophism

(338) 'All the apostles are twelve' is similar in part.

(339) It is proved as follows: Peter and Paul<sup>131</sup> and John and Andrew, and so on, (p. 253) are twelve; but all the apostles are Peter and Paul and John and Andrew, etc.; therefore, etc.

(340) It is disproved as follows: All the apostles are twelve; Peter and Paul are apostles; therefore, Peter and Paul are twelve. The conclusion is false and the minor is not; therefore, the major is false.

(341) Solution: The sophism-proposition is double, insofar as 'all' can be taken (a) collectively—in that case the proposition is true and singular—or

130. The other half of the equivocation is omitted here. But see paragraph (334) below.

131. Despite the example, Paul was not one of the original twelve.

(b) distributively—in that case the proposition is false and universal. The proof and the disproof proceed in their own ways.<sup>132</sup>

### A Third Sophism

(342) Again, there is a doubt where a universal quantifier occurs on the side of the subject and a particular quantifier or exclusive word on the side of the predicate. There arises a question about this in the sophism ‘Every man is one man alone’.

(343) It is proved inductively.

(344) It is disproved as follows: Here an opposite is predicated of its opposite, because ‘every man’ and ‘one man alone’ are opposites. Therefore, the sophism-proposition is false.

(345) Solution: The sophism-proposition is true, because each singular is true.

(346) To the disproof it has to be said that an opposite is *not* predicated of its opposite. For ‘one man alone’ is predicated, and nothing but ‘man’ is the subject. And ‘man’ and ‘one man alone’ are not opposites.

### A Fourth Sophism

(347) Again, there is a doubt where a general term is distributed, when the predicate is in all the species of the subject and not in all individuals. Is such a locution true? Accordingly, there arises a question about the sophism ‘Every animal was in Noah’s ark’.

(348) It is proved as follows: Man was in Noah’s ark, cow was in Noah’s ark,<sup>133</sup> and so on for all the species of animal; therefore, every animal was in Noah’s ark.

(349) It is disproved as follows: Every animal was in Noah’s ark; every man is an animal; therefore, every man was in Noah’s ark. The conclusion is false, and the minor is not; therefore, the major is false.

(350) (p. 254) Here some people<sup>134</sup> say that the sophism-proposition is ambiguous insofar as the distribution can be made either over the parts according to species or over the parts according to number. In the first way the

132. That is, the proof appeals to sense (a), the disproof to sense (b).

133. In Latin, which has no indefinite articles, these might also be read ‘A man was in Noah’s ark’, ‘A cow was in Noah’s ark’. The ambiguity cannot be well preserved in English.

134. I have not identified these authors.

proposition is true, and in that case the distribution is made only over species. In the second way the proposition is false, because in that case the distribution is made over all the individuals of animal.

(351) Nevertheless, I say that this distinction is not a good one. Instead, where a common term is distributed, it is always distributed over all its individuals. For if distribution could be made over species and not over individuals, then 'Every animal is healthy' and 'Every animal is ill' could be true together, assuming that for every species of animal some individual is healthy and some individual ill. For both of these would be true if the distribution were made over the species.<sup>135</sup>

(352) I say, therefore, that the sophism-proposition is simply false and there is a fallacy of the consequent in the proof [(350)]. The sense of the sophism-proposition is that every man, every cow, and so on, was in Noah's ark. But now there is a fallacy of the consequent here: 'Man, cow, etc., was in Noah's ark; therefore, every man and every lion<sup>136</sup> was in Noah's ark'.

## A Rule

(353) Again, it is to be noted as a rule that whenever a distribution and a relative clause occur in some locution with respect to the same thing, the locution is ambiguous insofar as the quantifier can include the relative clause or conversely. This is an ambiguity according to composition and division.

## A Sophism

(354) In this way, the sophism 'Every man who is white runs' is solved, assuming that each white man runs and no black or intermediate-colored man does.

(355) It is proved inductively as follows: This man who is white runs; and so on for singulars; therefore.

(356) But it is disproved as follows: Every man who is white runs; therefore, every man runs, and he is white. The consequent is false, by assumption; therefore, the antecedent is too.

(357) Solution: The sophism-proposition is ambiguous according to composition and division. In the sense of composition the proposition is true, and

135. This assumes that a *species* is healthy (or ill) if at least one individual in that species is healthy (or ill).

136. In the antecedent it was 'cow'.

in that case the distribution includes the relative clause and the whole 'man who is white' is distributed. In the sense of division the proposition is false, and in that case the distribution does not include the relative clause and only the term 'man' is distributed.

(358) (p. 255) One must reply to the proof [(355)] in this sense. I say that many of the proposition's singulars are false. For, pointing to a black man, 'This man who is white runs' is false.

(359) But in the composite sense there is a fallacy of the consequent in the disproof, because it follows the other way around, not this way. For it follows: 'Every man runs, and he is white; therefore, every man who is white runs'. Not the other way around.

### 'BOTH', 'NEITHER'

(360) Now that we have talked about the quantifier 'every', which distributes over more than two things, we have to talk about the quantifier 'both',<sup>137</sup> which distributes over only two things.

(361) You have to know that the quantifier 'both' or 'neither' requires in its distributable a demonstrative pronoun indicating two things. If it indicated more, it would not be intelligible. Thus, if four things are indicated, saying 'Both of these run' would not be saying anything.

### A Sophism

(362) Therefore, there is a question about the sophism 'Having neither eye, you can see'.

(363) It is proved as follows: Not having the right eye, you can see; and not having the left eye, you can see; therefore, having neither eye, you can see.

(364) It is disproved as follows: If, having neither eye, you can see, therefore either (a) *while* you have neither eye, you can see, or (b) *if* you have neither eye,

137. Both = *uterque*. The Latin word is construed in the singular, whereas 'both' in English is plural. The Latin may also be translated as 'either one [of two]', 'each one [of two]', which have the advantage of being likewise in the singular. But 'each' has the disadvantage that it does not imply *exactly two* distributibles, which is the point of the discussion here. 'Either' has the disadvantage that it is apt to be read in the sense 'at least one', which is weaker than what the Latin means. I have therefore translated the word as 'both' and simply adjusted the wording to the plural as necessary.



you can see, or (c) *because* you have neither eye, you can see.<sup>138</sup> The consequent is false in each part; therefore, the antecedent is false too.

(365) It has to be said that, literally, 'Having neither eye', etc., is not intelligible. For in order for something to be distributed by the quantifier 'neither', a demonstrative pronoun indicating only two things has to be added there in the distributable. It is plain that this is true. For if 'neither man' or 'both men' is correctly said without a demonstrative pronoun, then 'Neither man runs' and 'Both men run' would be true together. For, positing that two men run and two do not, both propositions would be true.

(366) But what will we say to 'Having neither of *these* eyes, you can see', indicating your two eyes? I say (p. 256) that this proposition is ambiguous, insofar as the negation conveyed in the quantifier 'neither' can be referred either to the gerund or to the main verb—that is, to the verb 'can'. In the first way the proposition is true, and the sense is 'Not having this eye, you can see, and not having that eye', etc. But in the second way the proposition is false, because the sense is 'Having this eye, you cannot see, and having that eye, you cannot see', and that is false.

### 'THE WHOLE'

(367) Next is the quantifier 'the whole', which distributes over integral parts. You have to know that it is taken in an expression in two ways. For it is taken in one way categorically, and in the other syncategorematically. In the first way, it is the same as 'fully made';<sup>139</sup> in the second way, it is taken for each integral part.

## A Sophism

(368) Accordingly, there is a question about the sophism 'The whole Socrates is less than Socrates'.

(369) It is proved as follows: Socrates' foot is less than Socrates, and Socrates' hand is less than Socrates, and so on for all his other parts; therefore, the whole Socrates is less than Socrates.

138. Clauses (a)–(c) simply give alternative ways to read the Latin ablative absolute construction in the original sophism-proposition.

139. 'fully made' = *perfectum*. That is, 'complete'.

(370) It is disproved as follows: The whole Socrates is less than Socrates; the whole Socrates is Socrates; therefore, Socrates is less than Socrates. The conclusion is false, and the minor is not; therefore, the major is false.

(371) Solution: The sophism-proposition is ambiguous according to equivocation, insofar as 'the whole' can be taken (a) categorically. In that case the proposition is false, since it is denoted that Socrates, fully made out of his parts, is less than Socrates. But if 'the whole' is understood (b) syncategorematically, then the proposition is true, because it is denoted that each part of Socrates is less than Socrates.

### 'WHATEVER' AND 'WHOEVER'

(372) After these points, we have to talk briefly about quantifiers distributive of substance. The quantifiers 'whatever' and 'whoever' are like that. You have to know as a rule that every expression in which such signs occur is ambiguous, insofar as it can be categorical or hypothetical. This is according to the twofold composition of such expressions. For (a) in one way they can be expounded by a condition, like 'Whatever (p. 257) man runs is moved'—that is, if some man runs, he is moved. In that case the proposition is a conditional. (b) In the other way, they can be expounded by an absolutely distributive quantifier together with a relative clause containing one verb and modifying the subject, like 'Whatever man runs is moved'—that is, every man who runs is moved.

(373) In this last sense the proposition is distinguished, insofar as the distribution can include the relative clause or conversely. If the distribution includes the relative clause, then the whole 'man who runs' is distributed. In that case the proposition is categorical. But if the relative clause includes the distribution, then the proposition is hypothetical. For in that case it is implicitly a copulative, and it is denoted that every man runs and he is moved.

### ON QUANTIFIERS DISTRIBUTIVE OF ACCIDENTS

(374) Now that we have talked about quantifiers distributive of substances, next come quantifiers distributive of accidents. They are called 'distributive of accidents' because they distribute a thing that exists in the manner of a concrete accident.

(375) But distribution over accidents can be made in two ways, over accidents either according to number or according to species. Quantifiers distributive of substances also distribute over accidents according to number, as when one says 'every whiteness'. Here the distribution is made over every whiteness according to number. But other quantifiers are distributive according to species, like 'of each kind',<sup>140</sup> 'however much', 'however many times', and so on. Some of these quantifiers distribute absolutely, like 'of each kind' and 'however much', and some under a condition, like 'however many times'.

## A Sophism

(376) Now in order to make such quantifiers plain, the following case is posited: There are only four men, Socrates, Plato, Cicero, and Virgil, and only three qualities:<sup>141</sup> dialectic, grammar, and music. Let Socrates be a dialectician, Plato a musician, and Cicero a grammarian, and let Virgil be a grammarian, a dialectician, *and* a musician. Let him not run, and let the others run. Now I prove that Virgil does run. Let the following sophism be proposed: 'A thing of each kind runs'.

(377) It is proved as follows: A grammarian runs, a dialectician runs, a musician runs; and there are no more qualities; therefore, a thing of each kind runs.

(378) But it is disproved as follows: A thing of each kind runs; and there is no other thing of each kind but Virgil; therefore, Virgil runs. But this is false; therefore, the sophism-proposition is false too.

(379) (p. 258) Solution: The sophism-proposition is true, as was proved.

(380) To the disproof, it has to be said that it is a fallacy of figure of speech, because a 'kind of thing' is changed into a 'this something'. For in the major premise the distribution is made over accidents and after the manner of an accident. But in the minor premise 'Virgil' is taken. He is an individual substance, and the term expresses a 'this something'.

(381) Alternatively, the fallacy of figure of speech can be assigned, because one mode of suppositing is changed into another. In the first proposition what is distributed by the quantifier 'of each kind' supposits confusedly and distributively for several things, and in the second proposition it does not, but rather for one thing that has all qualities conjointly.

140. *Qualiscumque* or sometimes *Qualislibet*. There is no good way to translate these words uniformly into English, although 'of each kind' works better than most alternatives.

141. Knowledge or 'science' was thought of as a quality of the soul, and so to fall in the category of quality.

## A Second Sophism

(382) Again, let it be posited that there are only three qualities: grammar, music, and dialectic. Let Socrates, Plato, and Cicero have them all, and let them know they have them.<sup>142</sup> Let there be three other men, one of whom knows grammar only, another music only, and the other dialectic only. And let these latter *not* know anything about themselves or about the others. Then let the following sophism be posited: 'Each one of each kind about each such one knows him to be such as he himself is'.<sup>143</sup>

(383) It is proved as follows: Socrates, who is of each kind, about each such one knows him to be such as he himself is; and Plato does likewise; and Cicero likewise, who is of each kind, about each such one knows him to be such as he himself is; and there are no more people who are of each kind; therefore, each one of each kind about each such one knows him to be such as he himself is.

(384) It is disproved as follows: Each one of each kind about each such one knows him to be such as he himself is; and each one of *each* kind is of *some* kind; therefore, each one of some kind about each such one knows him to be such as he himself is. The conclusion is false; and the minor is not; therefore, the major is false.

(385) Again, if each of each kind, etc., therefore, each grammatical thing, each dialectical thing, each musical thing about each such one, etc.<sup>144</sup>

(386) I reply and say that the sophism-proposition is true.

(387) To the disproof [(384)], I say there is a fallacy of the consequent between the major premise and the conclusion. For the argument is from an inferior to its superior with distribution. For 'of *each* kind' is inferior to 'of *some* kind'. Neither is the syllogism valid, because a universal conclusion is concluded in the second figure.

(388) (p. 259) To the other disproof [(385)], it has to be said that it is a fallacy of figure of speech. For under the word 'each', which is distributive of substance, 'grammatical' is taken, which belongs to the category of quality. So a 'what' is changed into a 'how'.

142. That is, let each of them know that *each* of them has them.

143. Read this in the sense: 'Each one  $x$  of each kind knows about each one  $y$  of the same kind [kinds] that he,  $y$ , is such as he himself,  $x$ , is'. The ambiguity arises over whether the 'of each kind' is to be read in the sense that anything belonging to even a single kind will qualify (so that all the people mentioned in the hypothesis will qualify), or in the sense that only those belonging to each *and every* kind will qualify (so that only Socrates, Plato, and Cicero will qualify).

144. That is, if the sophism-proposition is true, then each grammarian  $x$  knows each grammarian to be such as  $x$  is, each dialectician  $y$  knows each dialectician to be such as  $y$  is, etc. This is false by the hypothesis of the case.

### A Third Sophism

(389) Likewise, there is a question about the sophism ‘However many times you were in Paris, that many times you were a man’.

(390) It is proved as follows: For one time you were in Paris, and that time you were a man; and another time, and so on.

(391) It is disproved as follows: However many times you were in Paris, that many times you were a man; twice you were in Paris; therefore, twice you were a man. The conclusion is false; and the minor is not; therefore, the major is false.

(392) Solution: The sophism-proposition is false. For the quantifier ‘however many times’ is distributive of time under an interruption. The rest, ‘that many times’, is related back in the same way, because it distributes over whatever the antecedent is taken for. And therefore, whatever interruption ‘however many times’ exercises in the antecedent, the remainder exercises the same interruption in the consequent. For this reason, it is denoted that an interruption of the substance follows on the interruption of time with respect to an accident, which is false.

(393) Nevertheless, ‘Whenever you were in Paris, you were then a man’ is true. And ‘Whenever you were in Paris, you were then a man; twice you were in Paris; therefore, twice you were a man’ is not valid. Rather, it is a fallacy of figure of speech, because a continuous quantity is changed into a discrete quantity.

(394) To the proof [(390)], I say there is no induction like this: ‘One time you were in Paris, and then you were a man; and another time, etc.’. Rather, you have to add ‘And in the time in between, when you were not in Paris, you were not a man’. Therefore, there is a fallacy of the consequent, from an insufficient induction.

### ‘INFINITE’

(395) Let us now talk a little about the quantifier ‘infinite’. You have to know that the quantifier ‘infinite’ can be taken categorematically or syncategorematically. If categorematically, then it is the same as ‘infinite thing’, and so it has many significations. For it is predicated in five ways, as is plain in *Physics* III [6 206<sup>a</sup>15–<sup>b</sup>16].<sup>145</sup> But according as it is taken syncategorematically,

145. One might well count a different number of senses in this Aristotelian passage.

it distributes the term to which it is added (p. 260) over infinite supposita, or denotes it to be distributed over infinite supposita.<sup>146</sup>

## A Sophism

(396) Accordingly, there is a question about the sophism 'Infinities are finite'.

(397) It is proved as follows: Two are finite, and three are finite, and so on to infinity; therefore, infinities are finite.

(398) It is disproved as follows: Here an opposite is predicated of its opposite; therefore, etc.

(399) Solution: The sophism-proposition is ambiguous insofar as 'infinite' can be taken categorically or syncategorically. If it is taken categorically, then the proposition is false, because it is denoted that some things that are infinite are finite. But if it is taken syncategorically, then the proposition is true and is expounded in the sense that there are not so many [finite things] that there are not more. And the sense is 'The finites are not so many that there are not more'. And that is true.<sup>147</sup> And that is how the proof goes.

(400) To the disproof, I say that an opposite is *not* predicated of its opposite. For 'infinite' is not in subject position, but rather its distributable, which is 'thing'.<sup>148</sup> Thus the sense is 'Infinite things are finite'.

(401) You have to know that numerical names like 'two', 'three', and 'four' can be taken categorically or syncategorically in the same way.

(402) Let there be an end put to this work. Amen.

146. In this latter sense, the word might be better translated 'an infinite *number of*'. But for the sake of uniformity, I leave it in the simpler form here.

147. As it stands, it sounds as though Burley were saying there are an infinite number of finite things, and so an actually infinite multitude. But perhaps he is not really committing himself here to anything that strong. The proof in (397) sounds more like the more innocuous observation that, for any finite number  $n$ , it is always possible to find a larger finite number (say,  $n + 1$ ).

148. 'Thing' does not explicitly occur in the original proposition. The sense is that the word is *implicitly* in subject position.



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*The Longer Treatise on the  
Purity of the Art of Logic*





# Tract 1: On the Properties of Terms

(1) (p. 1) Assuming the significates of noncomplex terms,<sup>1</sup> in this tract I intend to investigate certain properties of terms, properties that are applicable to them only insofar as they are parts of propositions.

(2) I divide this tract into three parts. The first is about the supposition of terms, the second about appellation, and the third about copulation. Supposition belongs to the subject, appellation to the predicate. Copulation belongs to the verb that couples the predicate with the subject. For these three are the integral parts of the categorical proposition, to which we turn before turning to hypotheticals. Hence in this tract I want to talk about the suppositions of terms in categoricals.

## *Part One: On Supposition*

(3) The first part will contain six chapters. The first chapter is about the division of supposition in general. The second chapter is about material supposition. The third chapter is about simple supposition. The fourth chapter is about the division of personal supposition in general. The fifth chapter is about various difficulties that arise concerning personal supposition. The sixth chapter is about improper supposition.

### CHAPTER 1: ON THE DIVISION OF SUPPOSITION

(4) As for the first chapter, you must know that ‘supposition’ is taken in two senses: broadly and properly.<sup>2</sup> Supposition taken broadly is a property

1. This is apparently not a reference to some prior, systematic treatment of the theory of signification. (No such work of Burley’s is known.) Instead it seems to mean only that the properties discussed in this first tract are properties that presuppose the signification of (noncomplex) categorematic terms.

2. In medieval scholastic writings, to say that something is said in a ‘proper’ sense is not necessarily to imply that there is something incorrect or wrong about other senses. In the

of a term relative to another term in a proposition. In this sense, supposition belongs to the subject as well as to the predicate, (p. 2) and even to the verb or the consignificates<sup>3</sup> of the verb. We shall use 'supposition' in this sense in many places in this first part. Taken in this sense, supposition occurs in more cases than appellation does, because supposition applies to the subject as well as to the predicate, while appellation applies only to the predicate.

(5) Supposition properly so called is a property of the subject term relative to the predicate. 'Term' here is taken indifferently for anything that can be an extreme<sup>4</sup> of a proposition, whether it is a simple term, whether it is an aggregate of an adjective and a substantive, or of adjectives, or is even put together by means of conjunction or disjunction.<sup>5</sup>

(6) Speaking generally, supposition is the taking of a term for something—that is, for a thing or for an utterance or for a concept.

(7) I recall that in my youth I wrote about a great many divisions of supposition.<sup>6</sup> But in the present work I do not want to maintain so many branches, because fewer suffice for my present purpose.

(8) By its first division, supposition is divided into proper and improper supposition. Supposition is proper when a term supposits for something it is permitted to supposit for literally. Supposition is improper when a term supposits for something by transumption<sup>7</sup> or from its usage in speech.

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present instance, the contrast between the 'broad' and the 'proper' senses is simply one of extension.

3. The 'consignificates' of a verb are things like the time implied by the verb's tense. It is at first hard to see how such consignificates can be said to have supposition in the general sense Burley defines if supposition belongs only to terms in propositions. The time implied by a proposition's verb would not seem to be part of the proposition, but instead part of its semantic correlate. To make sense of Burley's claim, you need to know that he has a doctrine of 'real propositions' in addition to spoken, written, and conceptual propositions. A 'real proposition', or at least its subject and predicate, are not so much pieces of language as pieces of the world. It is perhaps only in such 'real propositions' that the consignificates of the verb can be said to have supposition. On Burley's theory of such propositions, see Karger, "Mental Sentences according to Burley and to the Early Ockham."

4. That is, a subject or predicate.

5. Note that the conjunctions and disjunctions referred to here are of *terms*, not of propositions. Thus, 'Socrates and Plato', 'Socrates or Plato'.

6. It is not clear what earlier work of his Burley is referring to. The *Shorter Treatise* contains no systematic treatment of supposition. Burley did write an early treatise—*De suppositionibus*—in 1302, but the division of supposition there is not markedly different from the one here. See Brown, "Walter Burleigh's Treatise *De suppositionibus*."

7. 'Transumption' is the name given by the medievals to the second of the three 'modes' of equivocation described by Aristotle at *Sophistic Refutations* 4 166<sup>a</sup>4ff. It amounts to equivo-

(9) Proper supposition is divided: One kind is formal and another kind is material. Supposition is material when an utterance supposits for itself or for another utterance that is not inferior to it. As an example of the first kind: 'Man is a monosyllable', 'Man is a noun', 'Cato's is in the possessive case', and so on.<sup>8</sup> As an example of the second kind: 'That a man is an animal is a true proposition'. Here the utterance 'that a man is an animal' supposits for the utterance 'A man is an animal', and the utterance 'that a man is an animal' is neither inferior nor superior to the utterance 'A man is an animal'.

(10) Now I said that supposition is material when an utterance supposits for itself or for another utterance 'that is not inferior to it'. For sometimes an utterance does supposit for something inferior to it, and in that case it supposits personally, whether what is inferior is an utterance or whether it is a thing or a concept. Thus, in saying 'Every name is an utterance', the term 'name' supposits for utterances only. But because those utterances are contained under the utterance 'name', therefore it does not supposit materially but rather personally.

(11) (p. 3) Formal supposition is of two kinds. For sometimes a term supposits for its significate, sometimes for its suppositum<sup>9</sup> or for some singular of which it is truly predicated.<sup>10</sup> And so formal supposition is divided into personal supposition and simple supposition.

(12) Supposition is personal when a term supposits for its suppositum or supposita or for some singular of which the term is accidentally predicated. I include the last clause on account of singular<sup>11</sup> aggregated terms or concrete

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cation by analogy. For example, the term 'man' may be used to describe both human beings and the images or statues of human beings.

8. Note that medieval Latin did not have quotation marks. In effect, the theory of material supposition is designed in part to do what we do with quotation marks. But there are important differences. According to the modern convention, a quotation-mark name is a *distinct* name from the name quoted. But a term in material supposition is *not* regarded as distinct from the same term in some other kind of supposition; it is just used with a different semantic role. Note also that Latin has no indefinite article, so that the 'a' in the first two examples is supplied only because English requires it. It does not translate a Latin quantifier.

9. The term 'suppositum' has a logical usage, according to which it refers to whatever a term supposits for. That is not the sense here, since it would be tautologous to say that a term supposits for its suppositum in that sense. There is also a metaphysical sense of the term, according to which the supposita of a term are the *individuals* that fall under it. ('*Supponere*' = literally, 'to place under'). In this metaphysical sense, Socrates and Plato are supposita of the term 'man'.

10. The phrase 'for some singular of which it is truly predicated' is an *explication* of the notion of 'suppositing for its suppositum', not an *alternative* to it.

11. 'Singular', not as opposed to 'plural', but as opposed to 'general'.

terms.<sup>12</sup> Such terms can supposit personally or simply, as is plain. For each of the following is true: ‘White Socrates is a being by accident’, ‘White Socrates is a substance’, according to the one kind of supposition or the other. According as ‘white Socrates’ supposits for its significate, namely, for the whole aggregate,<sup>13</sup> ‘White Socrates is a being by accident’ is true and the term has simple supposition. But according as ‘white Socrates’ supposits for Socrates, of whom it is accidentally predicated, it has personal supposition. In that sense the proposition ‘White Socrates is a substance’ is true.

(13) Therefore, I say that formal supposition is divided into personal supposition and simple supposition. Supposition is personal when a common term supposits for its inferiors, whether those inferiors are singulars or common things,<sup>14</sup> whether they are things or utterances, or when a concrete accidental term or a compound term supposits for what it is accidentally predicated of. But supposition is simple when a common term or an aggregated singular term supposits for what it signifies.

## CHAPTER 2: ON MATERIAL SUPPOSITION

(14) Now that we have looked at the general division of supposition, we must look at the various branches in particular, and first at material supposition. In this regard, you must understand first that supposition is material when (a) a spoken utterance supposits for itself spoken or (b) for itself written, or also (c) for another utterance that is not inferior to the former utterance taken in such a way, or also (d) when an utterance taken under one kind of supposition supposits for itself taken under another kind of supposition, or (e) when an utterance taken in one way supposits for itself taken in such a way that it cannot (p. 4) supposit or have supposition at all. In all these ways a term can have material supposition.<sup>15</sup>

(15) As an example of (a) the first case, suppose that someone is talking

12. In the examples that follow, ‘white Socrates’ is a singular ‘aggregated’ term; it is an ‘aggregate’ of an adjective and a proper name. ‘Concrete’ adjectives (e.g., ‘white’, as opposed to the ‘abstract’ noun ‘whiteness’) are often used in the neuter in Latin without any explicit noun. (Compare English ‘the living and the dead’.) In such cases they may be parsed as modifying an implicit noun such as ‘thing’. The following examples, therefore, would also work for ‘The white is a being by accident’ and ‘The white is a substance’.

13. That is, the accidental combination of Socrates and his whiteness.

14. ‘common things’. That is, universals or common natures.

15. All these will be illustrated in (15)–(26) below.

and pronounces the utterance 'man'. In that case the spoken utterance 'Man is spoken' or 'Man is a spoken utterance' is true. And insofar as the proposition is true, the utterance 'man' supposits for itself spoken and has material supposition.

(16) As an example of (b) the second case, keep the same situation [as before].<sup>16</sup> If 'Man is a spoken utterance' or 'Man is spoken' is written down, then this written expression has a true sense, namely, insofar as the written word 'man' supposits for itself spoken.<sup>17</sup> Or suppose that the utterance 'man' is written down on this page, and someone says 'Man is written on this page'. This has a true sense, namely, insofar as the spoken utterance 'man' supposits for itself written. The supposition in this case is material.

(17) As an example of (c) the third case, if someone says 'That a man is an animal is a declarative expression', it has a true sense, namely, insofar as the utterance 'that a man is an animal' supposits for the utterance 'A man is an animal'. The supposition in this case is material.

(18) Nevertheless, 'That a man is an animal is a declarative expression', according as the subject has material supposition, can be distinguished insofar as the utterance 'that a man is an animal' can supposit for itself or for 'A man is an animal'. In the first sense the proposition is false and 'That a man is an animal is a noun clause'<sup>18</sup> is true. In the second sense the proposition is true, namely, insofar as 'that a man is an animal' supposits for 'A man is an animal'.

(19) And so we have a clear example of the third case, namely, that sometimes supposition is material when one utterance supposits for another that is not inferior to it. Here is another example: 'The utterance 'animal' is truly predicated of man'. This is true insofar as the utterance 'of man'<sup>19</sup> supposits for the utterance 'man'. For 'animal' is truly predicated of the utterance 'man', not of the utterance 'of man' in its own right. For 'A man is an animal' is true, while 'Of man is an animal'<sup>20</sup> is false or ill formed.

16. That is, the same as in (15): someone is talking and pronounces the utterance 'man'.

17. Note the implicit assumption that the term 'man' is the same whether it is spoken or written. Note also that the example does not fit case (b) as described in (14). For a fuller and more careful statement of the modes of material supposition, see (22), below.

18. 'noun clause' = *oratio infinitiva*, literally 'infinitival expression', that is, a dictum. I have had to adjust the translation to conform to the fact that I have not translated the dictum with an accusative + infinitive.

19. 'of man' = *homine*. The original sentence was '*Haec vox animal vere praedicatur de homine*'. I have had to translate the ablative '*homine*' by 'of man' (thus in effect including the '*de*' in the translation), in order to indicate that we are not talking about the nominative form here. The point of the example is to give an instance where the ablative '*homine*' supposits for the nominative '*homo*'.

20. 'Of man is an animal' = *Homine est animal*. See the preceding note.

(20) Here is an example of (d) the fourth case: In the proposition 'Every man runs', the term 'man' has personal supposition. And if someone should say 'Man supposits personally in  $A'$ —let  $A$  be the proposition 'Every (p. 5) man runs—then 'Man supposits personally in  $A'$  is true. And in 'Man supposits personally in  $A'$ , the utterance 'man' does not have personal supposition, insofar as the proposition is true. For if it had personal supposition, the proposition would be false because each of its singulars<sup>21</sup> is false. Therefore, 'Man supposits personally in  $A'$  is true insofar as the term 'man' supposits materially for itself standing personally in 'Every man runs'. Likewise, 'Man is distributed in  $A'$  is true in the same way.

(21) There is an example of (e) the fifth case where one says 'White cannot supposit'. This is true insofar as the utterance 'white' is taken substantively (or after the manner of a substantive, even though it is not a substantive) and supposits for itself taken adjectivally and insofar as it cannot supposit. Thus no predicate can be verified of what cannot supposit, insofar as it is such. Yet something *can* be verified of something suppositing for what cannot supposit.<sup>22</sup>

(22) So it appears that a term can supposit materially in five ways. If other ways are found, they will be like these or reducible to these. (a) The first way occurs when a spoken term supposits for itself spoken, taken in the same way, or a written term supposits for itself written; (b) the second way, when a spoken term supposits for itself written, or conversely; (c) the third way, when a term or utterance supposits for another utterance that is not inferior to it. (I say 'that is not inferior', because if it supposited for its inferior, it would not supposit materially but personally.) (d) The fourth way occurs when a term

21. That is, each of the sentences formed by replacing the general term 'man' by a singular term (a proper name or demonstrative expression). Each such singular is false, because 'Socrates has personal supposition in  $A'$  is false, and 'Plato has personal supposition in  $A'$  is false, and so on.

22. This obscure passage can be explained as follows. 'White' in 'White cannot supposit' (= *Albus non potest supponere*) is the masculine form of the adjective. As such, it needs a noun (= substantive) to modify. (On *neuter* adjectives, by contrast, see n. 12, above.) Hence the masculine adjective can never function by itself in subject or predicate position, and so cannot have supposition; what can have supposition is the *composite* of adjective + noun, since that is what can function as a subject or predicate. In the sentence 'White cannot supposit', taken in the sense that makes it true, the term 'white' is *not* being used in this adjectival way. On the contrary, it is being used 'after the manner of a substantive, even though it is not a substantive'. That is, it is being used as a kind of 'quasi-noun' to refer to itself in its adjectival role. The example is needlessly obscure because it appeals to details of theory that are not really necessary to make the point. Easier examples might have been: 'If is a conjunction', 'Of is a preposition', 'Of cannot have supposition', etc.

taken under one kind of supposition supposits for itself taken under another kind of supposition. (e) The fifth way occurs when a term taken under one kind of supposition supposits for itself taken as not able to supposit at all.

(23) But there is a doubt about this last case. For in 'White cannot supposit', if the proposition is true, it has to have a suppositum<sup>23</sup> able to supposit. Therefore, it is true to say of what supposits here that it is able to supposit. And consequently 'White cannot supposit' is false.<sup>24</sup>

(24) In the same way, there is a doubt about such cases as 'Every is a syncategorema taken syncategorematically'.<sup>25</sup> This is true. Therefore, 'every' is taken here either categorematically or syncategorematically. If categorematically, then the proposition is false because 'every', as taken categorematically, is not a syncategorema taken syncategorematically. But if (p. 6) 'every' is a syncategorema taken syncategorematically, then the proposition is ill formed and unintelligible. For 'every' taken syncategorematically can neither supposit nor signify anything by itself.

(25) To the first objection [(23)] I reply, in accordance with the last branch of material supposition [(14)], that 'White cannot supposit' is true insofar as 'white' is taken materially and after the manner of a substantive. For in that sense it supposits for itself taken adjectivally, in which way<sup>26</sup> it cannot supposit. When it is argued 'White, as it supposits here when one says 'White cannot supposit', is a suppositum<sup>27</sup> and is able to supposit', I say in reply that what supposits here, *as* it supposits here, is able to supposit. Nevertheless, 'White cannot supposit' is true, because 'white' here supposits for something that cannot supposit in the way in which 'white' here supposits for it. Thus a negative proposition can well be true even though the predicate is in the sub-

23. Here the word 'suppositum' is being used in its *grammatical* rather than its logical sense to mean simply the *subject* of the sentence. See (170) and n. 152, below.

24. In effect, the argument here is a *reductio*: If 'White cannot supposit' is true, then the subject term 'white' must supposit for something. That is, there must be *something* that is said to be unable to supposit. But what could that something be except the term 'white' itself? On the other hand, that very term, we just said, is the subject of 'White cannot supposit' and does have supposition there. Thus the claim that it *cannot* have supposition is false.

25. 'Every is a syncategorema taken syncategorematically' = *Omnis est syncategorema syncategorematicè acceptum*. It is impossible to do justice to the example in English, because it rests on the fact that Latin '*omnis*' can be used either substantively, in which case it means 'everyone' (*Omnis currit* = 'Everyone runs'), or adjectivally, in which case it is the masculine or feminine form of the universal quantifier (*Omnis equus currit* = 'Every horse runs'). Quantifiers are syncategoremata, and so do not have supposition. These two usages of '*omnis*' are translated differently in English.

26. That is, adjectivally.

27. See n. 23, above.



ject, or in that for which the subject supposits, provided that it is not in that for which the subject supposits according as it supposits for it. So it is in the present case. For 'white' taken substantively, or after the manner of a substantive, supposits for itself taken adjectivally and after the manner of something dependent.<sup>28</sup> As so taken,<sup>29</sup> the ability to supposit is not in it. Therefore, 'White cannot supposit' is true insofar as 'white' taken substantively supposits for itself taken adjectivally.

(26) The same thing has to be said to the second objection [(24)]. When it is said there that 'Every is a syncategorema taken syncategorematically' is true, we must reply that this is true insofar as 'every' is taken materially and after the manner of a categorema. Yet it supposits for itself taken syncategorematically. Therefore, it is true, even though the predicate is not in what supposits just exactly as it supposits here. For it suffices for the truth of this affirmative that the predicate be in that *for* which it supposits. And this is true, because it is certain that in some proposition 'every' is a syncategorema taken syncategorematically.

### CHAPTER 3: ON SIMPLE SUPPOSITION IN PARTICULAR

(27) Now that we have looked at material supposition, it remains to speak about simple supposition. First we must see what sort of supposition simple supposition is and, second, in what ways it comes about.

(28) (p. 7) On the first point, I say that supposition is simple when a common term supposits for its first significate<sup>30</sup> or for everything contained under its first significate,<sup>31</sup> or else when a singular concrete term or a singular compound term supposits for its whole significate. This was said, after a fashion, above [(12)].

28. The 'dependence' here is grammatical, not causal.

29. That is, adjectivally.

30. In (47) below, Burley speaks of the 'first and adequate' significate. The notion is derived from the Aristotelian 'first subject' of an attribute or of a 'commensurately universal' attribute (*Posterior Analytics* I.4 73<sup>b</sup>25–74<sup>a</sup>3). The 'first significate' is thus also 'adequate' in the sense of being 'made equal' in extent.

31. This is a reference to 'special compared simple supposition', described in (47) below. See Spade, "Walter Burley on the Kinds of Simple Supposition." The phrase 'everything contained under its first significate' refers here to the all the *species* contained under the first significate, not to the individuals contained under it.

(29) But some people reject this statement, namely, that ‘supposition is simple when a term supposits for its significate’. Rejecting the older views,<sup>32</sup> they say that the statement is false and impossible. In fact, they say that supposition is *personal* when a term supposits for its significate or for its significates, and supposition is *simple* when a term supposits for an intention or intentions of the soul.<sup>33</sup> Thus they say that in ‘Man is a species’ the term ‘man’ has simple supposition and yet does not supposit for its significate, because the significates of the term are this and that man. Instead, in ‘Man is a species’ the term ‘man’ supposits for an intention of the soul, which intention is truly the species of Socrates and Plato.

(30) But that is without doubt a very unreasonable thing to say. For in ‘Man is a species’, insofar as it is true, the term ‘man’ supposits for its significate. I prove this as follows: For it is certain that, according to the Philosopher in the *Categories* [5 2<sup>a</sup>11–19], ‘man’ is the name of a second substance; therefore, the term ‘man’ signifies a second substance. And it does not signify a second substance that is a genus. Therefore, it signifies a species. Therefore, taking ‘man’ for what it signifies, ‘Man is a species’ will be true, because the name ‘man’ is the name of a species and signifies a species.

(31) Also, Priscian says the name ‘man’ is the name of a species.<sup>34</sup>

(32) Again, Aristotle says in the *Categories* [5 3<sup>b</sup>10–19] that second substance—that is, a *name* of second substance—signifies a *kind* of thing (*quale quid*) and does not signify a *this* something (*hoc aliquid*). But a thing’s kind is the common entity given in response to the question ‘What is it?’ asked about an individual. Therefore, the name ‘man’ signifies a common entity, and no other common entity than one common by a community of species. Therefore, taking ‘man’ to supposit for what it signifies, ‘Man is a species’ is true, because the predicate is truly in the significate of the subject.

(33) (p. 8) Again, the name ‘man’ signifies something first.<sup>35</sup> And it does not first signify Socrates or Plato, because in that case someone hearing the utter-

32. See, e.g., the passages quoted in De Rijk, *Logica Modernorum*, II.1, p. 568. Also William of Sherwood, *Introduction to Logic*, pp. 107, 111; Peter of Spain, *Tractatus*, tract. VI, § 5, p. 81.

33. Burley is referring to Ockham. See William of Ockham, *Summa logicae* I.64. But Ockham’s definition of simple supposition adds the proviso that the intention *not* be a significate of the term.

34. Priscian (fl. c. A.D. 500) was a famous grammarian. See his *Institutiones grammaticae* II.5 (‘De nomine’), Hertz, ed., vol. 2, p. 58.14–18: ‘Now this is the difference between proper and appellative names, that the appellative one is naturally common to many things that the same generic or specific substance, quality or quantity joins together: generic, like “animal”, “body”, “virtue”’; specific, like “man”, “stone”, “grammatical”, “white”, “black”, “large”, “small”.’

35. See n. 30, above.

ance and knowing what was signified by the utterance would determinately and distinctly understand Socrates, which is false. Therefore, the name 'man' does not first signify something singular. Therefore, it first signifies a common entity. And that common entity is a species. Therefore, what is first signified by the name 'man' is a species.

(34) I do not care at present whether that common entity is a thing outside the soul or a concept in the soul. Rather it suffices merely that what the name first signifies is a species. Thus 'Man is a species' will be true insofar as 'man' is taken for its significate. This is confirmed, because a name is not imposed except on the known, according to the Commentator, *Metaphysics* VII,<sup>36</sup> and also according to Boethius,<sup>37</sup> who says, 'One imposes names on the things one sees'. But he who imposed the name 'man' to signify did not know me or John who is now present. Therefore, the name 'man' does not signify me or John who is now present. Consequently, the name 'man' does not signify me or John, etc., and yet supposits for me and for John when it supposits personally. Therefore, it is not true that a term supposits for its significate or significates whenever it supposits personally.

(35) As for what they say—that 'man' signifies an intention in the soul, and that intention is a species<sup>38</sup>—I say: Whether the intention is claimed to be the species or not, one has to say that the name 'man' supposits for its significate when it supposits simply. For if the intention is a species, then since names and verbs first signify passions of the soul, that is, intentions in the soul, according to the Philosopher in *On Interpretation* I [1 16<sup>a</sup>3–5], it follows that the term 'man' in 'Man is a species', in the sense in which the proposition is true, supposits for what it first signifies.<sup>39</sup>

36. The 'Commentator' on Aristotle is Averroes. See his *Commentary on the Metaphysics* VII, comm. 54, Giuntas ed., vol. 8, fol. 202m (on *Metaphysics* VII.15 1040<sup>a</sup>10, against the Platonic Ideas: 'And the formula must consist of words; and he who defines must not invent a word (for it would be unknown)' [Oxford translation]). Averroes says: 'That is, it is necessary that definitions be composed of names. And he who does not know a thing does not put a name on it. For no one puts a name on what he does not know'.

37. The quotation has not been found. Boehner's edition (p. 8) gives a reference to Boethius' second commentary on *On Interpretation*, but the passage is not to be found there. The closest I have found is Boethius' commentary on Aristotle's *Categories*, book I (col. 159b): 'Therefore, the first establishment of names was the one by which [the person imposing names] would designate the things subjected to the intellect or to the senses'.

38. This is not Ockham's doctrine, according to which (a) species and genera are concepts or intentions in the soul (*Summa logicae* I.64), and (b) terms are *subordinated* to concepts or intentions in the soul but (c) do not in general *signify* them (*Summa logicae* I.1).

39. The force of this argument is obscure. I offer the following tentative analysis. The con-

(36) Again, 'Man is a second substance' is true insofar as the subject has simple supposition. Yet if the subject supposed for an intention in the soul, the proposition would be false, because an intention in the soul is an accident, and an accident is neither a first substance nor a second [one].<sup>40</sup>

(37) Again, I prove that when a term supposits personally it does not supposit for what it signifies. For 'Every (p. 9) white thing is a substance' is true, and in that proposition the subject supposits personally. Yet it does not supposit for what it signifies, because if it supposed for what it signifies, then the proposition would be false. For 'white' either signifies an accident alone or else it signifies an aggregate of subject and accident, and neither of these is a substance.

(38) If it is said that 'white' signifies the subject of whiteness<sup>41</sup>—for instance Socrates or Plato, for whom whiteness is an accident<sup>42</sup>—then to the

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clusion to be established is that the term 'man' supposits for its (first) significate when it has simple supposition. The argument seems implicitly to presuppose that a term in simple supposition will supposit for a species. Burley claims it makes no difference for his conclusion whether that species is identified with the intention in the soul or not. Indeed, given the implicit presupposition just mentioned, the conclusion already follows from (33), regardless where the species is located. Burley nevertheless adds a further argument addressed to those, like Ockham, who identify the species with the intention: The term 'man' in simple supposition supposits for the species (*implicit presupposition*); the species in this case is the intention or concept 'man' in the soul (*hypothesis*); but the intention is the first significate of the term 'man' (*according to Aristotle*); therefore, the term 'man' in simple supposition supposits for its first significate. The difficulty with this formally valid argument lies in the reference to Aristotle. If the Philosopher's authority can be invoked here, it seems it can also be invoked in the following argument: The first significate of 'man' is the species (*established in [33]*); but the first significate of 'man' is the intention (*Aristotle*); therefore, the intention 'man' is the species; hence the term 'man' in simple supposition supposits for the intention (*by the implicit presupposition*). The term 'man' is clearly only an example; the argument applies generally. But this violates (36), which concludes that not every case of simple supposition is for an intention. It is not clear why Burley should take the Aristotelian text in a sense that allows *either* argument.

40. For Ockham, concepts or intentions are indeed (accidental) forms inhering in the soul (*Summa logicae* I.15). Nevertheless, his interpretation of the Aristotelian distinction between first and second substance as a distinction between two kinds of *names* (*Summa logicae* I.42.50–55) allows him to sidestep Burley's argument in this paragraph.

41. That is, the substance in which the accidental quality whiteness resides.

42. See Ockham, *Summa logicae* I.5 and 10. Ockham holds that the term 'white' signifies the same things as does its nominal definition 'something having a whiteness'. The latter signifies white things 'primarily'—that is, in such a way that it can also supposit (personally) for them. But it also signifies whitenesses 'secondarily', in virtue of the term 'whiteness' in

contrary: If this were true, then assuming that Socrates is first white and afterwards black, the name 'white' would first signify Socrates, and afterwards the name 'black' would signify Socrates. So, assuming that everything that today is white becomes black tomorrow, 'black' would signify tomorrow absolutely everything 'white' signifies today. And so utterances would continually be falling away from their significates. Neither could anyone move his finger without an utterance's by that fact falling away from its significate. For when the finger is still, the utterance 'still' signifies the finger, and when the finger is moved, that utterance would not signify the finger. This seems absurd.<sup>43</sup>

(39) Again, according to this way of speaking [(29)], the name 'man' signifies Socrates when Socrates exists, and when Socrates is dead it does not signify Socrates, because then Socrates is not a man. Therefore, whenever anyone dies, the name 'man' would fall away from its significate. And so it follows that anyone who destroys some real thing would make an utterance fall away from its significate. This is absurd.

(40) Again, it is apparent that a term does not always have simple supposition when it supposits for an intention in the soul. For 'Every intention in the soul is in the soul' is true, and the subject here supposits for an intention in the soul. Yet it does not supposit simply.<sup>44</sup>

(41) Therefore, I say, just as I have usually said,<sup>45</sup> that when a common term or a concrete singular term or an aggregated singular term supposits for what it signifies, it has simple supposition, and when a common term supposits for its supposita, or when an aggregated term supposits for a singular of which it is predicated accidentally, it has personal supposition.

(42) You must understand that a term that can have different kinds of supposition can have personal supposition literally with respect to any predicate whatever, because this is the term's primary way of being taken or suppositing. But it cannot have material (p. 10) or simple supposition except with re-

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its nominal definition. The term cannot, however, supposit personally for whitenesses. Thus, if Burley's use of 'signify' here is taken as Ockham's 'primary signification', the argument is an attack on Ockham's theory of signification.

43. Paragraphs (38)–(39) are an attack on Ockham's view of signification as outlined in *Summa logicae* I.1. The main point of the attack is that, on Ockham's view, terms would continually change their signification. This is a problem because the significate of a term was taken to be, roughly, what the term makes us think of (*ibid.*). Ockham recognizes these difficulties and proposes a second, broader notion of signification in *Summa logicae* I.33, one that avoids these problems. Note that Burley's *Longer Treatise* was probably written after Ockham's *Summa logicae*, so that Ockham's discussion in *Summa logicae* I.33 is not a response to the *De puritate*.

44. If the objection is directed against Ockham, it fails. See n. 33, above.

45. See (12), above.

spect to a term that agrees with it according to simple or material supposition. Thus, if someone says 'A man runs' or 'A man is white', the term 'man' determinately has personal supposition.<sup>46</sup> But if someone says 'Man is a species' or 'Man is a monosyllable', the term 'man' can supposit indifferently either personally or else simply or materially.<sup>47</sup>

(43) Thus, just as an analogical term occurring by itself, and not matched with anything participating in it according to its secondary significate, stands in the more familiar way,<sup>48</sup> so a term that is able to have different kinds of supposition, and is not matched with anything participating in it according to its secondary supposition—that is, according to simple or material supposition—supposits personally only. And just as an analogical term matched with something participating in it according to the secondary significate is equivocal in the second mode of equivocation<sup>49</sup> insofar as it can be taken for its primary or secondary significate,<sup>50</sup> so a term that can have different kinds of supposition and is matched with something participating in it according to its secondary supposition is ambiguous insofar as it can have one kind of supposition or the other, namely, the primary or the secondary.

(44) Thus 'A man runs' is not ambiguous, and neither is 'A man is an animal', because in these propositions the subject supposits personally [only]. But propositions like 'Man is a species' and 'Man is a monosyllable' are ambiguous according to second mode of equivocation insofar as the term 'man' can have personal or simple or material supposition. For the proposition 'Man

46. This is not a reference to 'determinate' supposition in the sense defined in (82) below. The word here means only that the term has personal supposition and *not* material or simple supposition.

47. That is, either personally or simply in the first example, and either personally or materially in the second.

48. This is awkwardly put, but the idea is plain enough. Consider, for instance, the term 'man'. Primarily it refers to human beings, but in a secondary sense ('according to the secondary significate') it may also refer to statues or images of men ('That's a man over on the left in the picture, by the tree'). Burley's point is merely that cases of this second kind arise only where something special about the context allows it. The term 'man', taken all by itself without any such special context, refers only to human beings, not to their statues or images.

49. For the three modes of equivocation, see Aristotle, *Sophistic Refutations* 4 166<sup>a</sup>14–21. In the second mode, a word is taken in more than one sense by analogy (by 'custom' in the Oxford translation). Aristotle gives no examples, but William of Sherwood does: 'Whatever runs has feet, the Seine runs; therefore, the Seine has feet'. (William of Sherwood, *Introduction to Logic*, p. 136.) The medievals called this equivocation by 'transumption'. (See also [8], above.)

50. Contrast this usage of 'primary significate' and 'secondary significate' with that in n. 42, above.

is a species' is ambiguous insofar as the term 'man' can have personal or simple supposition. 'Man is a monosyllable' has to be distinguished too according to the second mode of equivocation insofar as the term 'man' can have personal or material supposition. Thus a term that can have these kinds of supposition can also have personal supposition with respect to any term whatever, but it can have simple or material supposition only on the basis of an adjunct, that is, insofar as it is matched with some term that agrees with it according to such supposition (namely, simple or material).

### On the Division of Simple Supposition<sup>51</sup>

(45) (p. 11) Now that we have seen when a term has simple supposition, we must see how simple supposition is divided. According to the old logicians,<sup>52</sup> simple supposition is divided into *absolute* supposition and *compared* simple supposition. Simple supposition is *absolute* when a common term supposits absolutely for its significate insofar as it *is in* its supposita. Simple supposition is *compared* when a common term supposits for its significate insofar as it *is predicated of* its supposita. For a universal or a common term has two conditions, according to the Philosopher, because it *is in* many and *is said of* many.<sup>53</sup> Absolute simple supposition belongs to the universal insofar as it has *being in* many, and compared or respective simple supposition belongs to it insofar as it is *said of* many. Thus, 'Man is a species' is made true according to the one supposition, and 'Man is the worthiest creature among creatures' is made true according to the other supposition. For 'Man is the worthiest creature among creatures' is made true insofar as the term 'man' has absolute simple supposition. But 'Man is a species' is made true insofar as 'man' has compared simple supposition. Nevertheless, one could also say that simple supposition is *absolute* when a term supposits for its significate absolutely, not in comparison to its supposita, either as far as *being in* is concerned or as far as *being said of* is concerned, but simple supposition is *compared* when a common term supposits for its significate in comparison to its supposita, or for some of its

51. On this and the next two sections, see Spade, "Walter Burley on the Kinds of Simple Supposition."

52. Perhaps the reference is to Burley himself in his earlier *De suppositionibus*, § (2.3).

53. This is a common slogan attributed to Aristotle, although he does not say it all in one place. At *On Interpretation* 7 17<sup>b</sup>39–40, he says that a universal is what is apt to be *predicated of many* (= said of many). For the other half of the slogan, see *Metaphysics* VII.13 1038<sup>b</sup>11: 'that is called universal which is such as to belong to more than one thing' (Oxford translation). In the Latin translation, 'belong to' = *inesse* = be in.

inferiors having supposita.<sup>54</sup> In the first way, 'Man is the worthiest creature among creatures' is true; in the second way, 'Man is a species' is true.

(46) Compared simple supposition is divided into *general* and *special* supposition. This distinction applies in a special case of a general term having species and individuals under it, namely, in the case of the most general genera.<sup>55</sup> When such a general term has *general* simple supposition, it supposits for its significate absolutely,<sup>56</sup> and not for any of its inferiors.<sup>57</sup> In this sense, 'Substance is a most general genus' is true. But when it has *special* simple supposition, it supposits for the species (p. 12) and not for individuals.

(47) In this latter sense propositions like the following are true: 'Substance is second substance', 'Substance is a species of the genus substance', 'Substance is properly defined'. For if 'substance' were taken for its first and adequate significate, then 'Substance is properly defined' would be false, whether 'substance' signifies a singular external thing, or a thing common to all substances, or whether it signifies a concept in the soul. For a singular thing is not properly defined. Neither is a concept in the soul, since it is an accident. Nor is the thing common to all substances—that is, the most general genus<sup>58</sup>—since it does not have a genus and difference, and every definition is given by genus and difference. Therefore, if 'Substance is defined' is true, then since neither an individual nor substance in general is defined, 'substance' must supposit for the species contained under substance.

(48) Those who maintain that species and genera are things outside the soul have to say this, as well as those too who maintain that species and genera are concepts or intentions in the soul. For if the most general genus in the genus substance is a real thing, then clearly it is not defined, whether it is common or singular. And therefore, if 'Substance is defined' is true in any sense, and also 'Substance is a species of substance', the term 'substance' must supposit neither for the most general genus, whatever that may be, nor for individuals either. Therefore, it must supposit for the species of substance, whether those species are external things or concepts in the soul.

54. See n. 31, above.

55. That is, the ten Aristotelian categories.

56. 'Absolutely' is here explained by the following clause, 'not for any of its inferiors'—that is, not for the species or individuals. General supposition is a kind of *compared* supposition, however, and so is not *absolute* in the sense of (45).

57. See n. 31, above.

58. That is, the category 'substance' itself, which is common to all substances.



### *Objections*

(49) (a) But a doubt arises here. For it does not seem that ‘Man is the worthiest creature among creatures’ is true insofar as the subject has simple supposition. For insofar as the term ‘man’ has simple supposition, it supposits for its significate, according to you.<sup>59</sup> But its significate, whether it is a thing or a concept in the soul, is not the worthiest creature among creatures. As for the concept in the soul, certainly it is not the worthiest creature among creatures.

(50) Likewise, if the term ‘man’ signifies an external thing, still it is certain that the proposition is false. For if a species is a thing outside the soul, then since an individual in a species adds some perfection onto the species, ‘Man is the worthiest creature among creatures’ will still be false, because an individual in the species is a worthier creature than the species itself is.

(51) (p. 13) (b) Again, if someone promises you a horse, then ‘A horse is promised to you’ is true, and certainly not insofar as ‘horse’ supposits materially. Neither is it true insofar as ‘horse’ has personal supposition, because neither this horse nor that one is promised to you.<sup>60</sup> Therefore, since the proposition is true, it must be true insofar as ‘horse’ has simple supposition. And yet, taking ‘horse’ for its significate, ‘A horse is promised to you’ is always false, whether ‘horse’ signifies a common real thing or a concept in the soul. For neither a concept in the soul nor a common real thing is promised to you. Therefore, a term that supposits simply does not supposit for its significate, which is contrary to what was said [(41)]. Therefore, one has to grant other ways of suppositing.

(52) (c) Again, ‘Color is the primary object<sup>61</sup> of sight’ is true. And yet it is true neither insofar as the subject has simple supposition nor insofar as it has personal or material supposition. For if the subject has simple supposition, it supposits for either a universal thing or a concept, and neither of these is the primary object of sight. If it supposits materially, then the proposition is false, as is plain enough. If it supposits personally, then it supposits only for the individuals in [the species] color—that is, for this color and that.<sup>62</sup> And none of those is the primary object of sight. Therefore, one has to grant other ways of suppositing.

59. That is, according to Burley. The objection is put in the mouth of an interlocutor.

60. The point is that, although it is true that I promised you a horse, there is no individual horse such that it is true that I promised you *that* horse.

61. On the notion of ‘primacy’ here, compare the notion of ‘first and adequate significate’, n. 30, above.

62. That is, this *instance* of a particular shade of red, and that *instance* of a particular shade of blue. If the particular shades were meant here, rather than their instances, then the contrast with universals two sentences earlier would fail.

(53) Again, 'Man is primarily risible'<sup>63</sup> is true. And yet this is so neither insofar as the subject supposits materially, as is plain enough, nor insofar as the subject supposits simply. For neither a common nature nor a concept in the soul is primarily risible. Neither is the proposition true insofar as the subject supposits personally, because neither Socrates nor Plato is primarily risible. Therefore, one has to grant other kinds of supposition.

(54) Again, 'Something is primarily corruptible' is true. Yet it is not true according to any of the above kinds of supposition. Therefore, the above division of the kinds of supposition is not enough.

### *Replies to the Objections*

(55) To (a) the first of these, it is usually said that 'Man is the worthiest creature among creatures' is true insofar as the subject has absolute simple supposition and the proposition is understood as 'Among corruptible creatures, man is the worthiest (p. 14) creature'.<sup>64</sup>

(56) When it is stated [(50)] that Socrates is a worthier creature than man in general,<sup>65</sup> it is usually said that this is not true. For although Socrates includes the perfection of man, yet he does not include it necessarily but rather contingently, because when Socrates is dead, Socrates is not a man. So it is plain that the inference 'Socrates includes the whole perfection of man, and also some superadded perfection; therefore, Socrates is more perfect than human nature' is not valid. Rather, one has to add that Socrates would *necessarily* include the perfection of the human species, or that he would include the perfection of the human species as a part of himself. And neither of these is true.

(57) So 'Man is the worthiest', etc., can be true insofar as the subject has simple supposition. And 'The ox is the animal most useful for the plow' is true according to the same kind of supposition, and likewise 'He is deprived of sight' or 'Of sight he is deprived',<sup>66</sup> and the like.

(58) Yet other people, who say there is no real unity outside the soul besides

63. Again, on the notion of primacy here, see n. 30, above. 'Risibility' is the aptitude for laughter. It was regarded as a peculiar feature of all and only human beings.

64. Compare Ockham, *Summa logicae* I.66. The addition of 'corruptible' is inserted to rule out angels.

65. That is, than the universal human nature.

66. 'He is deprived of sight' = *Ille privatur visu*. 'Of sight he is deprived' = *Visu privatur ille*. Medieval logicians generally regarded scope as extending to the right, not to the left, so that the second formulation means something like 'Sight is such that he is deprived of it'. By giving both formulations, Burley suggests that the difference doesn't matter for present purposes.

numerical unity, have to say that 'Man is the worthiest creature', etc., is literally false, and that the term 'man' in it has personal supposition. Nevertheless, the understanding of it by those who grant the proposition can be true. They understand it in the sense that among bodily creatures man is nobler than any bodily creature that is not a man. And this is true, taking the subject personally.<sup>67</sup>

(59) To (b) the other objection, when it is asked which kind of supposition it is according to which 'A horse is promised to you' is true, assuming that someone promises you a horse, [I reply that] in maintaining that there is some kind of unity outside the soul other than numerical unity, one would have to say that 'A horse is promised to you' is true insofar as the subject has simple absolute supposition. For I do not promise you this horse or that one, but rather simply a horse. And because a universal cannot exist by itself, and consequently cannot be delivered [in fulfillment of the promise] except in some singular, therefore he who promises you a horse is bound to deliver to you some horse. Otherwise he cannot deliver to you what was promised.

(60) But those who say there is nothing outside the soul except the singular have to say that 'A horse is promised to you' is true insofar as 'horse' has personal supposition. Hence, he who promises you (p. 15) a horse by saying generally 'I shall give you a horse' promises you *every* horse, existing and possibly existing, but under a disjunction. For whichever horse he delivers to you, he makes satisfaction to you, as is manifestly plain.

(61) When it is said,<sup>68</sup> 'He does not promise you *that* horse, because in that case you could by law demand that horse of him, and by the same reasoning neither does he promise you that other horse', I say that promising is of two kinds: determinate and indeterminate. It is determinate when some singular determinate thing is promised. A promise is indeterminate when some thing is promised under a disjunction. I say then, that in the assumed case that horse *is* promised to you, but indeterminately and under a disjunction. Because of this one cannot by law demand that horse or that other one determinately, but [only] under a disjunction.

(62) To (c) the other objection, when it is said that 'Color is the primary object of sight' etc. is true,<sup>69</sup> I say, in maintaining that the universal has being outside the soul,<sup>70</sup> that there are two kinds of object of sight: the *contentive* object and the  *motive* object. The contentive object is what is common to everything

67. This is Ockham's view, *Summa logicae* I.66.

68. This was not explicitly said in the statement of the objection in (51), but it reflects the reasoning there.

69. See (52)–(54), above.

70. For a reply directed to those who deny this, see (64) below.

that, by itself and under its own notion, is perceived by the power [of sight]. The motive object is what moves and impresses the species<sup>71</sup> or act on that power. I say, then, that 'Color is the primary object of sight' is true, speaking about the contentive object, insofar as the subject has simple supposition. For the common nature signified by the name 'color' is common to everything that by itself and properly is visible. Thus the universal is the object of sense. This is so when speaking of the contentive object. But if we speak of the motive object, then 'Color is the primary object of sight' is true insofar as the subject supposits personally.

(63) If it should be said in objection that [in that case] *this* color would be the primary object of sight, and thus whatever is seen would be seen under the aspect of *this* color, I say this does not follow, speaking about the motive object. For the motive object is not primary in the positive sense, in such a way that it is before any other. Instead it is primary only in the negative sense, in such a way that nothing is before it by way of a motive. The common statement, 'What is said by (p. 16) superabundance belongs to one thing alone',<sup>72</sup> should be understood in the former way, analyzing 'superabundance' (or 'superlative') in the positive sense. But analyzing it in the negative sense, what is said by superabundance is quite able to belong to several things.

(64) Yet people who maintain there is nothing outside the soul except the singular have to say that 'Color is the primary object of sight' is simply false. Likewise, 'Man is primarily risible' is literally false, and 'Something is primarily corruptible' is likewise false. Nevertheless, the senses *in* which they are made are true.<sup>73</sup> In the above propositions, insofar as philosophers and speakers in general grant them, the exercised act is taken for the signified act. Thus, you need to know that the verb 'is' *exercises* predication, and the verb 'to be predicated' *signifies* predication. Sometimes 'to be' is taken for 'to be predicated', sometimes the other way around. Thus when philosophers grant 'Color is the primary object of sight', 'to be' is taken for 'to be predicated', according to their way of understanding the proposition. So, by the exercised act there is understood a signified act, namely, such that 'to be visible' or 'to be apprehensible by sight' is primarily predicated of color. By 'Man is primarily risible' there is understood a signified act like ' "To be risible" is primarily predicated of man'. By 'Something is primarily corruptible' there is understood something like ' "To be corruptible" is primarily predicated of something'.

71. 'Species' here is the 'sensible species' or sense-impression, and does not mean species as opposed to genus. We retain traces of this sense of 'species' in our word 'specious', meaning 'apparent'.

72. I do not know the source of this 'common statement'.

73. This is Ockham's doctrine, *Summa logicae* I.66.

(65) Hence all these propositions formed about the exercised act are literally false, and so are false in the sense *which* they make; yet they are true in the sense *in which* they are made. For the senses in which the propositions formed about the signified acts are made are true.

(66) But perhaps someone will contradict this, because the same difficulties return as before. For if “To be visible” is primarily predicated of color’ is true, then it will be true by taking ‘color’ either according to simple supposition or according to personal supposition. Neither one can be granted. For ‘to be visible’ is primarily predicated neither of the intention in the soul nor of the external singular. Likewise, when it is said that ‘to be risible’ is primarily predicated of man, this cannot be true insofar as ‘man’ has simple supposition, or insofar as it has personal supposition either. For neither is ‘to be risible’ primarily predicated of the concept in the soul nor is ‘to be risible’ primarily predicated of any singular man.

(67) It must be said in reply (p. 17) that propositions like this are true insofar as such terms supposit simply. For ‘to be risible’ is primarily predicated of the common thing<sup>74</sup> *man*, and ‘to be visible’ is primarily predicated of the common thing that is *color*, and ‘to be corruptible’ is primarily predicated of the common thing that is *composite of contraries* or *having matter*. Nevertheless, in the other propositions in which the predications are exercised that are signified in these, the terms have personal supposition. For ‘Every color is visible’ is primarily true, and in it the subject supposits personally. Likewise ‘Every man is risible’ is primarily true, and in it the subject supposits personally. Also ‘Everything composed of contraries, or everything having matter, is corruptible’ is primarily true, and in it the subject has personal supposition.

(68) Thus a term need not supposit in the same way with respect to the signified act and with respect to the corresponding exercised act. For example, ‘Man is predicated of several things’ is true insofar as ‘man’ has simple supposition. Yet in the exercised acts corresponding to this signified act, ‘man’ supposits personally, as is plain in ‘Socrates is a man’, ‘Plato is a man’. Likewise, in ‘Man is distributed for every man’, the term ‘man’ supposits simply.

74. Burley is supposed to be arguing here from the nominalist point of view that there is nothing outside the soul except singulars (see [64]). Hence the ‘common thing’ here appears to be the common *concept* in the soul, which is the only sort of common entity the nominalist allows. (There are also common spoken and written terms, but they are common only in a secondary sense derivative from the community of concepts and are not common in the way realists talk about common things.) It is possible to construe Burley’s talk about universal or common things in this and the following paragraphs in this nominalist way, although that is certainly not the more natural reading. Perhaps the best interpretation is to view Burley’s discussion in these paragraphs as strictly neutral between his own realist notion of universal or common entities and Ockham’s nominalist theory.

But in 'Every man is an animal', in which the distribution is exercised, the term 'man' supposits personally. So it is in other cases too, that a term having one kind of supposition sometimes supposits for itself having another kind of supposition. For example, in 'Man is predicated of several things', the term 'man' suppositing simply supposits for itself suppositing personally.

(69) If someone argues to the contrary as follows: 'If "to be risible" is primarily predicated of man, then a man is primarily risible, and if "to be corruptible" is primarily predicated of a composite of contraries, therefore a composite of contraries is primarily corruptible';<sup>75</sup> I say in reply that inferences like that are not valid. For such predications should not be exercised that way, but rather like this: 'Because " 'Risible' is primarily predicated of man" is true, therefore "Man is risible" is primarily true', and 'Because "to be corruptible" is primarily predicated of a composite of contraries, therefore "A composite of contraries is corruptible" is primarily true'.

(70) If it is said that 'A composite of contraries is corruptible' does not appear to be primarily true, because a common thing or universal is here in subject position,<sup>76</sup> (p. 18) and being corruptible is not primarily applicable to any universal, but rather to the singular, I say that being corruptible is primarily applicable to a universal or common thing, although not for itself but for singulars. Thus there is one thing *of* which being corruptible is primarily predicated, and another thing or things *for* which it is predicated. For that *of* which being corruptible is primarily made true is a universal suppositing personally;<sup>77</sup> and so the things *for* which it is made true are singulars.

(71) If it is asked 'Which is primarily corruptible, the singular or the universal?', I say that 'primarily', like any superlative, can be analyzed in two ways—either positively or else privatively or negatively. If it is taken positively, then it is analyzed by the fact that it is 'before any other'. Analyzing it in this sense, I say that nothing is primarily corruptible, because neither this is nor that, and so on. But if 'primarily' is taken or analyzed negatively, then I

75. The point of these inferences is to move from propositions in which the *signified* act is expressed to the propositions in which the corresponding *exercised* act is expressed. In the latter, according to the view being attacked here, the terms 'man' and 'composite of contraries' have personal supposition, so that there must be an individual man who is primarily risible and an individual composite of contraries that is primarily corruptible. But these conclusions are false, for the reason given in (66).

76. The indefinite article 'a' at the beginning of the sentence is required by English, but has no counterpart in the Latin.

77. 'universal suppositing personally'. This could either refer to a universal *concept*, which is a term in mental language and so able to have supposition, or it could refer to a metaphysical universal in the realist's sense, in which case it could be said to have supposition only in one of Burley's 'real propositions'. On this notion, see n. 3, above.

say it is analyzed by 'nothing before it'. In this sense, I say Socrates is primarily corruptible, and so is Plato, and so on, and in general *every* composite of contraries is primarily corruptible. For, indicating any composite of contraries, it is true to say that *this* is corruptible and nothing is corruptible before it.

(72) If it is asked 'What is *being corruptible* made true of primarily?' I say it is of one thing common to all corruptibles and suppositing personally for them. It does not follow from this that a common thing is primarily corruptible. Neither does it follow that 'Being corruptible is [primarily] in a common thing *for* its supposita; therefore, being corruptible is primarily in the supposita'. Indeed, being corruptible is primarily in a common thing suppositing personally, as was said [(70)].

(73) One could say something else about the propositions 'Man is primarily risible' and 'The composite of contraries, or what has matter, is primarily corruptible', namely, that expressions like this have to be distinguished because 'primarily' or primacy either can be referred to the composition or else can be the predicate.<sup>78</sup> If it is referred to the composition, then any proposition like 'Man is primarily risible' or 'The composite of contraries is primarily corruptible' is false. For if the subject is taken simply, it is clear that the proposition is false. Even if the subject is taken personally, the proposition is certainly false, because each singular is false. But if primacy is the predicate, then such propositions are true because the whole dictum is the subject, and 'primarily' or primacy is the predicate. Thus, the sense is: "'Man is risible" is primarily true'. And in that sense it is true. In the first sense, (p. 19) it is false, as was said, because if nothing but the term 'man' is the subject, then however the term 'man' suppositis, the proposition is always false. In the second sense, it is true, because the whole phrase 'that a man is risible' or 'A man is risible' is the subject, and it is denoted that primacy is in the whole proposition. And that is true.

(74) If it is asked which kind of supposition the term 'man' has in this proposition, insofar as the proposition is true, I say it does not have *any* kind of supposition. For supposition is a property of an extreme and does not belong to a part of an extreme, but rather to the whole extreme. Because the term 'man' is not an extreme in "'Man is risible" is primarily, or is primarily true', but is rather a part of an extreme, therefore it does not have any kind of supposition there. In the same way, propositions in which 'by itself' occurs, or some other mode signifying the quality of the proposition, have to be distinguished.

<sup>78</sup> Rather, being primarily *true* is the predicate. So too throughout the rest of the paragraph.

## CHAPTER 4: ON PERSONAL SUPPOSITION

(75) After talking about simple and material supposition, it remains to talk about personal supposition. Personal supposition is divided into *discrete* and *common* supposition. Supposition is discrete when a proper name supposits, or a demonstrative pronoun indicating the same as what a proper name signifies. For example, 'Socrates is a man', 'This man is a man'.

(76) But there is an objection against this. For in 'Socrates is an individual', a singular term is in subject position, and yet the subject has simple supposition. For it supposits with respect to a name of second intention,<sup>79</sup> and consequently the subject supposits simply.

(77) Again, 'This herb grows here and in my garden' is true. Yet if the subject had discrete supposition, it would be false.<sup>80</sup>

(78) To the first objection, I reply: In 'Socrates is an individual' the subject has personal supposition. For it supposits for a simple singular thing with which it is inconsistent to be found in several instances. (By 'person' in a proposition I mean such a simple singular with which being found in several instances is inconsistent.)<sup>81</sup> Thus supposition is called personal when a com-

79. Names of first intention were generally taken to include names like 'animal', 'man', 'rational', 'Socrates', 'redness'. Names of second intention included names like 'genus', 'species', 'difference', 'individual', 'accident'. They are the names that, when found in predicate position, allow the subject to have simple supposition. (See [42]–[44], above.) Burley does not give us a general theory of such names (at least not in any passage I know). But the point of the objection seems to be as follows: The second-intention name 'species' is not truly predicable of a man but is truly predicable of his general human nature, so that in the proposition 'Man is a species', the predicate allows the subject to have simple supposition for the general human nature (for humanity). So too, the objection goes, the second-intention name 'individual' is not truly predicable of Socrates but is truly predicable of his *individual nature*, so that in the proposition 'Socrates is an individual', the predicate allows the subject to have simple supposition for Socrates' individual nature (his 'Socrateity'). Burley's reply, in (78)–(80), denies that the subject in 'Socrates is an individual' has simple supposition. The fact that he does not allow noncompound singular terms to supposit in simple supposition for anything other than what they supposit for in personal supposition (see [12] and [28], above, and [80], below) suggests that he does not accept the notion of individual natures. See Spade, "Walter Burley on the Simple Supposition of Singular Terms."

80. Discrete supposition is a branch of *personal* supposition only, so that if the subject had discrete supposition, the sense would be *not* 'This *kind of* herb grows here and in my garden' but rather 'This individual specimen of it grows here and in my garden', which is false (provided, I suppose, that you are not in your garden when you say it).

81. Burley is here trying to give some motivation for the fact that this kind of supposition is called 'personal', even though it does not necessarily have anything at all to do with 'persons' in the usual sense. Historically, the terminology appears to have arisen in the con-



mon or singular term supposits for some one simple singular, or for several such singulars. In that case it supposits personally. But not (p. 20) the other way around. For a term suppositing personally does not have to supposit for several singular things or for one singular thing. For in saying 'Every species is under a genus', the subject supposits personally. Yet it does not supposit for singular things. Rather, it supposits for its inferiors.

(79) I say therefore, that supposition is personal when a simple singular term or a common term supposits for a singular or for several singulars, or a common term supposits for all its inferiors, either copulatively or disjunctively,<sup>82</sup> whether those inferiors are singulars or not.

(80) If someone asks whether supposition is always personal when a singular term supposits, it must be said that whenever a singular term supposits for a singular simple thing or a thing that is one all by itself, then it supposits personally. But when a singular composite or aggregated term that signifies things of different genera supposits for what it signifies, then such a term has simple supposition, as is plain for 'White Socrates is a being by accident', in the sense in which it is true. But when such an aggregated term supposits for the singular simple thing of which it is accidentally predicated, then it has personal supposition, as is plain for 'White Socrates is a man', in the sense in which it is true. The preceding chapter talked about this [(28)].<sup>83</sup>

(81) To the other objection [(77)], 'This herb grows here and in my garden' is literally false. Nevertheless, a true proposition can be understood by means of it, namely 'Such an herb grows here and in my garden'.

(82) Common supposition is divided. For one kind is *determinate* and another kind *confused*. Supposition is determinate when a common term supposits disjunctively for its supposita in such a way that one can descend to all its supposita under a disjunction, as is plain with 'Some man runs'. For it follows: 'Some man runs; therefore, Socrates runs or Plato runs, and so on'. The supposition is called 'determinate', not because a term suppositing determinately in this way supposits for one suppositum and not for another. Rather the supposition is called 'determinate' because for the truth of a proposition in which a

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text of speculations about the Trinity, where there is a crucial distinction between the divine nature (which is individual since there is and can be only one God) and the three divine 'persons' that share that nature. But the history of this terminology has not been traced in detail. Nevertheless, for some interesting glimpses into that history, see Brown, "Medieval Supposition Theory in Its Theological Context."

82. This is a reference to the various subdivisions of personal supposition, described below, beginning at (82). Despite what Burley says here, not all cases of personal supposition involve this 'copulative or disjunctive' reference. See (85)–(86), below.

83. A fuller discussion is in (12), in ch. 1.

common term suppositis determinately it is required that the proposition be made true for some determinate suppositum.<sup>84</sup>

(83) But there is a doubt here. For 'Pepper is sold here and in Rome' is true, and the subject has determinate supposition here. (p. 21) Yet the proposition is not made true for any one determinate singular.<sup>85</sup>

(84) It must be said in reply that 'Pepper is sold here and in Rome' is ambiguous according to composition and division. In the sense of composition, it is false, because it is an indefinite proposition each singular of which is false.<sup>86</sup> In the sense of division, the proposition is true, and in that case it is denoted that pepper is sold here and pepper is sold in Rome.<sup>87</sup> In that sense it is a copulative proposition, and the conjuncts are two indefinite propositions one of which is made true for one singular and the other one for another singular. For the truth of the proposition it is not required that it be made true for some one singular. Rather, it suffices that one part be made true for one singular and the other part for another singular.

(85) Confused supposition is divided. For one kind is *merely confused*, and another kind is *confused and distributive*. Supposition is merely confused when a common term suppositis (a) for several things in such a way that (b) the proposition is inferred from any of them and (c) one cannot descend to any of them either copulatively or disjunctively. The predicate suppositis in this way in 'Every man is an animal', because: (a) the term 'animal' suppositis for several things. For if it suppositis for some determinate one, the proposition would be false.<sup>88</sup> (b) The proposition is inferred from any of its singulars. For it follows: 'Every man is this animal; therefore, every man is an animal'. And

84. That is, taking Burley's example 'Some man runs', it is required that there be some determinate man such that he runs, although *any* such man will do.

85. That is, there is no one pepper that is sold both here and in Rome. Note that, since we are dealing here with *personal* supposition, we are talking about individual peppers, not *kinds* of pepper.

86. An indefinite proposition is one without any explicit quantifier. For example, 'Man runs', as opposed to 'Some man runs' or 'Every man runs'. Such indefinite propositions were generally taken as equivalent to particular propositions—that is, to existentially quantified one ('Some man runs'). In 'the sense of composition', the proposition 'Pepper is sold here and in Rome' is taken to mean 'Some (individual) pepper is such that it is sold both here and in Rome'. In that sense the proposition is false, because 'each singular is false'. That is, 'This pepper is such that it is sold both here and in Rome' is false, and 'That pepper is such that it is sold both here and in Rome' is false, and so on for all (individual) peppers.

87. In 'the sense of division', then, the proposition is taken not as one indefinite proposition with a conjoined predicate, but as an implicit conjunctive (= copulative) proposition.

88. That is, 'Every man is *this* (individual) animal' is false (because there is more than one man, and each one is a distinct animal).

(c) one cannot descend under 'animal' either disjunctively or copulatively. For it does not follow: 'Every man is an animal; therefore, every man is this animal or every man is that animal'. Neither does it follow: 'Every man is an animal; therefore, every man is this animal and every man is that animal', and so on.

(86) Therefore, these three conditions belong to the very notion of merely confused supposition: (a) First, that a term having that kind of supposition supposit for several things. (b) Second, that the proposition could be inferred from anything for which the term supposits. (c) The third condition is that under a term so suppositing one cannot descend either copulatively or disjunctively.

(87) Now in order to recognize when a common term has merely confused supposition, you have to know that every syncategorematic word that does not include a negation and that remains syncategorematic and conveys a multitude has the power of confusing a mediately following term<sup>89</sup> merely confusedly. I said 'that does not include [a negation]', because if it did include a negation, it would make the mediately following term supposit confusedly and distributively. This is plain with universal quantifiers that convey negation, such as 'no', 'neither', and the like.

(88) I said 'that remains syncategorematic', because if a syncategorematic word were to become part of an extreme (which happens (p. 22) when it affects part of an extreme), then such a word is not taken syncategorematically and does not remain as a syncategorema. In that case it does not have the power of confusing the mediately following term merely confusedly. For instance, in saying 'He who sees every man is an animal'. In this proposition, the term 'animal' does not supposit merely confusedly, but rather determinately. For it follows: 'He who sees every man is an animal; therefore, an animal is he who sees every man', and conversely. And in the latter<sup>90</sup> 'animal' supposits determinately. Therefore, it supposits determinately in the other proposition.<sup>91</sup> The reason for this is that in 'He who sees every man is an animal' the whole 'he who sees every man' is the subject. So the universal quantifier here is part of an extreme, and consequently is not taken syncategorematically.

(89) I said 'that conveys a multitude', because syncategoremata that do not convey a multitude—like 'someone', 'the one',<sup>92</sup> and the like—do not have the

89. As the phrase implies, a 'mediately following term' is a term that follows the syncategorema but is not the *first* such term. For example, in 'No man is an island', the predicate 'island' *mediately* follows the syncategorema 'no'. The *immediately* following term is 'man'.

90. That is, in 'An animal is he who sees every man'.

91. Note the implicit criterion here: If  $p$  implies  $q$  and conversely, and if a certain term  $x$  occurs in both  $p$  and  $q$ , then  $x$  has the same kind of supposition in  $p$  and  $q$ .

92. That is, 'the one' as opposed to 'the other'.

power of confusing a term. But syncategoremata like 'every', 'each' and numerical adverbs like 'twice', 'thrice', 'four times' and such, do have the power of confusing the mediately following common term merely confusedly.

(90) I said 'mediately following', because a syncategorema that follows has no power over a preceding term. For this reason, it is plain that 'An animal is every man' is false, because the term 'animal' has determinate supposition, since it is not confused by anything. For the quantifier that follows it does not have power over it, and therefore it supposits determinately and disjunctively for its supposita. For this reason the proposition is false, as is 'This animal is every man or that animal is every man, and so on',

(91) Nevertheless, you must know that even though a syncategorematic word that conveys a multitude has the power of confusing a mediately following term in the same categorical proposition, yet such a syncategorematic word that conveys a multitude and occurs in one categorical does not have the power of confusing a term occurring in another categorical. Thus the copulative 'Every man is an animal and some man is he' is false on account of its second part. For the term 'man' occurring in the second categorical is not confused by the preceding quantifier.<sup>93</sup> Therefore, it supposits determinately, and it is denoted by the proposition that every man is an animal and Socrates is he or every man is an animal and Plato is he, and so on. And each of these disjuncts is false. Therefore, the whole copulative proposition is false on account of its second part.

(92) (p. 23) Likewise, a universal negative quantifier occurring in one categorical does not have the power of confusing a term occurring in another categorical. For example, in saying 'No man is an ass and some animal runs', the term 'animal' occurring in the second categorical has determinate supposition.<sup>94</sup>

(93) From the above statements, it is apparent that propositions like 'Twice you ate a loaf of bread', 'Thrice you drank wine' are true, and yet no loaf of bread did you eat twice, and likewise no wine did you drink thrice. The reason for this is that the numerical adverbs 'twice', 'thrice', and so on, convey a multitude, and therefore have the power of confusing a term merely confusedly. Therefore, in 'Twice you ate a loaf of bread', the term 'loaf of bread' does not stand determinately for this loaf or that one, under a disjunction. For in that sense the proposition would be false, because 'Twice you ate *this* loaf of bread' is false, and likewise 'Twice you ate *that* loaf of bread', and so on. Instead, 'At one time you ate one loaf of bread, and at another time you ate

93. By the 'every' in the first categorical.

94. And not merely confused supposition, as it would have if it were within the scope of the universal negative quantifier in the first conjunct.

another loaf of bread' is true. Neither does it follow: 'Twice you ate a loaf of bread; therefore, a loaf of bread you ate twice'. Instead it is a fallacy of figure of speech.<sup>95</sup> For in the antecedent the term 'loaf of bread' stands merely confusedly and indicates a *kind of thing*,<sup>96</sup> and in the consequent it stands determinately and indicates a *this something*.

(94) Thus, whenever there is an argument from a term suppositing merely confusedly to a term suppositing determinately with respect to the same multitude, there is a fallacy of figure of speech. Therefore, it does not follow: 'Every man is an animal; therefore, an animal is every man'. Instead it is a fallacy of figure of speech.

(95) If it is said that, according to this view, there would be a fallacy of figure of speech in 'Every man is an animal; therefore, some animal is a man', because in the antecedent the term 'animal' supposits merely confusedly and in the consequent it supposits determinately, it must be said in reply that there is not always a fallacy of figure of speech when there is an argument from a term suppositing merely confusedly to the same term suppositing determinately. Rather, when there is an argument from a term suppositing merely confusedly with respect to a syncategorematic word conveying a multitude to the same term suppositing determinately with respect to the same syncategorema conveying a multitude, then there is a fallacy of figure of speech.

(96) From all this, it is plain that, assuming the world is eternal with respect to both the past and the future, 'Always some man was' is true, and likewise 'Always some man will be'. Nevertheless 'Some man always was' and 'Some man always will be' are false. For in 'Always (p. 24) some man was' and 'Always some man will be', the term 'man' supposits merely confusedly. But in 'Some man always was' and 'Some man always will be', it supposits determinately.

(97) Suppose someone perhaps says that in 'Always a man was', the term 'man' does not mediately but rather immediately follow the term conveying a multitude, because when one says 'Always a man will be'<sup>97</sup> there is nothing between the 'always' and the term 'man', and therefore the term does not supposit merely confusedly. For it was said above [(87)] that a syncategorematic word conveying a multitude confuses the *mediately* following term merely confusedly. It must be said [in reply] that, although the term 'man' does not mediately follow the syncategorema 'always' verbally, nevertheless

95. See Aristotle, *Sophistic Refutations* 4 166<sup>b</sup>10–21 and 22 178<sup>a</sup>5–179<sup>a</sup>10.

96. 'kind of thing' = *quale quid*. The claim is perhaps odd, since it suggests that the term supposits in *simple* supposition, not in personal supposition at all.

97. Burley seems to have slipped from the past to the future tense. The point is the same.

in the sense in which the proposition is understood it does follow mediately. For to say 'Always a man was' is the same as saying 'In every time a man was', and in 'In every time a man was' the term 'man' mediately follows a distributive quantifier. It is the same way for other syncategorematic words that convey a multitude: such words convey in themselves their distributable terms, which according to the sense in which they are understood, immediately follow them. Thus, to say 'Twice you were a man' is the same as to say 'Two times you were a man'. So the distributable term, or what is numbered by these numerical adverbs, is 'times'. For to say 'Thrice you drank wine' is the same as saying 'Three times you drank wine'.

(98) It is also plain from these statements that, assuming that continuously throughout the whole day there is some man in this house, but continually one after another in succession, 'All day some man is here indoors' is true, and 'Some man is here indoors all day' is false. For the first proposition is true because each singular is true. For in any part of the day there is some man here indoors. But the second proposition is false, because it is a particular proposition of which each singular is false.

(99) Confused and distributive supposition is divided. For one kind is *mobile* and another kind *immobile*. Each kind is twofold, one subkind *absolute* and the other *respective*. First we have to talk about absolute supposition.

(100) Confused and distributive supposition is mobile and absolute when under the term that has such supposition one can descend absolutely to any suppositum of that term, by virtue of the distribution. This is plain. For the subject of the proposition 'Every man runs' supposits confusedly and distributively [and mobilely], because by virtue of the distribution one can descend to any suppositum of 'man'.

(101) (p. 25) But confused and distributive supposition is immobile when a common term is distributed for its supposita and one cannot descend to those supposita with respect to that with respect to which the distribution is made. For instance, in 'Every man besides Socrates runs', the term 'man' is distributed with respect to an exception, and one cannot descend with respect to the same exception. For it does not follow: 'Every man besides Socrates runs; therefore, Plato besides Socrates runs'.<sup>98</sup>

(102) Thus, you need to know that when one cannot descend to the supposita under a common term, and the common term cannot be inferred from the supposita, so that it neither implies its supposita nor is inferred from its supposita, then the term supposits confusedly and distributively immobilely. This is plain in the example already given [(101)]. It is also plain in 'No man be-

98. This is just as ill-formed in Latin as it is in English.

sides some one of these is an animal',<sup>99</sup> indicating all the men who now exist. The term 'animal' here suppositis confusedly and distributively immobily, because it neither implies its supposita nor is inferred from its supposita. For it does not follow: 'No man besides some one of these is an animal; therefore, no man besides some one of these is an ass'. For the antecedent is true and the consequent false.<sup>100</sup> Neither does it follow: 'No man besides some one of these is an ass; therefore, no man besides some one of these is an animal'. For if this inference were a formal one, then it would also follow: 'No animal besides some one of these<sup>101</sup> is a man; therefore, no animal besides some one of these is a substance', because the argument is the same in both cases, from an inferior to a superior on the side of the predicate in a negative exceptive proposition. But this latter inference is not valid, because the antecedent is true and the consequent is false.

(103) As for confused and distributive mobile supposition, you need to understand that confused and distributive supposition is mobile when by virtue of the distribution one can descend under a common term to its supposita. Now if sometimes one can make a descent under a common term, but *not* by virtue of a distribution, then the term under which one can descend does not supposit confusedly and distributively. For instance, it follows: 'Some proposition is true; therefore, this proposition is true', indicating 'Some proposition is true'. Yet the subject in 'Some proposition is true' does not supposit confusedly and distributively, because the stated inference does not hold by virtue of the distribution. Instead, it holds through the fact that any proposition asserts itself to be true.

(104) (p. 26) Therefore, we have to see which words have the power of distributing a term confusedly and distributively. For this, you need to know that the universal affirmative quantifier has the power of confusing an immediately following term confusedly and distributively. But a universal negative quantifier and a negating negation have the power of confusing both a mediate and an immediate term confusedly and distributively. Thus in 'No man is an animal', both the subject and the predicate supposit confusedly and distributively. Likewise 'Not: man is an animal'. Insofar as the negation 'not' is merely negating,<sup>102</sup> it confuses both the subject and the predicate confusedly and distributively.

99. This is analyzed ('expounded') as 'Some one of these is an animal and no other man is an animal'. See (867) below.

100. The consequent is false because its second 'exponent' (see n. 99, above), 'Some one of these is an ass', is false.

101. Indicating all existing men, as before.

102. The point is that the proposition is to be read in the sense 'It is not the case that man is an animal', not in the sense of 'Nonman is an animal'.

(105) Likewise, relative words that include an exercised negation, such as 'differing', 'other', and the like, have the power of confusedly and distributively confusing a common term that immediately follows and terminates their dependence.<sup>103</sup> For it follows: 'Socrates differs from a man; therefore, Socrates differs from Socrates'.<sup>104</sup> Likewise, it follows: 'Socrates is other than an animal; therefore, Socrates is other than this animal'.<sup>105</sup> Now it is plain that such inferences are good ones, because if Socrates differs from a man, then Socrates is not the same as<sup>106</sup> a man. And if Socrates is not the same as a man, it follows that he is not the same as Socrates. For a negation negates the following term confusedly and distributively. And it follows further: 'He is not the same as Socrates; therefore, he differs from Socrates'. Therefore, from first to last: 'Socrates differs from a man; therefore, Socrates differs from Socrates'. Likewise, it follows: 'Socrates is other than an animal; therefore, he is not the same as an animal. And further: therefore, he is not the same as this animal; therefore, he is other than this animal'. Therefore, from first to last, it follows: 'Socrates is other than an animal; therefore, he is other than this animal'.

(106) I said that such a term that includes an exercised negation (the negation 'not' is like this) has the power of confusedly and determinately confusing the term that immediately follows and 'terminates its dependence'. For if the immediately following term did not terminate the dependence of the relation conveyed by such a [negating] term, it would not be confused by it. For example if someone says 'Another man, or a different man, runs', the term 'man' here is not confused. But when someone says 'Another than a man runs, or what is different from a man runs', the term 'man' is confused confusedly and distributively.

(107) I also said that such a relative word that includes an exercised negation can confuse a common term that 'immediately follows', etc., because it cannot confuse a term that mediately follows. (p. 27) For it does not follow: 'What is different from a risible is an animal; therefore, what is different from

103. That is, their grammatical dependence. See the explanation in (106).

104. The inference sounds fallacious, but it isn't. Propositions of the form 'x differs from y' were analyzed as: 'x and y exist, and x is not y'. This was done even where the 'x' and the 'y' were replaced by quantified terms. Thus 'Socrates differs from Plato' = 'Socrates and Plato exist, and Socrates is not Plato'. Similarly, 'Socrates differs from a man' = 'Socrates and a man exist, and Socrates is not a man', which is false in virtue of the second conjunct. On the other hand, 'Socrates differs from every man' = 'Socrates exists and every man exists, and Socrates is not every man', which is true if there are any men besides Socrates.

105. The analysis of 'other' follows the same pattern as 'differ'. See n. 104, above.

106. The analysis of 'not the same as' (= *non idem*) follows the pattern of 'differ' and 'other'. See nn. 104–105, above. Burley's reason for introducing 'not the same as' here is that it makes explicit the negation implicit in the other two locutions.



a risible is a man', because the antecedent is true and the consequent false. The reason for this is that the negation included in such a term is referred only to the term that terminates its dependence. Therefore, it neither negates nor confuses any other term. Nevertheless, if a common term that terminates the dependence of such a relative word conveying a negation precedes it, it is not confused in virtue of the negation conveyed by the relative word. For instance, in saying 'From a man Socrates is different' or 'Socrates from a man is different', the term 'man' supposits determinately and is not confused. For the negation does not govern what precedes it.

(108) So, therefore, it is apparent what confused and distributive absolute supposition is.

## Two Objections and Replies

(109) But there is a doubt. For it was said<sup>107</sup> that in a universal affirmative proposition the subject supposits confusedly and distributively. But this does not seem to be true. For, assuming that no man is white, 'Every white man is white' is a universal affirmative, and yet the subject does not supposit confusedly and distributively, because it supposits for nothing at all.

(110) Again, the proposition 'Either man runs' is a universal proposition, and yet the subject does not supposit confusedly and distributively. For in that case it would supposit for any man, which is false since the quantifier 'either' only distributes over two.

(111) To the first objection, it needs to be said that, assuming that no man is white, the subject in 'Every white man is white' does supposit confusedly and distributively. Nevertheless, it does not supposit for anything because the subject does not have any suppositum. Yet it is *denoted* to have supposita by the fact that the universal affirmative quantifier is added to it. Therefore, I say that confused supposition is distributive when a common term supposits for all its supposita or is denoted to supposit for all its supposita by the addition of a universal quantifier. Thus, if the common term does not have supposita and a universal affirmative quantifier is added to it, then it supposits confusedly and distributively because it is denoted to supposit for all its supposita.

(112) To the second objection, I say that 'Either man runs' is not properly formulated. For what is distributable by the quantifier 'either' should have (p. 28) two supposita only, and they should be indicated by a demonstrative pronoun in the distributable, as here: 'Either of these runs', indicating Socrates and Plato, or any other two whatever.

107. It has not been said explicitly. But see (104).

## On the Supposition of Relative Terms

(113) Now that we have talked about absolute supposition, we must talk briefly about relative supposition. Relative supposition belongs to a relative term, taking 'relative' in the sense of 'recollective of a thing referred to previously'.<sup>108</sup> (For that is how we intend to talk about relatives in the present context.)

(114) To make this plain, you must know that among such relatives, some are *relatives of substance*, like 'he', 'the same', 'another', and 'the rest'. Some are *relatives of accidents*, like 'such', 'such as', 'so much', 'so many'. Among relatives of substance, some are *relatives of identity*, like 'he' and 'the same', and some are *relatives of diversity*, like 'another', 'the rest'. A relative of identity supposits for the same thing as its antecedent is made true of. But a relative of diversity supposits for something other than what its antecedent supposits for. Among relatives of identity, some are *reflexive*, like 'of himself', 'to himself', 'himself', 'by himself', together with its possessive forms 'his', 'hers', 'its'.<sup>109</sup>

(115) As for relatives of substance, and first for relatives of identity, you need to know that a non-reflexive relative of identity supposits for the same thing as its antecedent does. Thus, if the antecedent supposits for *supposita*,<sup>110</sup> the relative supposits for *supposita*. And if the antecedent of the relative supposits for its significate or for the utterance, the relative of identity supposits for the same thing. For example: 'If a man runs, he is moved'. Because the term 'man' in the antecedent supposits for *supposita*, therefore the relative term in the consequent supposits for *supposita*. Likewise, in saying 'Man is a species, and he is predicated of several things'. Because 'man', which is the antecedent,<sup>111</sup> supposits for its significate in the first part, therefore the relative in the second part supposits for the same thing.

(116) Yet you have to understand that even though the relative supposits for the same thing as its antecedent does, nevertheless the relative does not always have the same kind of supposition as its antecedent has. This is plain in saying 'Animal is a trisyllable (p. 29) and it is a monosyllable'. 'Animal' in the first part supposits materially. But 'it' in the second part does not supposit

108. A paraphrase of Priscian, *Institutiones grammaticae*, XVII.56, vol. 2, p. 141.2–21. This was a well-known definition. Note that we are *not* talking here about 'relatives' in the sense of terms like 'to the right of', 'larger than'.

109. 'of himself' . . . 'its' = 'sui', 'sibi', 'se', 'a se' *cum suis possessivis ut 'suus', 'sua', 'suum'*. I despair of translating this smoothly. They are all forms of the Latin reflexive pronoun.

110. 'Supposita' in the metaphysical sense. See n. 9, above. A term supposits for its 'supposita', in this sense, when it is in personal supposition.

111. In the previous example, the 'antecedent' was used in the sense of the antecedent of an inference. Here it is used in the sense of the grammatical antecedent of a relative term.

materially. For in that case it would supposit for the utterance 'it', and so 'Animal is a trisyllable and it is a monosyllable' would be true. Therefore, it must be granted that a relative of identity always supposits for the same thing as its antecedent does, but it does not always have the same kind of supposition as its antecedent has.

(117) You need to know that it is not always permissible to put the antecedent in place of the relative. For saying 'A man runs and he argues' is not the same as saying 'A man runs and a man argues', because for the truth of 'A man runs and a man argues' it suffices that one man runs and another one argues. Instead, the rule 'It is permissible to put the antecedent in place of the relative' is to be understood as holding when the antecedent is singular and not common to [several] supposita. For saying 'Socrates runs and he argues' is the same as saying 'Socrates runs and Socrates argues'.

(118) You need to know that a non-reflexive relative of identity never refers<sup>112</sup> to something occurring in the same categorial. For to say 'Every man is he' is to say nothing, unless 'he' is taken demonstratively.<sup>113</sup> For 'he' cannot refer to 'man' occurring in the same categorial. But a relative of identity occurring in one categorial can refer to a term occurring in another categorial. In order for the categorials to be true in which there occur a relative term and the antecedent of the relative, the propositions have to be made true for the same suppositum. For in order that 'A man runs and he argues' be true, 'A man runs' has to be made true for some suppositum of 'man' and the second part made true for the same suppositum. It follows from this that a non-reflexive relative of identity is not inferred from its suppositum unless, together with this, its antecedent is inferred from the same suppositum. Thus it does not follow: 'A man runs and Socrates argues; therefore, a man runs and he argues'.

(119) You need to know that neither negation nor distribution has the power of confusing a relative of identity. Rather, a relative of identity always supposits for the same thing as its antecedent does, and in the same way. Thus, assuming that Socrates runs and Plato does not, 'Some man runs and Plato is not he' is true. But it does not follow from this that some man runs and Plato is not Plato.<sup>114</sup> For even though the negation precedes the relative 'he', nevertheless it does not confuse it. Rather, 'he', like its antecedent, supposits particularly,<sup>115</sup> despite the fact that the negation precedes it. From this it is

112. That is, have as its antecedent. We are talking here about reference in the syntactical, not the semantic sense.

113. And so not relatively.

114. As it would follow if the 'not' had the power of confusing the relative 'he'.

115. That is, 'determinately'.

plain that the second parts of these copulatives are true: 'Some man is risible and (p. 30) Socrates is he' and 'Some man is risible and Socrates is not he'. Neither do the second parts of these copulatives contradict one another. In such cases, no contradictory can be given for the proposition in which the relative occurs, except with respect to the contradictory of the proposition in which the relative's antecedent occurs.<sup>116</sup>

(120) A doubt arises here. If a relative of identity has the same supposition as its antecedent has,<sup>117</sup> then 'Every man is an animal and every risible is it' would be true. For in the second part, 'it' would supposit merely confusedly, and so it is not denoted by this part that some animal is every risible.<sup>118</sup>

(121) It must be said in reply that 'Every man is an animal and every risible is it' is false, despite the fact that the relative in the second part supposits merely confusedly. For 'Socrates is an animal and every risible is he', which is false, follows from it.

(122) You need to know that a non-reflexive relative of identity related to a common term that stands confusedly and distributively has the power of confusing a mediately adjoined term merely confusedly. For when someone says 'Every man is an animal and he is some man', 'man' in the second part is confused merely confusedly.

(123) As for the supposition of reflexive relatives, you need to know that a reflexive relative can indifferently refer to a term occurring in the same categorical and to a term occurring in another categorical.<sup>119</sup> In this respect, a reflexive relative of identity differs from a non-reflexive relative of identity.

(124) You need to know that a reflexive relative referring to a term in another categorical is either: (a) an extreme all by itself. And in that case it supposits for the same thing as its antecedent does. There are the same rules about a [reflexive] relative suppositing like this as there about a non-reflexive relative of identity. But when a reflexive relative referring to a term in another categorical is (b) not an extreme but a part of an extreme, in that case the extreme does not have to supposit for the same thing that the antecedent of the relative supposits for. For example, when someone says 'A man argues and

116. The exact meaning of this is unclear. For help, see (130)–(132), below. (But there are problems there too.)

117. This has not been claimed and was in fact denied in (116). But there the exceptional cases were ones in which the relative term had personal supposition whereas the antecedent had material (or simple?) supposition. Here the argument concerns a case in which both the relative and its antecedent have personal supposition.

118. That is, the second conjunct is not to be read in the sense that implies there is some one animal that is every risible.

119. In other words, both 'Socrates saw himself' and 'Socrates looked in the mirror and he saw himself' are perfectly acceptable constructions.

his ass runs', 'his ass' in the second part does not supposit for what the term 'man' supposits for in the first part.

(125) You need to know that a reflexive relative referring to a term in the same categorical has the same kind of supposition as its antecedent has. But the relative adds 'singulation' onto the supposition its antecedent has, (p. 31) so that if its antecedent supposits confusedly and distributively, the relative has confused and distributive 'singled' supposition. And if its antecedent supposits particularly, the relative supposits particularly 'singly'. For example, when someone says 'Every man sees himself', 'himself' supposits confusedly and distributively singly. (But it supposits in an improper sense. For a part of an extreme does not properly supposit.)<sup>120</sup>

(126) Confused and distributive singled supposition is as it were an intermediary supposition between confused and distributive supposition and merely confused supposition absolutely so called.<sup>121</sup> For it agrees with confused and distributive supposition absolutely so called in that a term suppositing confusedly and distributively singly actually supposits for a suppositum. It differs from absolute confused and distributive supposition, because under a term that supposits absolutely confusedly and distributively one can descend to anything for which the distribution is made. But under a term that supposits confusedly and distributively singly one cannot descend absolutely to any suppositum. Rather, to any suppositum one can descend *with respect to itself*.<sup>122</sup> Therefore, it is called 'singled' supposition because it assigns singulars to singulars. For it does not follow: 'Every man sees himself; therefore, every man sees Socrates'. But it quite well follows: 'Every man sees himself; therefore, Socrates sees Socrates'.<sup>123</sup>

(127) [Confused and distributive singled supposition] agrees with merely confused supposition in that under a term suppositing singly one cannot descend absolutely to supposita. It also differs from merely confused supposition because a term that supposits merely confusedly can be inferred from a

120. Many medieval authors said this, but few seem to have taken the restriction very seriously. Burley's attitude here is typical. Even though only whole extremes and not their parts properly have supposition, he goes ahead to talk about the supposition of parts of extremes anyway. See the further explanation in (192)–(194), below. See also (74), above.

121. There has been no previous mention of 'absolute' merely confused supposition, although confused and distributive supposition, whether mobile or immobile, can be either absolute or respective [(99)]. See n. 122 below.

122. This last phrase is a clue to the sense of 'absolute' in these passages. The contrast appears to be between 'absolute' and 'with respect to something'. The examples make the point clear enough.

123. In short, with singled supposition the descent to singulars must take place under two terms at once, the reflexive relative of identity and its antecedent.

suppositum. For it follows: 'Every man is this animal; therefore, every man is an animal' [(85)]. But a term that supposits confusedly and distributively singly is not inferred from a suppositum. For it does not follow: 'Every man sees Socrates; therefore, every man sees himself'.<sup>124</sup>

(128) There is a doubt about one claim made above [(118)]. For it seems that a nonreflexive relative of identity can refer to something occurring in the same categorical, as is plain here: 'Every man having an ass sees it'.

(129) It has to be said in reply that a non-reflexive relative of identity cannot refer to any extreme of the proposition in which the relative occurs. Nevertheless it *can* refer to a part of an extreme, as happens in the present case. For when someone says 'That<sup>125</sup> man having an ass sees (p. 32) it', the relative 'it' refers to 'ass', and so refers to a part of an extreme.

(130) You need to know that such a relative takes its supposition from the antecedent. Therefore, to give the contradictory for relatives, the antecedents of the relatives in the contradictories have to have the opposite kinds of supposition. Because of this, it is plain that 'Every man having an ass sees it' and 'Some man having an ass does not see it' do not contradict one another. For, assuming that each man has two asses, one that he sees and the other that he does not see, in that case 'Every man having an ass sees it' is true and so is 'Some man having an ass does not see it'.<sup>126</sup> Likewise, let every man having a son have two sons, and let him love the one and hate the other. [In that case,] 'Every man having a son loves him' and 'Some man having a son does not love him' are true together.

(131) The reason such propositions do not contradict one another is that in contradictories the terms have opposite modes of suppositing. Thus, since the antecedent of the relative in 'Some man having a son does not love him' supposits particularly, and likewise the relative supposits particularly — insofar as we can say that a part of an extreme supposits.<sup>127</sup>

(132) From the above statements, it is plain that this inference is not valid: 'Every man having an ass sees it; some man having an ass does not see it; therefore, some man having an ass is not a man having an ass'.

(133) As for a relative term of diversity, you need to know that it is not called a relative of diversity because it supposits for something other than its ante-

124. This does not seem to be the correct way to formulate the inference. In virtue of (126), the correct way would seem to be: 'Socrates sees Socrates; therefore, every man sees himself'. But that inference fails too, so that Burley's overall point stands.

125. The original proposition in (128) had 'every'. But the point is the same.

126. Thus the propositions are to be read in the sense 'Every (*respectively*, some) man who has an ass sees (*respectively*, does not see) an ass that he has'.

127. See n. 120, above. As it stands, the argument is incomplete. The implicit conclusion is that the two propositions are not contradictories.

cedent supposits for, but rather because a proposition in which a relative of diversity occurs is not made true for the same thing as is the proposition in which the antecedent of the relative occurs. For example, when someone says 'The one of these is true and the other of these is true', indicating two contradictory opposites, 'the other' is a relative of diversity and supposits for one of them. My phrase 'the one of these' supposits indifferently for either of them. Therefore, 'the one' and 'the other' supposit for the same thing.

(134) Nevertheless, the proposition 'The one of these is true' and 'The other of these is true' cannot be made true together for the same thing. Thus because 'The one of these is true' is only (p. 33) made true for that among their number which is *true*, therefore if 'The other of these is true' were true, the first one would have to be false.

(135) For this reason, it is plain that the second part of the following copulative is false and impossible: 'The one of these is true and the other of these is true', despite the fact that the subject of the second part supposits for a contingent proposition, because for the truth of the second part it is required that the predicate be in the subject on the false side. Thus, it is impossible, just as 'A false contingent is true' is impossible, despite the fact that its subject supposits for something that could be true.

(136) As for relatives of accidents, you need to know that a relative of identity of accidents does not refer to its antecedent for numerically the same thing. For it is impossible for the same accident to be in numerically diverse things. Rather it refers to its antecedent for something that specifically the same quality belongs to. For example, when someone says 'Socrates is white and such is Plato', 'such' is a relative of identity and refers to what is white, but not for numerically the same thing. Rather it supposits for something to which a whiteness belongs that is specifically the same as the whiteness in Socrates. Thus, 'Socrates is white and such is Plato' is understood as 'Socrates is white and Plato is someone having a whiteness'.

(137) In this there lies a difference between a relative of identity of substance and a relative of identity of accidents. For a relative of identity of substance refers [to its antecedent] for numerically the same thing, because for the truth of 'A man runs and he argues' it is required that Socrates runs and numerically the same one argues.<sup>128</sup> But a relative of identity of accidents does not refer [to its antecedent] for numerically the same thing. This is plain in the earlier example [(136)], and also here: 'Socrates is two cubits tall and Plato is

128. Burley is being overly compressed here. In fact, what is required is that Socrates runs and numerically the same one argues, *or* Plato runs and numerically the same one argues, and so on.

as much'. For it is not denoted by this that Socrates has numerically the same quantity that Plato has.

## CHAPTER 5: IN WHICH DOUBTS ARE RESOLVED BY MEANS OF THE ABOVE STATEMENTS

(138) From the statements above, the difficulties are solved that arise in natural science and in the other sciences from an ignorance of those statements.

### Difficulties

(139) For sometimes one is accustomed to prove that a magnitude is not divisible into ever further divisibles, but that one can arrive at indivisible magnitudes. This is proved as follows: Than every magnitude one can give a lesser magnitude. (This has to be so if magnitude were divided into ever (p. 34) further divisibles.) And since the magnitude that is less than every magnitude is indivisible, it follows that one can give an indivisible magnitude. And since, as a result of the division, one arrived at indivisibles, the division stops. It follows that magnitude is not divisible into ever further divisibles. From this it follows that magnitude is not divisible to infinity. Now it is clear that the magnitude that is less than every magnitude *is* indivisible. For if it were divisible, then since it is not divisible except into magnitudes, and a part is less than its whole, it follows that the magnitude that is put as less than every magnitude is *not* less than every magnitude, because it is not less than its part.

(140) It is also customarily proved that a multitude cannot grow to infinity: For if it could, then beyond every given finite multitude one could give a greater finite multitude. But a multitude greater than every finite multitude is an infinite multitude. Therefore, if beyond every given finite multitude one could give a greater finite multitude, it would follow that some finite multitude would be an infinite multitude, which is impossible. Now it is clear that if a multitude could grow to infinity, then beyond every given finite multitude one *could* give a greater finite multitude, because each singular of this universal proposition would be true. For beyond *this* given finite multitude one could give a greater finite multitude, and beyond *that* one, and so on to infinity.



(141) It is customarily proved by similar arguments that time is not eternal and could not have existed from eternity through any power. For if this were so, then any past instant some instant would have preceded. Since, therefore, the whole of time neither is present<sup>129</sup> nor exists in the nature of things except through an instant, it follows that the whole of past time some instant would have preceded. But what is *preceded* by an instant is not eternal, but rather began to be. Therefore, the whole of past time began to be.

(142) Again, it is proved by a similar argument that an instant is immediately next to an instant. This is proved as follows: If it is given that an instant is *not* immediately next to an instant, then some time intervenes between this instant and any instant other than this instant. Since, therefore, there are many instants in that time, those instants will be immediately next to this instant. Otherwise it would follow that that time would intervene between this instant and any instant that is *in* that time, which is impossible.

(143) (p. 35) Again, it is customarily proved that the generation of man is not perpetual. For, assuming the eternity of the world, 'Any man the sun preceded in time' is true, because each singular is true.<sup>130</sup> Therefore, at some time the sun existed when no man existed. Consequently, at some time no man existed. Consequently, at that time the human species did not exist, and so the generation of man is not eternal.

(144) Again, it is proved that there can be motion in an instant. For motion can be speeded up to infinity, according to the Commentator on *Physics* VI.<sup>131</sup> Therefore, than every finite velocity one can assign a greater. But a velocity greater than every finite velocity is an infinite velocity. Therefore, some motion can be of infinite velocity. But a motion of infinite velocity necessarily occurs in an instant. Therefore, there can be motion in an instant.

## Replies to These Difficulties

(145) All these and similar difficulties are solved by means of one rule, which was given in the preceding chapter [(94)], such that: 'Whenever there is an argument from some common term suppositing merely confusedly with

129. is present = *instat*. I am not happy with my translation here, although English does have a rather archaic adjectival usage of 'instant' in this sense ('the time instant'). There is an etymological wordplay going on. Time does not 'stand-in' (= *instat*, be present) except through a 'stand-in' (= *instans*, an instant). See also (155) below.

130. That is, 'This man the sun precedes in time' is true, and so is 'That man the sun precedes in time', and so on. 'Sun' is the subject here.

131. Averroes, *Commentary on the Physics* VI, comm. 15, Giuntas ed., vol. 4, fol. 255i-k.

respect to some multitude to the same term suppositing determinately with respect to the same multitude, a fallacy of figure of speech is committed, because a *kind* of thing is turned into a *this* something'. For example, 'Every man is an animal; therefore, an animal is every man'. For the term suppositing merely confusedly indicates a kind of thing, and the term suppositing determinately indicates a this something. And when one proceeds from a kind of thing to a this something with respect to the same thing, a fallacy of figure of speech is committed.

(146) On this basis, the reply to the preceding difficulties is plain:

(147) To the first one [(139)], I grant that than every given magnitude one can give a lesser. For in this proposition the term 'lesser magnitude' suppositis merely confusedly by virtue of the preceding distribution. Yet 'Some magnitude is less than every magnitude' is false, because in this proposition the subject suppositis determinately. And therefore, it does not follow: 'Than every magnitude there is some magnitude less; therefore, there is some magnitude less than every magnitude'. Rather, it is a fallacy of figure of speech. Therefore, when someone says, 'If than every magnitude there is some magnitude less; and what is less than every magnitude is indivisible', etc., I say that there *is* no magnitude less than every magnitude. Neither does it follow from 'Than every magnitude there is a magnitude less' that there is some magnitude less than every magnitude.

(148) (p. 36) If it is said, 'I do not want to make *that* inference, but am arguing like this: 'Than every magnitude there is some magnitude less; but a magnitude less than every magnitude is indivisible; therefore, some magnitude is indivisible',<sup>132</sup> it has to be said in reply that the minor premise of this reasoning is false. For it implies that some magnitude is less than every magnitude, and that is false.

(149) If it is said that some magnitude is less than *this* magnitude, and some magnitude is less than *that* magnitude, and so on to infinity, and therefore some magnitude is less than every magnitude, it has to be said that this does not follow. Rather, it is a fallacy of figure of speech, arguing from several determinates with respect to parts of a multitude to one determinate with respect to the whole of the multitude. For in each of 'Some magnitude is less than this magnitude' and 'Some magnitude is less than that magnitude', and

132. The point of this is to maintain that 'A magnitude less than every magnitude is indivisible' is not meant to *follow* somehow from 'Than every magnitude there is some magnitude less', as suggested at the end of (147). Rather it is intended as a separate premise which, together with 'Than every magnitude there is some magnitude less', yields the conclusion 'Some magnitude is indivisible'. Burley's reply is that it doesn't make any difference, since the premise is false anyway.

so on—in each one, the subject supposits for some determinate magnitude. Each of them is made true for one or another singular. In the conclusion, when it is said that some magnitude is less than every magnitude, the subject supposits for *some* determinate, in the singular.<sup>133</sup> So the argument proceeds from several determinates to one determinate, and so a *kind of thing* is changed into a *this* something. For the several determinates indicate a kind of thing, and the one determinate indicates a this something.

(150) Suppose someone speaks against this as follows: If ‘Than every magnitude there is some magnitude less’ is true, then let that magnitude be instantiated—let it be *A*. Then the argument is as follows: Than every magnitude, *A* is a lesser magnitude; therefore, *A* is less than every magnitude. Consequently, some magnitude is less than every magnitude.

(151) It has to be said that a common term suppositing merely confusedly should not be instantiated to any suppositum, because it does not supposit determinately for any suppositum. Thus, in place of a common term suppositing determinately, it is legitimate to put some suppositum of the term by instantiating the common term to a suppositum. But it is *not* legitimate to put some suppositum of the term in place of a common term suppositing merely confusedly. This is plain in ‘Every man is some animal’. It is not legitimate to instantiate ‘some animal’ to any suppositum.<sup>134</sup>

(152) If it is said, ‘If every man is some animal, then let it be instantiated—let it be *A*,’ I say that when you say ‘it’ you are assuming something false, namely that ‘animal’ stands for something determinate. In the same way, when it is said that every man is some animal, if someone asks ‘Which (p. 37) animal?’ or ‘Which animal is it?’ I say that this question assumes something false, namely that ‘animal’ supposits for something determinate in ‘Every man is some animal’.

(153) We have to reply in the same way to the other difficulty [(140)], which is about multitude. When it is said, ‘If than every given finite multitude one can give a greater finite multitude, and the finite multitude that is greater than every finite multitude is infinite, therefore some finite multitude is infinite’, it must be said that there is a fallacy of figure of speech here. For in the major the term ‘finite multitude’ in the predicate of the first proposition supposits merely confusedly and indicates a kind of thing. But when in the minor premise it is said that a finite multitude is greater than every, etc., the same term supposits determinately with respect to the same multitude conveyed by the universal quantifier. And so a kind of thing is changed into a this something.

133. That is, in the singular as opposed to the plural.

134. That is, one cannot say ‘Every man is some animal; therefore, every man is *this* animal’—no matter which animal is indicated.

(154) Also, 'A finite multitude greater than every finite multitude is infinite' [(153)] is false on account of a false implication. For it implies that there *is* some finite multitude greater than every finite multitude.<sup>135</sup> Hence the categorical 'A finite multitude greater', etc., is false; it is false because of a false implication on the side of the subject. Nevertheless, the conditional 'If some finite multitude is greater than every finite multitude, then it is infinite' is true. But the antecedent is impossible.

(155) To the other form of argument [(141)], at the difficulty where it is said that any past instant some instant preceded, I grant that. But when it is said that the whole of time some instant preceded, I say it does not follow. For in the antecedent the term 'instant' supposits merely confusedly, and in the consequent it supposits determinately. And when it is said that time is not present except through an instant, I grant that. But it does not follow from this that the whole of time some instant preceded. For whether the quantifier 'whole' is taken categorematically or syncategorematically, the antecedent is true and the consequent false. It also does not follow: 'Any past instant some instant preceded; therefore, some instant preceded any past instant'. Rather, it is a fallacy of figure of speech, because a kind of thing is changed into a this something.

(156) To the other point [(142)], when it is proved that an instant is immediately next to an instant, because otherwise it is true that some time would (p. 38) intervene between this instant and any instant other than this one, I say it does not follow. For in 'Some time intervenes', etc., the term 'time' supposits determinately, and one cannot give any determinate time that intervenes between this instant and any instant other than this instant.<sup>136</sup> Nevertheless, 'Between this instant and any instant other than this one there is some intervening time' is true, because in it the term 'intervening time' supposits merely confusedly by virtue of the preceding distribution. Thus, you have to be especially careful to consider whether a universal quantifier or other syncategorematic word that conveys a multitude precedes the common term or follows it.

(157) To the other argument [(143)], whereby it is proved that the generation of man is not eternal because in that case any man the sun preceded in

135. It implies this because it is an 'indefinite' affirmative proposition. See n. 86, above. Thus the proposition amounts to 'Some finite multitude greater than every finite multitude is infinite' and is false for the reason Burley gives.

136. This is not enough. All Burley's argument shows as it stands is that the proposition is false. But the argument in (142) agreed it was false; indeed, it was *because* it was false that the argument concluded by *reductio* that one instant is immediately next to another. What Burley needs to show is not that the proposition is false, but that it does not follow from the claim that one instant is not immediately next to another. Such an argument is perhaps implicit in the remainder of the paragraph.

time, I say that the latter is true, because each singular is true. I say that in this proposition the time consigned by the verb 'preceded' supposits merely confusedly<sup>137</sup> by virtue of the preceding distribution. Thus it does not supposit for some determinate time. Neither does it follow: 'Every man the sun preceded in time; therefore, the sun preceded every man in time'. For that proceeds from confused supposition to determinate supposition with respect to the same multitude. In the antecedent the time consigned by the verb supposits merely confusedly by virtue of the preceding distribution, and in the consequent, when it says 'The sun preceded', etc., the time consigned by the verb 'preceded' supposits determinately, because nothing preceded it<sup>138</sup> that could confuse it. And so in the stated inference there is a fallacy of figure of speech committed, because a kind of thing is changed into a this something.

(158) From these statements, it is apparent that, assuming the world existed from eternity, and mature species, like man, ass, and the like, existed from eternity, 'Every man some ass preceded in time' is true, because each singular is true.<sup>139</sup> Similarly, 'Every ass some man preceded in time' is true, because each singular is likewise true. Yet 'Some ass preceded every man in time' is false, and likewise 'Some man preceded every ass in time'.

(159) To the other difficulty [(144)], where it is said that motion can be speeded up to infinity, it must be said that, granting it is not inconsistent for a motion to be speeded up to infinity, 'Than every finite velocity one can give a greater' has to be granted. And when it is said that the velocity that is greater than every finite velocity is infinite, (p. 39) I say that this categorical is false because of a false implication. For it implies that there *is* some velocity greater than every finite velocity.<sup>140</sup> But that is not denoted by 'Than every finite velocity one can give a greater velocity'. For in it 'greater velocity' supposits merely confusedly, and in the other proposition it supposits determinately. Nevertheless, the conditional 'If there is some velocity greater than every finite velocity, that velocity is infinite' is true. But the antecedent is false.

(160) On the basis of the above statements, it is also plain that certain people's reasonings who want to prove that God is of infinite perfection are inconclusive. They argue like this: 'It is incompatible with the most eminent that something be more eminent; it is incompatible with nothing finite that there be something more eminent; therefore, nothing finite is the most eminent. Consequently, the most eminent is infinite.'

137. See n. 3, above.

138. That is, preceded it in the proposition, not preceded it in time.

139. That is, '*This* man some ass preceded in time' is true, and so is '*That* man some ass preceded in time', and so on. The subject is 'ass'.

140. See n. 135, above.

(161) This reasoning is inconclusive. For, taking the major premise insofar as it is a particular<sup>141</sup> proposition, in that sense it is false. For with what is most eminent, it is not a formal incompatibility based on the terms that there be something more eminent than it. But taking the major premise in the sense of composition, in that sense it is true, and the sense is that there is an incompatibility here: that something is more eminent than the most eminent. And that is true.<sup>142</sup> But taking the major in the latter sense, no conclusion follows from the premises, because the premises do not share any term.

(162) Take an example. Suppose someone argues like this: 'It is incompatible with the one sitting that he be standing; Socrates is sitting; therefore, it is incompatible with Socrates that he be standing'. If the major premise of this reasoning is taken in the sense of division, in that sense it is false. For with that which is sitting it is *not* incompatible that it be standing. But in the sense of composition the major premise is true and no conclusion follows from the premises. For the premises do not share any term, as is plain if the propositions are resolved.<sup>143</sup> For the following propositions do not share their terms, and neither is anything inferred from them if you argue: 'Here is an incompatibility: "The sitting is standing"; Socrates is sitting; therefore, here is an incompatibility: "Socrates is standing."' Obviously, there is no connection here.

(163) From these statements, the solution of sophisms like these is also clear: Suppose Socrates says that God exists, Plato says that man is (p. 40) an animal, and both of them say 'A man is an ass'. Assuming this situation, 'What by both of them is stated is true' is true. For each singular is true. From this, we argue further as follows: 'What by both of them is stated<sup>144</sup> is true; but nothing is stated by both of them except that a man is an ass; therefore, that a man is an ass is true'.

(164) The solution is plain from what was said. For 'What by both of them is stated is true' is true, because the term 'stated' stands merely confusedly by virtue of the preceding distribution. But in the minor premise, where it says 'What is stated by both of them is that a man is an ass', or where it

141. That is, existentially quantified. The 'something' in 'something is more eminent' is regarded as the subject.

142. The difference then is the difference between saying 'It is inconsistent for there to be anything more eminent than *x*', where *x* is the most eminent thing, and saying 'It is inconsistent for there to be anything more eminent than the most eminent thing', which is true. In short, it is the difference between *de re* and *de dicto* modality.

143. That is, analyzed.

144. What by both of them is stated: It is impossible to render this altogether smoothly in English since, as Burley says [(164)], his point rests on the fact that the distributive word 'both' precedes 'stated'. 'Both of them' is meant to express the agent of the passive participle 'stated'.

says that nothing is stated by both of them except that a man is an ass,<sup>145</sup> the term 'stated' supposits determinately, or confusedly and distributively, with respect to the same multitude. Thus the inference does not hold. Rather it is a fallacy of figure of speech by changing one kind of supposition into another. It also does not follow: 'What by both of them is stated is true; therefore, what is stated by both of them is true'. For that goes from merely confused supposition to determinate supposition with respect to the same multitude, and therefore, a kind of thing is changed into a this something.

### Difficulties over Confused and Distributive Supposition

(165) As for confused and distributive supposition, difficulties arise both with absolute and with relative terms. For it was said above<sup>146</sup> that in a universal affirmative proposition a common term supposits for its supposita,<sup>147</sup> and that a universal affirmative proposition is true only when the predicate is in whatever is contained under the subject.<sup>148</sup> But this does not seem true. For 'Any singular of some universal proposition is true'. Yet the predicate is not in whatever is contained under the subject. For the proposition 'Socrates is an ass' is a singular of some universal proposition, and yet it is not true.

(166) Furthermore, 'Every man, if he is Socrates, differs from Plato' is true. Yet the predicate is not in whatever is contained under the subject, because Plato is contained under the subject. For 'Plato is a man, if he is Socrates' is true. Yet the predicate 'differs from Plato' is not in Plato.

(167) To the first of these difficulties, it has to be said that 'Any singular of some universal proposition is true' is false. For in this proposition the whole expression 'singular of some universal' is distributed, and it is denoted that the predicate, 'true', is in anything of which (p. 41) the term 'singular of some universal' is truly said. That is false.

(168) If someone says, 'Any singular of this universal "Every man is an animal" is true; therefore, any singular of some universal is true', I say it does not

145. The difference between these two formulations is that the one is affirmative and the other negative. That is why Burley goes on to say that 'stated' there supposits determinately or confusedly and distributively. Negative terms have the ability to confuse the supposition of a following term.

146. The claim has not been explicitly made above. Perhaps the closest passage is (79).

147. See n. 9, above.

148. This claim likewise has not been explicitly made before. Perhaps the closest passage is in (120).

follow. Rather it is a fallacy of the consequent, because one is arguing from an inferior to a superior with distribution. For 'singular of this universal' is inferior to 'singular of some universal'. But, even though 'Any singular of some universal is true' is false, nevertheless 'Of some universal any singular of it is true' is true. For in this proposition the whole expression 'singular of some universal' is not distributed. Rather, only the term 'singular of it' is distributed. The term in the oblique case, namely, 'of some universal',<sup>149</sup> suppositis particularly, since it precedes the universal quantifier.

(169) Thus, you have to know that whenever a term in the nominative and a term in an oblique case precede the composition joining the predicate with the subject, you need to consider whether the nominative precedes the oblique case or the other way around. If the nominative does precede the oblique case, the whole aggregate of nominative and oblique case is the subject. This is plain in 'Any ass of a man runs'. Here the whole 'ass of a man' is in subject position. In the same way, in 'Any singular of some universal is true', the whole expression 'singular of some universal' is the subject, because in this proposition the nominative term precedes the oblique term. But if the oblique term precedes the nominative term, then nothing but the oblique term is the subject, speaking of the 'subject' as far as the logician is concerned.<sup>150</sup> All the rest goes on the side of the predicate. This is plain in 'Any man's ass runs', and the like. Here nothing but 'man's' is the subject; the rest goes on the side of the predicate.

(170) Now you need to know that in such cases it used to be the custom to distinguish two subjects, namely, the *subject of the proposition* and the *subject of the locution*. The subject of the proposition is what is the subject for the logician, and it is that under which subsumption should be made in a perfect syllogism.<sup>151</sup> But the subject of the locution is the subject for the grammarian, and it is what 'gives a suppositum to the verb'.<sup>152</sup> Thus in 'Any man's ass runs', 'man's' is the subject of the proposition and of the distribution, but the term 'ass' is the subject of the locution. Nevertheless, 'ass' goes on the side of the predicate, speaking of the predicate of the proposition.

149. The Latin does not use a preposition here but rather puts the whole expression in the genitive case.

150. That is, it is the 'logical subject', even though the grammarian might find a different 'grammatical subject'. See (170).

151. In a perfect syllogism the major is supposed to be of wider extension than the minor (*Posterior Analytics* I.11, 77<sup>a</sup>18), so that the minor term is in a sense 'subsumed' under the major.

152. A not infrequent grammatical expression, meaning simply: to give the verb a subject. 'Suppositum' in this grammatical usage carries its etymological sense; the subject is what is 'put under' the predicate.



(171) (p. 42) From the above statements, the solution of certain sophisms is plain. For any proposition can be proved by an argument like this: 'Any contradiction's one part is true; the proposition 'You are an ass' (or whichever one you want to prove) is a contradiction's one part; therefore, this proposition is true'. Thus it can be proved that you are an ass, and that God does not exist, and so on, by means of a paralogism like this: 'Any contradiction's one part is true; this proposition is a contradiction's one part; therefore, this proposition is true'.

(172) The solution of this is plain from the statements already made. For it was said that when the oblique term precedes the nominative before the composition, nothing but the oblique term is the subject for the logician. Therefore, in 'Any contradiction's one part is true', nothing but the oblique term is the subject—that is, 'contradiction's'. And, because in a perfect syllogism subsumption should be made only under the subject, therefore the syllogism must be formed like this: 'Any contradiction's one part is true; this contradiction is a contradiction; therefore, this contradiction's one part is true'. Thus, when someone argues, 'Any contradiction's one part is true; this proposition is a contradiction's one part; therefore, etc.', I say it does not follow. Rather there are four terms here.<sup>153</sup> For in the major nothing but the term 'contradiction's' is in subject position, and in the minor the whole 'contradiction's one part' is predicated. So the middle term is changed.

(173) To the other difficulty [(166)], where it says "Every man, if he is Socrates, differs from Plato" is true', I say that this proposition is ambiguous according to composition and division. In the sense of composition, the whole 'man, if he is Socrates' is the subject, and it is denoted that everything of which the whole 'man, if he is Socrates' is predicated differs from Plato. In this sense, it is a categorical and false proposition, because the subject is said of something of which the predicate is not said. For the subject is said of Plato, because Plato is a man, if he is Socrates. But the predicate, which is 'to differ (or different) from Plato',<sup>154</sup> is not truly said of Plato.

(174) But in the sense of division, the proposition is a conditional hypothetical and is true, since it is denoted that if every man is Socrates, every man differs from Plato. And, in that sense, nothing but the term 'man' is the subject in the antecedent. Therefore, if subsumption ought to be made under the subject only, then subsumption ought to be made under 'man', like this: 'Every man, if he is Socrates, differs from Plato; Plato is a man; therefore, Plato, if he is Socrates, differs from Plato'. And this (p. 43) conclusion is true. (Neverthe-

153. A valid syllogism has to have only three (perhaps not distinct) terms.

154. That is, either the predicate 'to differ from Plato' or else the predicate 'different from Plato'.

less, I am not saying that subsumption or descent ought to be made under the subject of a universal proposition that is the antecedent in a conditional. This will be plain in the second tract [(300)].)

(175) Perhaps someone will say that 'Every man, if he is Socrates, differs from Plato' does seem to be true in the sense of composition. For each singular seems to be true, namely, '*This* man, if he is Socrates, differs from Plato' and '*That* man, if he is Socrates, differs from Plato', and so on.

(176) In reply, it has to be said that in the singulars of a universal proposition the whole subject should be instantiated to the things it is distributed over, so that each singular depends on two things: on the attribution of the principal predicate to the singular to which the subject is instantiated, and on the attribution of the subject to what it is instantiated to. For example, the singulars of the universal proposition 'Every man, if he is Socrates, differs from Plato' are '*This* man, if he is Socrates, differs from Plato' and '*That* man, if he is Socrates, differs from Plato'. The sense is: 'This, of whom the term "man, if he is Socrates" is said, differs from Plato', and in that sense it is a false singular. For, indicating Plato, 'This man, if he is Socrates, etc.' is false, because the sense is 'This, who is a man if he is Socrates, differs from Plato', and that is false.

(177) One must reply in the same way to sophisms like these: 'Every proposition or its contradictory is true', 'Every good or non-good is to be chosen', 'Whatever is or is not, is'. For all propositions like this are false in the sense of composition. In their singulars the whole subject should be instantiated to the things it is truly said of. Thus each of these has many false singulars. 'This proposition or its contradictory is true', indicating the proposition 'You are an ass', is false in the sense of composition insofar as the whole subject is instantiated. For the sense is: 'This, which is a proposition or its contradictory, is true'. Thus, its truth depends on these two things: that this<sup>155</sup> is true and that this is a proposition or its contradictory. It is the same way for the other examples.

(178) There is still a doubt. For it does not seem that a universal affirmative proposition is true when the predicate is in whatever is contained under the subject. (p. 44) For in that case 'Every man is an individual' would be true, because the predicate is in whatever is contained under the subject. But there is a proof that this proposition is false. For an affirmative proposition is false when the predicate is not in the subject. And that is so in the present case, because in this proposition the species is in subject position, and being an individual is not in that.<sup>156</sup>

155. Indicating 'You are an ass'.

156. With this objection, compare (76) and (77)–(80).

(179) I reply: one has to say that 'Every man is an individual' is true, because each singular is true. When it is said that the predicate is not in the subject, I say that the predicate *is* in the subject suppositing personally—that is, the predicate is in the subject for the things the subject supposits for. But it is not in the subject taken for the subject itself. Thus, for the truth of an affirmative proposition it is not required that the predicate be in the subject for itself. Instead, it is required that the predicate be in the thing or things for which thing or things the subject supposits. It is not enough for the truth of an affirmative that the predicate is in the subject. For 'Some man is a species' is false insofar as it is a particular proposition.<sup>157</sup> Nevertheless, the predicate is in the subject. But, because the predicate is not in what the subject supposits for, therefore the proposition is false. Thus, you have to look for the truth of an affirmative proposition more in the inherence of the things the extremes supposit for than in the inherence of the extremes in one another.

(180) From this it is plain that an affirmative proposition in which a superior term is predicated of an inferior can be false. This happens when the inferior supposits for something the superior is not in. For example, 'Some man is a common term' is false. Yet the predicate is superior to the subject, because the predicate is common to any common term. Thus, even though the predicate is in the subject, nevertheless because it is not in what the subject supposits for, the proposition is therefore false.

(181) It is also plain that an affirmative proposition in which one contradictory is predicated of the other can be true. For 'Non-common is common' is true, because the term 'non-common' is predicated of Socrates, and of Plato, and of any individual. For no individual is common, speaking of the 'common' in the sense of predication.<sup>158</sup> Therefore, the term 'non-common' is a common thing. And so 'Non-common is common' is true.

(182) There is no incongruity in the fact that one contradictory, taken under one kind of supposition, is truly affirmed of the other contradictory, taken under another (p. 45) kind of supposition. Thus 'Non-common is common' is true insofar as the subject supposits simply or materially and the predicate supposits personally. Nevertheless, one contradictory is never truly affirmed of the other under the same kind of supposition.

157. That is, an existentially quantified one. The quantifier is tacitly assumed to limit the subject to personal supposition.

158. It can also, of course, mean the kind of metaphysical 'community' universals have. There are also various nontechnical senses, like 'public'. All of these are irrelevant here.

## Difficulties over Relative Terms

(183) Difficulties arise also over relative terms. For if it were enough for the truth of a universal affirmative that the predicate were in each thing the subject supposits for, then 'One of these is a man and both of them are he' would be true, indicating Socrates and Plato. For the first part is true, certainly, and the second part would be true because each singular is true, since there is no exception for any singular. For 'One of these is a man and Socrates is he' is true, and likewise 'One of these is a man and Plato is he' is true. But the original proposition seems to be false, because 'Socrates is a man and both of them are he' is false, and likewise 'Plato is a man and both of these are he' is false.

(184) One has to say that in such cases, where the first part of a copulative or disjunctive proposition is a particular proposition and the second part is a universal proposition in which there occurs a relative term referring to some term occurring in the first part, the singulars of the second part should not be given except in comparison to the singulars of the first part. Thus, I say it does not follow: 'One of these is a man and Socrates is he; one of these is a man and Plato is he; therefore, one of these is a man and both of them are he'. For that goes from several determinates with respect to the parts of a multitude to one determinate with respect to the whole multitude.

(185) I say that, by giving the singulars of the second part of this copulative proposition in comparison to the singulars of the first part, in that sense both singulars are false—but with respect to different singulars of the first part. Thus, if I take the singular of the first part as 'Socrates is a man and both of them are he', then one singular of the second part is false, namely 'Plato is he'. And if I take the singular of the first part as 'Plato is a man and both of them are he', then another singular of the second part is false, namely 'Socrates is he'.

(186) Suppose someone says that, with respect to one singular of the first part one singular [of the second part] is true, and with respect to another singular of the first part another singular [of the second part] is true. Therefore, both singulars are true. And since it has only two singulars, it follows that each singular (p. 46) of the second part is true. Consequently, the whole second part is true.

(187) As it seems to me for the present, one has to say that the second part of this copulative proposition has four singulars, two with respect to one singular of the first part and two others with respect to the other singular of the first part. For with respect to this singular of the first part, 'Socrates is a man', the second part has two singulars, one true and the other false. And with respect to the other singular of the first part—that is, with respect to 'Plato is a man'—it has two other singulars, one true and the other false. And so it has

four singulars. This happens because of the variation of the relative term in comparison to the singulars of the first part.

## CHAPTER 6: ON IMPROPER SUPPOSITION

(188) Now that we have talked about proper supposition, we have to talk about improper supposition. Supposition is improper whenever a term precisely supposits for something for which it is not permitted precisely to supposit literally. Improper supposition is divided. For one kind is *antonomastic*, one kind *synecdochical*, and one kind *metonymical*.<sup>159</sup>

(189) Supposition is antonomastic when a term precisely supposits for what the name most belongs to. For example, when one says ‘The apostle says this’. It is precisely understood by this that *Paul* says this, and yet the term ‘apostle’ literally supposits no more for Paul than for Andrew. For otherwise, if Paul said something, it would be true that *every* apostle said it, because the term ‘apostle’ would only supposit for Paul. But this is false. For it does not follow: ‘Paul says this; therefore, every apostle says this’. Therefore, in ‘The apostle says this’, the term ‘apostle’ does not properly supposit precisely for Paul, but improperly for Paul.

(190) Supposition is synecdochical when a part supposits for the whole. For example, ‘The prow is in the sea’, that is, the ship is in the sea. And so the prow, which is a part of the ship, supposits for the ship, which is its whole.<sup>160</sup>

(191) Supposition is metonymical when a container supposits for the content. Now this is improperly done, because literally a cup does not supposit for the content of the cup. Rather this happens only according to the speaker’s usage.

(192) (p. 47) Thus when a term is taken for one thing according to the speaker’s usage and for another literally, the supposition is improper.

(193) You have to know that a part of an extreme does not properly supposit, but rather improperly. Therefore, when one argues from an inferior to a superior, and the inferior and superior are parts of extremes, the inference need not be valid unless, together with the fact that there is an order<sup>161</sup> between the parts of the extremes, there is also an order between the extremes themselves. Many sophisms are solved on this basis.

159. The terminology is taken from rhetorical figures.

160. In (190) it sounds as if Burley is talking not about the *term* ‘prow’ but about the actual physical *thing*. So too for ‘cup’ in (191). On this, see n. 3, above.

161. That is, an order of inferiority and superiority.

(194) For it is commonly proved that if you go to Rome, you are existing at Rome.<sup>162</sup> For everything that goes exists; therefore, if you are going to Rome, it follows that you are existing at Rome. That is, if you are going to Rome, you are existing at Rome.

(195) The solution to this is clear. For although 'going' is inferior to 'existing', nevertheless 'going to Rome' is not inferior to 'existing at Rome'. Therefore, it does not follow: 'You are going to Rome; therefore, you are existing at Rome'. For although there is an order between the *parts* of the extremes, nevertheless there is no order between the *extremes*. Yet it correctly follows: 'You are seeing a man; therefore, you are seeing an animal'. For, together with the fact that there is an order between the parts of the extremes, there is also an order between the extremes themselves. For 'seeing a man' is inferior to 'seeing an animal'. Thus, in brief, a part of an extreme does not supposit properly. Rather proper supposition belongs solely to the whole extreme, as has been said [(74), (125)].

## *Part Two: On Appellation*

(196) Now that we have looked at the supposition of terms, we must look at appellation. Appellation is a property of a common term that is predicable of its inferiors. Thus, just as supposition taken strictly is a property of the subject insofar as it is matched with the predicate [(5)], so appellation is a property of the predicate matched with the subject or with an inferior.

(197) You need to understand that there is a difference between appellation and signification. For a common univocal term appellates its inferiors but does not signify its inferiors. But an equivocal term signifies its significates and does not appellate them. Thus, appellating some things is the same as being common to them. Because of this, a common name is said to be an 'appellative' name. For if signifying were the same as (p. 48) appellating, every name would be an appellative name. For every name signifies something.

(198) Suppose some objects, as in general it is customarily said, that the predicate appellates its form.<sup>163</sup> But the form of the predicate is not some-

162. 'To Rome' and 'at Rome' both translate the locative 'Romae'. Thus the shift from 'to' to 'at' does not reflect any variation in the Latin. The problem with the inference is that you can hardly *exist* at Rome—that is, already be there—if you are only *going* to Rome and so have not yet arrived.

163. See, for example, William of Sherwood, *Introduction to Logic*, 112–113. (But Sherwood

thing inferior to the predicate. Therefore, the predicate does not appellate its inferiors.

(199) It must be said in reply that a predicate is said to appellate its form because under the same form and under the same utterance<sup>164</sup> under which it is predicated in a proposition about the past or about the future or about the possible, it was predicated or will be predicated or can be predicated in a proposition about the present of what the subject supposits for. Thus, if 'Socrates *was* white' is true, then the predicate, under the same form and under the same utterance and formal signification, must at some time *have been* predicated of Socrates. For if Socrates *was* white, then 'Socrates *is* white' must have been true at some time. But this is not so for the subject. For if the predicate was in the subject, so that a proposition about the past is true, the same predicate need not on that account have been at some time truly predicated of the subject, under *the same form* of the subject, by means of a verb about the present. Rather, it is required that the same predicate was truly affirmed at some time by means a verb about the present of what the subject supposits for.

(200) One has to say the same thing for a proposition about the future, and for one about the possible or the contingent. Thus for the truth of an affirmative proposition about the past, it is required that the predicate, under the same form, was affirmed at some time, by means of a verb about the present, of what the subject supposits for. And for the truth of an affirmative proposition about the future, it is required that the predicate, under the same form, will be affirmed at some time, by means of a verb about the present, of what the subject supposits for. And for the truth of an affirmative about the possible or the contingent, it is required that the predicate, under the same form, be able, by means of the verb 'is', to be in what the subject supposits for. But it is not required that the predicate be able to be in the subject under the same form of the subject.

(201) For example, 'The white<sup>165</sup> can be black' is true in the sense of division. For the same thing that is now white *can* be black. Nevertheless, this predicate can never be in the subject under the same form. For 'The white *is* black' will always be impossible. But 'The white can be black' is true, because the predicate 'black', under this same form, can, by means of the verb 'is', be

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does not use the term 'appellation' there.) The rule is also cited by Ockham, *Summa logicae* I.66 and II.7.

164. That is, using the same *syntactical* form. The predicate is not varied with respect to tense, voice, etc.

165. 'The white' = a white thing. It does not mean *whiteness*, and it does not mean the Platonic Form of 'The White'. Any white thing will do.

in what the subject supposits for. For let it be the case that Socrates is now white. Then 'Socrates is black' is possible.

(202) (p. 49) It is the same way with propositions about the past and about the future, insofar as the predicate, under the same form, was or will be in what the subject supposits for. But it is not required that the predicate was or will be in the subject under the same form. For example, assuming that Socrates now for the first time is white, I say that 'A white was Socrates' is true. For *what is* white was Socrates. Yet 'A white *is* Socrates' was never true. 'A white was black' is also true now,<sup>166</sup> because *what is* now white was black before. Yet 'A white *is* black' was never true.

(203) I say, therefore, that the old common saying, 'The predicate appellates its form', should be understood in this sense, that the predicate predicates its form in such a way that, under the same form, it *is* in the subject or in what the subject supposits for, if it is an assertoric proposition about the present, or if it is about the past, under the same form it *was* in what the subject supposits for.

(204) Thus to appellate is in one sense the same as to predicate. It is taken in this sense when it is said that the predicate 'appellates its form'. In another sense, to appellate is the same as to be common, and in that sense it is true that a common term appellates its inferiors.

(205) You have to understand that three rules are usually given concerning a common term in comparison with its appellata or inferiors.

(206) The first rule is that a common term suppositing with respect to a non-ampliative verb about the present supposits for present things only.

(207) The second rule is that a common term suppositing with respect to a verb about the past can indifferently supposit for present things and past things.

(208) This third rule is that a common term suppositing with respect to a verb about the future can indifferently supposit for present things and future things.

(209) In these rules, by 'present things' I understand not only those that presently exist. Rather, by 'present' supposita I understand the supposita the subject is truly predicated of by means of the verb 'is', whether they exist or not. By 'past' supposita I understand those the subject is predicated of by means of a verb about the past, whether they existed at some time or not. By 'future' supposita I understand those supposita the subject is said of by means (p. 50) of a verb about the future. Thus, a proposition about the past in which

<sup>166</sup> We are apparently assuming that Socrates, who is now white for the first time, had previously been black.



a common term suppositis has two causes of its truth,<sup>167</sup> or two senses of an ambiguity.<sup>168</sup> For instance, 'A man was white' can be made true in two ways: either what *is* a man was white, or what *was* a man was white. Thus, the senses or causes should be expressed like this: 'What is a man was white' or 'What was a man was white', and not like this: 'A man who is was white' or 'A man who was was white'. It is the same way for propositions about the future.

(210) It can be plain from these facts how one is to form syllogisms in the first figure with propositions about the past or about the future. Once that is seen, it will easily be apparent how one is to form syllogisms in the second figure and in the third. You need to know, therefore, that a uniform syllogism about the past<sup>169</sup> is a good one in the first figure if the subject of the major premise is taken for what *was* it.<sup>170</sup> However the subject of the minor premise is taken, that does not matter. For as long as the subject of the major is taken for what *was* it, the syllogism is always a good one when both of the premises are about the past. But if the subject of the major is taken for what *is* it, and the minor is about the past, the syllogism is invalid. I say the same thing for syllogisms about the future: if both premises are about the future in the first figure, and the subject of the major is taken for what *will be* it, the syllogism is a good one, and is ruled by 'Being said of every or of none'. But if the subject of the major is taken for what *is* it, the syllogism is invalid.

(211) To make this clear, you need to know that the major in the first figure virtually contains the whole syllogism. For in the major proposition there are three relations, one explicit and two implicit. There is one relation [of the predicate] to the subject, and that is expressed by the major premise. There is another relation of the subject to what is contained under the subject, and that relation is implicit in the major and explicit in the minor. The third one is the relation of the predicate to what is contained under the subject, and that is implicit in the major and explicit in the conclusion.

(212) For example, when one says 'Every man is an animal', there is one relation in this proposition between animal and man, and this is an explicit relation. There is another relation between animal and what is contained under man. For 'animal' in the proposition is predicated of 'man' universally for all the contents under it. There is a third relation, between man and its contents, because 'man' here is distributed over the things contained under it. For by means of my phrase 'every man', there is a relation had between man and its

167. That is, two alternative truth conditions, either one of which is sufficient.

168. For the difference between 'causes of truth' and 'senses of an ambiguity', see (221) and (225), below.

169. That is, a syllogism in which *all* the premises are about the past.

170. For example, taking 'man' for what *was* a man.

contents. Thus, I say in general that whenever (p. 51) the minor premise expresses the relation that held between the middle term (that is, the subject of the major premise) and its contents in the major premise, the syllogism is a good one in the first figure, and is governed by 'Being said of every or of none'. But if the minor premise does not express that relation, the syllogism is not so ruled, and is not a perfect syllogism.

(213) On this basis, I say to the case at hand that if someone argues 'Every white was black; Socrates was white; therefore, Socrates was black', if the subject of the major premise is taken for what *was* white, then the syllogism is a good one and is ruled by 'Being said of every'. For the minor premise explicates the relation that held between the middle term and its contents in the major premise. For the major premise says that everything that was white was black. So the relation between 'white' and its contents in the major premise is by means of a verb about the past. The minor premise expresses that relation when it says 'Socrates was white'. Thus, the syllogism 'Everything that was white was black; Socrates was white; therefore, Socrates was black' is governed [by 'Being said of every'] and perfect.

(214) But if the subject of the major premise is taken for what *is* it, and the minor premise is about the past, then the syllogism is invalid. For in the minor premise the relation that held in the major premise between the middle term and its contents is not expressed. For the relation between the middle term and its contents in the major premise is by means of a verb about the present. But in the minor premise the relation between the middle term and its content or contents is expressed by means of a verb about the past. Thus, it is obvious that the syllogism 'Everything that is white was black; Socrates was white; therefore, etc.' is invalid.

(215) So, therefore, it is plain that a uniform syllogism about the past in the first figure is not valid unless the subject of the major premise is taken for what *was* it. If it is so taken, the syllogism is always a good one. It is the same way for syllogisms about the future: for a uniform syllogism about the future to be valid in the first figure, the subject of the major premise has to be taken for what *will be* it. For in that case, the minor premise about the future expresses the relation that held between the middle term and its contents in the major premise. But if the subject of the major premise is taken for what *is* it, and the minor is about the future, the syllogism is not valid. For the minor premise does not express the relation that held between the middle term and its contents in the major premise.

(216) Further, you have to see when a mixture of one premise about the present and another about the past or about the future is valid. You need to know that when one premise is about the past and the other about the future, the syllogism is never valid in the first figure. For the minor premise does

not express the relation that held between the middle term and its contents in the major premise. Also, if the major premise is about the present and the minor premise about the past or future, the syllogism is not valid, because the minor premise does not express the relation between the middle term and its contents (p. 52) in the major premise. For if the major premise is about the present, the relation between the subject and its contents is by means of a verb about the present. But the minor premise about the past or about the future does not express that relation.

(217) If the major premise is about the past or about the future and the subject is taken for what *is* it, and the minor premise is about the present, then the syllogism is a good one. For the minor expresses the relation that held between the middle term and its contents in the major premise. Thus, the syllogism 'Everything that is white was black; Socrates is white; therefore, Socrates was black' is a good one. The syllogism 'Everything that is white will be black; Socrates is white; therefore, Socrates will be black' is likewise a good one.

(218) I say that in this kind of mixture, the conclusion should follow the character of the major premise, so that if the major premise is about the past, the conclusion will be about the past, and if the major premise is about the future, the conclusion will be about the future. For such is the relation between the major extremity<sup>171</sup> and the contents under the middle term in the major premise, and that is the way it ought to be expressed in the conclusion. Therefore, if the relation between the major extremity and the contents under the middle term is by means of a verb about the past, the conclusion will be about the past. And if the relation between the major extremity and the contents under the middle term in the major premise is by means of a verb about the future, the conclusion will be about the future.

(219) As for the rules, 'A common term suppositing with respect to a non-ampliative verb about the present supposits for present things only, and with respect to a verb about the past for present things and past things, and with respect to a verb about the future for present things and future things' [(205)–(208)], you have to understand that there is the same verdict for a term suppositing with respect to a verb as there is for a term suppositing with respect to a participle with the same tense and the same signification. Therefore, despite the fact that the verb is about the present, as long as the predicate is a participle in the past or the future tense, a common term suppositing with respect to such a verb can supposit for past things or future things. Thus, 'Some man is going to be created' is true, and likewise 'Some man is going to be born'. For the subject supposits indifferently for present and for future things.

171. That is, the major term.

Thus, such participles have the power of ampliating,<sup>172</sup> as the modes ‘possible’, ‘contingent’ and the like do also.

(220) Now there is a doubt about whether the predicate<sup>173</sup> in such propositions about the past or about the future can be taken in these ways, so that it can be taken indifferently for what *is* it or for what *was* it in a proposition about the past, and in a proposition about the future for what *is* it or for what *will be* it.

(221) (p. 221) Again, there is another doubt, about whether these ways of taking a term in one way or another are causes of truth or the senses of an ambiguity.<sup>174</sup>

(222) As for the first doubt, I say these ways of taking a term go with the subject and not with the predicate. For the predicate appellates its form, as was said [(197)]. Thus, if Socrates is now white for the first time, ‘Socrates was white’ is false in every sense.<sup>175</sup> It cannot be made true for ‘Socrates was what now is white’. For, assuming the above case, ‘Socrates was what now is white’ is false. For ‘Socrates is what now is white’ was never true.<sup>176</sup>

172. That is, of extending the range of a term’s supposita beyond the present.

173. The rules in (205)–(208) were about the subject. Here the question is whether the same things apply to the predicate.

174. See (208), above. If they are ‘causes of truth’, then the proposition is a univocal proposition with a disjunctive set of truth conditions. If they are ‘the senses of an ambiguity’, then the proposition is an ambiguous proposition with different senses. These are not the same notions. ‘Pen’, for instance, can mean either a writing instrument or a corral or enclosure for animals. If I bought the latter but not the former, is ‘I bought a pen’ true without qualification (on the grounds that buying either one is sufficient), or do we say instead that in such a situation ‘I bought a pen’ is true in one sense (with respect to the one meaning of ‘pen’) but not in the other?

175. It is false both in the sense ‘What *is* Socrates was white’ and in the sense ‘What *was* Socrates was white’, by the hypothesis of the case. (Socrates is the same individual all along, so that ‘what is Socrates’ and ‘what was Socrates’ supposit for the same individual in each proposition.)

176. The argument here needs some explanation. If the distinction of senses applied to predicates as well as to subjects, then we could distinguish the following senses for ‘Socrates was white’: (a) ‘Socrates was what *is* white’, and (b) ‘Socrates was what *was* white’. Burley does not discuss (b), since it is plainly false in the assumed case. But he wants to maintain that (a) is also false in the assumed case. The reason is that ‘the predicate appellates its form’. Thus (a) is *not* to be read as ‘What is [or was—it makes no difference (see n. 175)] Socrates was what is white’. That would be true, since the same individual who is Socrates (and was all along) *was* (and still is) the individual who is now white. But because ‘the predicate appellates its form’, (a) has to be read instead in such a way that the very same predicate we find in (a)—namely, ‘what *is* white’—*was* predicated of Socrates. And that is not so in the assumed case.

(223) It is clear that this view is true. For 'Antichrist can be what is a man' is now true, which it would not be if the term 'man' on the side of the predicate were taken for what is now a man. For Antichrist certainly cannot be Socrates, and he cannot be Plato, and so on for the other people who are now men.<sup>177</sup> Therefore, 'Antichrist *can* be what is now a man' *is* true because 'Antichrist *is* what is now a man' *can* be true. But 'A man can be Antichrist' is false when the subject is taken for what is a man. For each singular is false.

(224) But that 'Antichrist can be what is a man' is true is proved as follows: 'Every man is what is a man; Antichrist contingently is a man; therefore, Antichrist can be what is a man'.<sup>178</sup> The premises are true; therefore, the conclusion is true. And the syllogism is plain from the Philosopher, *Prior Analytics* I [15 33<sup>b</sup>25–28], where he says that when the major premise is simply assertoric and the minor is about the contingent, there follows a conclusion about the possible. So it is plain that 'Antichrist can be what is a man' is true. This would not be so if a term on the side of the predicate could be taken in these various ways.

(225) To the second doubt [(221)], I believe these ways of taking a term in one way and another are the senses of an ambiguity. This ambiguity occurs according to the third mode of equivocation.<sup>179</sup> For a term taken by itself is taken literally for present things only. But because of the fact that it is matched with such a verb—one about the past or about the future—it can be taken for other things than present ones. Now the third mode of equivocation arises from the fact that a term by itself is taken for one thing, and by its being matched with something else it can be taken for another thing. This is clear in 'The suffering one was cured'.<sup>180</sup>

177. The assumption is that the Antichrist does not yet exist, although Socrates and Plato (and other men) do. The term 'the Antichrist' is here taken as a proper name, not as a 'job description'. Thus, the fact that the Antichrist does not yet exist means that he will be a *new* individual when he does arrive. No presently existing man will somehow 'become' the Antichrist.

178. Burley does not intend any distinction between 'contingently is' and 'can be'. He is simply fitting his terminology to conform to his version of Aristotle, quoted immediately below. Oddly, neither Aristotle's Greek nor the usual medieval translations reflect any such terminological point here. See *Analytica priora*, Minio-Paluello, ed.

179. See n. 49, above.

180. In one sense, the proposition is false, since if the person is still suffering now, he was not really cured. In another sense it is true (or might be), because in that sense it means only that someone of whom the present participle 'suffering' *was* truly predicable (and so, who *was* suffering) was cured.

### Part Three: On Copulation

(226) (p. 54) Now that we have talked about appellation, we must talk about copulation. Copulation, in the sense in which we mean it at present, is the union or putting together of the predicate with the subject. Copulation is conveyed by the verb 'is' and by oblique verbs derived from 'is', like 'was', 'will be', and the like.

(227) You have to know that the verb 'is' can be taken in two ways. In one way, it is predicated as a second component; in the other way, it is predicated as a third component.<sup>181</sup> 'Man is' is an example of the first; 'A man is an animal' is an example of the second. The same holds for its oblique forms—that is, for 'was' and 'will be'.

(228) When the verb 'is' is predicated as a second component, it indicates what in itself exists, that is, actual being or the being of existence. But when it is predicated as a third component, it indicates the kind of being conveyed by the predicate. For when the verb 'is' is predicated as a second component, it is a *categorema*, because in that case it is the predicate, or includes the predicate in itself,<sup>182</sup> and indicates a determinate nature, the being of existence. But when it is predicated as a third component, it is a *syncategorema*, and in that case it indicates what is conveyed by the predicate, and does not indicate what in itself exists. Aristotle, in *On Interpretation* I [3 16<sup>b</sup>22–25], says about the verb 'is', insofar as it is predicated as a third component, that the verb 'is' signifies a certain composition that cannot be understood without its components. Now every word that does not by itself establish an understanding<sup>183</sup> is a *syncategorema*. And therefore, the verb 'is', when it is predicated as a third component, is a *syncategorema*. As such, it is not the predicate or a part or the predicate,<sup>184</sup> and it does not include the predicate. Rather, it is the mere putting

181. 'Is' is predicated 'as a second component' (*secundum adjacens*) in existence-claims. It is used 'as a third component' (*tertium adjacens*) when it serves as a copula. The examples below illustrate these usages. I have sometimes translated the former as 'exists', for the sake of the English, but have avoided this in cases where it would be misleading.

182. Sometimes 'is' taken as a second component is analyzed as 'is a being', where in the latter the 'is' is taken as a third component with the participle 'being' serving as the predicate. On that analysis, 'is' as a second component implicitly includes the predicate 'being' in itself.

183. establish an understanding: This is the classical definition of signifying. See Aristotle, *On Interpretation* 3 16<sup>b</sup>19–21: 'Indeed verbs, when uttered by themselves, are names and signify something. For he who says a verb establishes an understanding, and he who hears it rests his mind'. I am translating from Boethius' Latin translation, which is the source of this vocabulary in the Latin Middle Ages. (Meiser, ed., I, p. 5.5–7.)

184. In general, *syncategoremata* can be parts of predicates. For example, in 'Socrates

together of the predicate with the subject. But the verb 'is', when it is predicated as a second component, does include the predicate, because its participle of the same tense and the same signification is the predicate when the verb 'is' is predicated as a second component.

(229) But there is a doubt here. For it does not seem true that the verb 'is' predicated as a second component is a categorema, and predicated as a third component it is a syncategorema. For if that were so, the syllogism 'Every man is; Socrates is a man; therefore, Socrates is' would not be valid, (p. 55) but would be a fallacy of equivocation. For the verb 'is' in the major would be taken categorematically, and in the minor syncategorematically.

(230) Again, it seems the verb 'is' is a predicate when it is predicated as a third component. For what is predicated is the predicate; but the term 'is' is predicated as a third component; therefore, it is the predicate.

(231) To the first doubt, it must be said that the difference in the way of taking the verb 'is', when it is predicated as a second or a third component, does not cause a fallacy of equivocation. For it is not taken in a different way in comparison to the same thing, but rather in comparison to different things. Although the verb 'is' in the major premise, when it says 'Every man is', is predicated as a second component with respect to the subject, nevertheless in the relation the subject has to its contents, 'is' is taken insofar as it is predicated as a third component. For the sense is as follows: 'Everything that is a man is', where the verb 'is' occurring in the first position (that is, in the relative clause) is taken as a third component. Likewise, in the minor premise, 'is' is predicated as a third component. So in the same relation, the relation whereby the middle term is matched with its contents, the verb 'is' is taken in the same way, even though it is not taken in the same way in the relation of predicate to subject in the major premise and in the relation of subject or middle term to its contents in the minor premise. Thus, because the verb 'is' is not the middle term, and also is not an extreme,<sup>185</sup> but rather is a mode,<sup>186</sup> therefore its variation does not cause any fallacy or defect. This is plain with the useful mixed syllogisms,<sup>187</sup> where there is one mode taken in the major

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bought butter and cheese', the 'and' is a syncategorematic part of the whole predicate 'bought butter and cheese'. The point here applies only to 'is' taken as a third component.

185. That is, the subject or predicate. Understand: the subject or predicate of the conclusion. In short, the minor or major term of the syllogism, respectively.

186. It is so to speak a 'degenerate case' of a modal word, in the sense in which mathematicians speak of 'degenerate cases'.

187. The sense is unclear, but the word 'useful' is perhaps to be explained by a scholium on *Prior Analytics* I.29 45<sup>a</sup>34. See *Analytica Priora*, Minio-Paluello, ed., p. 320.29–32.

and another in the minor. It is also plain with assertoric syllogisms when one premise is universal and the other particular. In these cases, the mode is varied and yet the syllogism is a good one.

(232) To the second doubt, I say that 'predicate' is taken in two senses: either for what is the one extreme of a proposition, or for that whereby the one extreme is united to the other. In the first sense, the verb 'is' is not a predicate, but in the second sense it *is* a predicate. Thus, it is a predicate 'by which', but it is not a predicate 'which'. Nevertheless, literally, it should not be granted that the verb 'is' is predicated.

(233) Alternatively, it could be said that 'to be predicated' can be taken in two ways: actively or passively. If it is taken actively, in that case it is called a 'predicating predicate', and in that case the predicate (p. 56) is not some extreme of the proposition but is rather that by means of which an extreme is predicated of an extreme. In this case, the verb 'is' is the predicate, namely, 'actively' and 'by which'. But when 'to be predicated' is taken passively, it is taken for what is expressed about something else. In that case, the verb 'is' is not a predicate. Thus, when it is said that the verb 'is' is predicated as a third component [(230)], 'predicate' is taken actively, not passively.

(234) You need to understand that in every proposition the verb 'is' or some oblique form of it is the copula, whether an adjectival verb or a substantival verb is expressed in the proposition, or whether the proposition is about the present or about the past or about the future. Thus, in 'Socrates walks' the verb 'is' is the copula. For saying 'Socrates walks' is the same as saying 'Socrates is walking'. And in 'Socrates walked' the verb 'was' is the copula. For saying 'Socrates walked' is the same as saying 'Socrates was walking'.

(235) From the above statements, it is plain that because the verb joining the predicate with the subject is not a predicate, therefore 'modes of composition', like 'necessary', 'possible', etc., are not predicates but are modes of the compositions. It can be proved that in modal propositions the mode is not predicated, because if it were, then a modal proposition would be assertoric. For if it were so, then in a modal proposition the mode would be denoted to be simply in the dictum itself; and when the predicate is denoted to be simply in the subject, the proposition is assertoric; therefore, if the mode were predicated in modal propositions, every modal proposition would be an assertoric proposition. Thus, just as 'Socrates is contingent' is assertoric, 'That Socrates runs is contingent' is assertoric in the same way, insofar as 'contingent' is predicated. For the inherence is alike in both cases.

(236) Again, if the mode were predicated in modal propositions, it would follow that from an assertoric major premise and a minor premise about the contingent there would be a perfect syllogism in the first figure, ruled by



'Being said of every or of none'. This goes against the Philosopher, *Prior Analytics* I [15 33<sup>b</sup>29–39]. That this does follow is proved like this: The syllogism 'Every contingent is possible; that every man runs is contingent; therefore, that every man runs is possible' is a good one and is ruled by 'Being said of every'. Yet the major premise is assertoric and the minor premise is about the contingent, assuming that in modal propositions the mode is predicated. But I prove that the minor premise is assertoric. For if a converting proposition is assertoric, then the converted one<sup>188</sup> will be assertoric, (p. 57) as is plain from *Prior Analytics* I.<sup>189</sup> But 'Some possible is that a man runs' is assertoric; therefore, the proposition into which it is converted will be assertoric too; therefore, 'That a man runs is possible' is assertoric, insofar as 'possible' is a predicate.<sup>190</sup> And this is to be granted. Thus in 'That a man runs is possible', insofar as 'possible' is predicated, the predicate is denoted simply to be in the subject, just as it is in 'A man is an animal'. Therefore, just as 'A man is an animal' is assertoric, so 'That a man runs is possible' is assertoric, insofar as 'possible' is predicated.

(237) Because of this, I say that in modal propositions the mode is not predicated. Instead the mode is a determination of the composition, just as the universal and particular quantifiers are determinations of the subject. But as for what Aristotle says in *On Interpretation* II [12 21<sup>b</sup>22],<sup>191</sup> that modes are 'additions', he does not understand by 'additions' *predicates*.<sup>192</sup> Rather, by 'additions' he understands the determinations that are added to the composition.

(238) It can be plain from the above statements that in general an inference need not be valid from a proposition in which the verb 'is' is predicated as a third component to a proposition in which the verb 'is' is predicated as a second component. For when the verb 'is' is predicated as a second component it indicates being simply, that is, actual being or the being of existence. But when it is predicated as a third component it does not indicate being simply, but 'being such', that is, the kind of determinate being that is conveyed by the predicate. Now an inference from being such to being simply need not hold.

188. If  $p$  is converted into  $q$ , then  $p$  is the 'converted' proposition and  $q$  is the 'converting' one.

189. The reference is probably to *Prior Analytics* I.3 25<sup>a</sup>27–<sup>b</sup>26.

190. Although the overall sense of the passage is clear enough, something has gone wrong here. First of all, the minor premise earlier in the paragraph said 'contingent', not 'possible'. Again, that minor premise was about its being contingent that *every* man runs, not just *some* man or *a* man. Burley has perhaps simply lost track of his example here.

191. Burley is reading the passage freely.

192. additions = *appositiones*. The word '*appositum*' was sometimes used in Latin to mean the predicate of a proposition.

(239) †To make this clear, you have to understand that there are certain predicates that determinately include non-being, like ‘to be dead’, ‘to be decomposed’, and so on. When someone argues from a proposition in which such a predicate is predicated to being simply, there is a fallacy ‘in a certain respect and simply’.<sup>193</sup> Therefore, it does not follow: ‘Caesar is dead; therefore, Caesar is’.

(240) But there are certain predicates that presuppose being simply, such as predicates that denominate accidents and signify an act or a form in act, like ‘white’, ‘black’, ‘hot’, ‘cold’. In such cases the inference does hold from ‘is’ as a third component to ‘is’ as a second component. For it follows: ‘Socrates is white; therefore, Socrates is’. And it follows: ‘Socrates is hot; therefore, Socrates is’.

(241) But there are other predicates indifferent to actual being and to actual non-being, such as (p. 58) the transcendental predicates like ‘being’, ‘good’, ‘intelligible’, etc. In such cases, the inference does not hold from ‘is’ as a third component to ‘is’ as a second component. Instead, it is a fallacy of the consequent, because it follows the other way around and not this way. Alternatively, it is a fallacy ‘in a certain respect and simply’, because it goes from ‘to be’, taken with a determination permitting diminished being<sup>194</sup> or predicable of diminished being, to ‘to be’ simply. And so there is a fallacy ‘in a certain respect and simply’. Therefore, it does not follow: ‘Caesar is intelligible; therefore, Caesar is’. Neither does it follow: ‘Caesar is a being; therefore, Caesar is’, taking ‘being’ in the antecedent insofar as it is a transcendental term. Neither does it follow: ‘Antichrist is producible; therefore, Antichrist is’. In all these cases there is a fallacy ‘in a certain respect and simply’, by going from ‘such in a certain respect’ to ‘such simply’.

(242) But there are doubts here. The first doubt arises because it does not seem that there is a fallacy ‘in a certain respect and simply’ in ‘This is intelligible; therefore, this is’. For the predicate in the antecedent is not a separating or diminishing one, because in that case it would follow: ‘This is intelligible; therefore, this is *not*’. Yet that inference is not valid.

(243) Again, it seems that with transcendental terms the inference does hold from ‘is’ as a third component to ‘is’ as a second component. For it follows: ‘This is a being; therefore, this is’. For being and to be are entirely the same.

193. On this kind of fallacy, see Aristotle, *Sophistic Refutations* 5 166<sup>b</sup>38–167<sup>a</sup>21, and 25 180<sup>a</sup>23–<sup>b</sup>40.

194. This is a kind of lesser grade of being possessed, for instance, by thought objects. Compare the modern notion of ‘intentional being’. On ‘diminished being’, see Maurer, “*Ens diminutum*.”

(244) To the first doubt, it must be said that 'This is intelligible; therefore, this is' does not follow. For the predicate of the antecedent is indifferent with respect to actual being and actual non-being. And when it is said 'It is not a predicate separating from being', I say that a predicate or determination can be called 'separating', either because it *posits* the opposite of its determinable or else because it *permits* along with the predicate or determination the opposite of its determinable along with it. In the first way, 'dead' is a separating determination with respect to being. For it follows: 'This is dead; therefore, this is not'.<sup>195</sup> In the second way, to be intelligible is a separating determination with respect to being because it permits along with it the non-being of what it is predicated of. For 'This is intelligible' and 'This is not' are compatible.

(245) Thus, I say there is a fallacy 'in a certain respect and simply' when one goes from something taken with a separating determination in the first sense or the second sense to the same thing taken simply. Alternatively, it can be said that not only is there a fallacy 'in a certain respect and simply' when one goes from a determinable taken with a separating determination to the same thing taken simply, but there is also a fallacy 'in a certain respect and simply' when one goes from a determinable taken with an indifferent determination (p. 59) to a determinable taken simply, or to the opposite of the determinable taken simply. And that happens in the present case.

(246) To the second doubt [(243)], I say that '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 is'. (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 is'. (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 is'. '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'.<sup>196</sup> 'Being' said in the second way is called 'being in its causes', or the 'being that is in its cause'.<sup>197</sup> But 'being' said in the third way is called 'being in itself'.

195. That is, 'This does not exist'.

196. That is, in the manner of a 'thought object'.

197. The second sense had to do with logically possible being. There is an implicit theory here linking logical possibility with causality, but Burley does not say enough for us to be able to say what it is.

(247) Therefore, I say that, taking 'being' in the first or second way, it does not follow: 'This is a being; therefore, this is'. Neither is to be a being in these ways altogether the same as to be as a second component. But taking 'being' as said in the third way, it correctly follows: 'This is a being; therefore, this is'.

(248) I say the same thing about 'true' and 'false'. For I say it does not follow: 'This proposition is true; therefore, this proposition is'. Neither does it follow: 'This proposition is true; therefore, the truth of this proposition is', just as it does not follow: 'This is intelligible; therefore, the intelligibility of this is'. For 'Antichrist is producible' was true from eternity, and yet neither this proposition nor its truth was from eternity.

## Tract 2: On Hypothetical Propositions and Syllogisms

(249) (p. 60) In this second tract I plan to investigate hypothetical propositions and syllogisms. I divide this tract into three main parts. In the first one, I shall investigate conditional hypothetical propositions, and in the second, conditional hypothetical syllogisms. The third part will be about the other species of hypothetical proposition and about how to form syllogisms from them.

### *Part One: On Conditional Hypothetical Propositions*

(250) The intention of the first part will contain three chapters. In the first chapter, together with the exclusion of false rules that produce a fallacy of the consequent, general rules will be set out that should be assumed as principles in this art. In the second chapter it will be explained how one should argue from the stated rules in enthymematic inferences. In the third chapter certain difficulties raised against the rules explained in the first chapter will be solved.

## CHAPTER 1: ON GENERAL RULES OF INFERENCES

(251) As for the first point, you have to know that a hypothetical proposition is one that consists to two or more categoricals by means of a conjunction or adverb or some other part of speech that conjoins the categoricals one to another. Now which and how many species of hypothetical proposition there are will be seen in the third part of this tract [(500)–(1053)].

(252) In this first chapter, in which the rules of inferences are set out, I posit one division of inferences, and then I shall set out the general rules.

(253) The division of inferences is as follows: †One kind of inference is simple and another ‘as of now’. A simple inference (p. 61) is one that holds for every time, so that the antecedent can never be true unless the consequent is true. An ‘as of now’ inference is one that holds for a determinate time and not always, like ‘Every man runs; therefore, Socrates runs’. For this inference does not hold for every time, but only holds while Socrates is a man.

(254) Simple inference is of two kinds. One kind is natural. That happens when the antecedent includes the consequent. Such an inference holds through an intrinsic topic. An accidental inference is one that holds through an extrinsic topic. That happens when the antecedent does not include the consequent but the inference holds through a certain extrinsic rule. For example, ‘If a man is an ass, you are sitting’. This inference is a good one, and holds through the rule ‘Anything follows from the impossible’. The rule relies on the topic ‘from the less’. For the impossible seems to be less true than anything else. Therefore, if the impossible is true, it follows through the topic ‘from the less’ that anything else will be true.

(255) Among all these inferences, one kind is simple and another kind composite. A simple inference, as distinguished from a composite inference, is one that consists of two categoricals. A composite inference consists of two hypotheticals or of a hypothetical and a categorical. Thus in one conditional both the antecedent and the consequent are hypothetical propositions, in another the antecedent is a hypothetical proposition and the consequent a categorical proposition, and in yet another it is the other way around: the antecedent is a categorical proposition and the consequent a hypothetical proposition.

(256) So it is plain that there are two kinds of simple inference: one that is distinguished from an ‘as of now’ inference, and another that is distinguished from a composite inference.

## General Rules

(257) The main general rules of inferences are five:

### *First Main Rule*

(258) †The first is as follows: In every good simple inference (insofar as a simple inference is distinguished from an ‘as of now’ inference) the antecedent never can be true without the consequent. And therefore if, when some possible case is posited, the antecedent can sometime be true without the consequent, then the inference was not a good one. But in an ‘as of now’ inference, the antecedent cannot be true as of now without the consequent. This rule is based on the fact that the false never follows from the true.

### TWO SUBRULES

(259) From this main rule there follow two other rules. (p. 62) The first is that the impossible does not follow from the contingent in a simple inference. The second is that the contingent does not follow from the necessary.

(260) The reason for both is that the contingent can be true without the impossible, and the necessary can be true without the contingent. For this reason, the impossible does not follow from the contingent or the contingent from the necessary.

### *Second Main Rule*

(261) The second main rule is that whatever follows from a consequent follows from the antecedent.

### ALTERNATIVE FORM OF THE SECOND MAIN RULE

(262) There is also another rule, which is so to speak the same as this one. It is as follows: Whatever is antecedent to an antecedent is antecedent to the consequent.

### TWO FALSE RULES

(263) There are two other false rules, which always produce a fallacy of the consequent. The first is: Whatever follows from an antecedent follows from

the consequent. The second is: Whatever is antecedent to a consequent is antecedent to the antecedent. Every argument based on one of these two rules is sophistical and commits a fallacy of the consequent.

#### TWO SUBRULES

(264) From the rule 'Whatever follows from a consequent follows from the antecedent' [(261)] there follow two other rules. The first of them is: Whatever follows from an antecedent and its consequent follows from the antecedent by itself.

(265) The second is that whatever follows from a consequent together with something added follows from the antecedent with the same thing added.

(266) The reason for the first rule is that each proposition implies itself together with its consequent. For example: 'Socrates runs; therefore, Socrates runs and a man runs'. Therefore, since the antecedent implies the antecedent and the consequent, and whatever follows from a consequent follows from its antecedent [(261)], it follows that whatever follows from an antecedent and its consequent follows from the antecedent by itself.

(267) The reason for the second rule is this: An antecedent together with something added implies the consequent together with the same thing added. For it follows: 'Socrates runs and you are sitting; therefore, a man runs and you are sitting'. Therefore, since whatever follows from a consequent follows from the antecedent [(261)], whatever follows from a consequent together with something added has to follow from the antecedent together with the same thing added.

#### *Third Main Rule*

(268) (p. 63) The third main rule is this: Whatever is incompatible with the consequent is incompatible with the antecedent. The reason for this is that what is incompatible with a consequent destroys the consequent; and when the consequent is destroyed the antecedent is destroyed; and what destroys the antecedent is incompatible with the antecedent; therefore, whatever is incompatible with a consequent is incompatible with the antecedent.

#### *Fourth Main Rule*

(269) The fourth main rule is: Whatever is compatible with an antecedent is compatible with the consequent. I understand by 'be compatible with some-

thing' being able to be true together with the same thing. Thus for some things to be compatible is the same as that it is not incompatible with them to be true together.

(270) The reason for this rule is that if an antecedent is true the consequent is true [(258)]. Therefore, whatever can be true together with an antecedent can be true together with the consequent. From this it follows that whatever is compatible with an antecedent is compatible with the consequent.

#### FIRST SUBRULE

(271) From these two rules [(268), (269)] three other rules follow. First, that if the consequents of some propositions are incompatible, those propositions are incompatible with one another. Thus if the consequents are incompatible, the antecedents are incompatible.

(272) The reason for this rule is that if the consequents are incompatible, then one consequent is incompatible with the other consequent; therefore, it is incompatible with the antecedent; consequently the antecedent is incompatible with the other antecedent. And so if the consequents are incompatible, the antecedents have to be incompatible.

#### SECOND SUBRULE

(273) The second rule is that if antecedents are compatible with one another, their consequents have to be compatible with one another.

(274) The reason is that if antecedents are compatible with one another, the antecedents can be true together; and if the antecedents can be true together, it follows that the consequents can be true together, and consequently they are compatible with one another.

#### THIRD SUBRULE

(275) The third rule that follows is that in every good inference the opposite of the consequent is incompatible with the antecedent.

(276) (p. 64) The reason for this is that the opposite of a consequent is incompatible with the consequent; and whatever is incompatible with the consequent is incompatible with the antecedent [(268)]; therefore, in every good inference the opposite of the consequent is incompatible with the antecedent. Thus, in order to know whether some inference is good or not, you must see whether the contradictory of the consequent is incompatible with the antecedent or not. If so, the inference is a good one. If not, the inference is not valid.

(277) I say 'you must see if the *contradictory* of the consequent', etc. For in



order for an inference to be good, it is not enough that the *contrary* opposite of the consequent be incompatible with the antecedent. For in that case it would follow: 'Every man runs; therefore, every animal runs', because the contrary of the consequent is incompatible with the antecedent. Therefore, I say that in order for an inference to be good, it suffices and is required that the *contradictory* of the consequent be incompatible with the antecedent.

(278) Nevertheless, I say that *every* opposite of the consequent, by no matter by what kind of oppositeness it is an opposite, is incompatible with the antecedent. Yet this is not enough for the goodness of the inference, namely that just any opposite of the consequent be incompatible with the antecedent. Rather it suffices and is required that the *contradictory* opposite of the consequent be incompatible with the antecedent.

### *Fifth Main Rule*

(279) †The fifth main rule is this: Whenever a consequent follows from an antecedent, the opposite of the antecedent follows from the contradictory opposite of the consequent.

(280) This rule has to be understood in the case of an enthymematic inference. For example, because it follows: 'A Man runs; therefore, an animal runs', therefore the contradictory of the antecedent follows from the contradictory of the consequent. For it follows: 'No animal runs; therefore, no man runs'.

(281) †Neither is it enough for the goodness of the inference that the opposite of the antecedent follow from the *contrary* opposite of the consequent. For if that were so, it would follow: 'Every man runs; therefore, every animal runs'. For the opposite of the antecedent follows from the contrary opposite of the consequent. For it follows: 'No animal runs; therefore, no man runs'.

(282) For this reason, I say that in order for some inference to be good, it is sufficient and is required that the opposite of the antecedent follow from the *contradictory* of the consequent. Whatever opposite of the antecedent follows from the contradictory of the consequent, whether its contrary or any other opposite, that is enough for the goodness of the inference. For if some other opposite of the antecedent follows, the contradictory of the antecedent has to follow, because (p. 65) everything opposite to something, no matter how it is opposite to it, includes the contradictory of the same thing.

(283) †I said [(280)] that the rule 'the opposite of the antecedent should be inferred from the opposite of the consequent' has to be understood in the case of enthymematic inference and in non-syllogistic inference universally. For in syllogistic inference, that is, in a syllogism, the antecedent does not have an opposite. For a syllogistic antecedent is a multiple unconjoined proposi-

tion,<sup>198</sup> and such an antecedent does not have an opposite, since it is neither a proposition that is simply one nor a proposition that is one by a conjunction.

(284) Instead in a syllogistic inference, from the opposite of the conclusion—that is, from the contradictory of the conclusion—together with either of the premises there follows the opposite of the other premise. And if from the opposite of the conclusion together with one or the other of the premises there follows the opposite of the other premise, then the syllogism is a good one. For Aristotle proves his syllogisms in this way by arguing from the opposite of the conclusion together with one or the other of the premises to the opposite of the other premise.

#### FIRST SUBRULE

(285) From the rule ‘from the opposite of the consequent’ etc. [(279)], two other rules follow. The first is that whatever follows from the opposite of an antecedent follows from the opposite of the consequent. Therefore, if something that does not follow from the opposite of a consequent follows from the opposite of the antecedent, it follows that the first inference was not a good one.

(286) The reason for this rule is that if an inference is a good one, then the opposite of the antecedent follows from the opposite of the consequent [(279)]; therefore, the opposite of the antecedent is a consequent and the opposite of the consequent is its antecedent; but whatever follows from a consequent follows from the antecedent [(261)]; therefore, whatever follows from the opposite of the antecedent follows from the opposite of the consequent.

#### SECOND SUBRULE

(287) The second rule is as follows: Whatever is antecedent to the opposite of a consequent is antecedent to the opposite of the antecedent.

(288) The reason for this is that the opposite of the consequent is antecedent to the opposite of the antecedent [(279)]; now whatever is antecedent to the antecedent is antecedent to the consequent [(262)]; therefore, whatever is antecedent to the opposite of the consequent is antecedent to the opposite of the antecedent. For this reason, (p. 66) if something that were not antecedent to the opposite of the antecedent were antecedent to the opposite of the consequent, the first inference was not a good one.

(289) Many other rules could be set out here. But these rules are enough for skillfully forming syllogisms with conditional hypotheticals.

198. That is, the antecedent consists of the two syllogistic premises without an ‘and’ to join them.

## CHAPTER 2: ON THE MANNER OF ARGUING ENTHYMEMATICALLY WITH CONDITIONALS

(290) Now that we have seen these rules, we must see how one is to argue enthymematically from the stated rules in inferences.

### First Observation

(291) You have to know that from any conditional together with the antecedent of the conditional there follows the consequent of the same conditional. For it follows: 'If  $a$  is,  $b$  is; but  $a$  is; therefore,  $b$  is'. This kind of argument the Commentator Averroes in many passages calls a 'hypothetical syllogism'.

(292) It is true that it is a truncated syllogism, since it is an enthymeme. Or if it is called a syllogism, then it is mixed syllogism, made up of a hypothetical major and a categorical minor with respect to a categorical conclusion. But whether it is called an enthymeme or a syllogism is not very important for the present.

(293) This way of arguing is based on the first rule [(258)], which says that if an inference is good, the antecedent cannot be true without the consequent. And therefore, if a conditional is true and the antecedent is true, it follows that the consequent is true. So it is plain that from every conditional together with its antecedent there follows the consequent of the same conditional.

### Second Observation

(294) It is also plain from the above statements that from every conditional together with the opposite of its consequent there follows the opposite of its antecedent. For it follows: 'Is  $a$  is,  $b$  is; but there is no  $b$ ; therefore, there is no  $a$ . This holds through the rule 'If a conditional is true, then when the consequent is destroyed the antecedent is destroyed' [(268)].

(295) It is also plain that from every conditional there follows another conditional in which the opposite of the consequent of the first conditional is the antecedent and the opposite of the antecedent of the first conditional is the consequent. For example, the enthymeme 'If a man runs an animal runs; therefore, if no animal runs no man (p. 67) runs' is a good one. And in this enthymeme one conditional is the antecedent and another conditional the consequent. This kind of inference the Commentator Averroes in many passages calls a 'hypothetical syllogism'. And it is true that it is a truncated syllogism according to Aristotle.

(296) This way of arguing is based on the rule 'In every good inference the opposite of the antecedent has to follow from the contradictory opposite of the consequent' [(279)].

### Third Observation

(297) †From another rule set out above [(261)], namely 'Whatever follows from a consequent follows from the antecedent', it is plain that from every conditional there follows another conditional in which some antecedent of the antecedent of the first conditional is antecedent with respect to the same consequent. Thus, just as under the subject of a universal affirmative one can descend to anything over which the distribution was made with respect to the predicate of the same proposition, so under the antecedent of any conditional one can descend to any antecedent of the same antecedent with respect to the same consequent. For example, the inference 'If a man runs, an animal runs; therefore, if Socrates runs, an animal runs' is a good one. Likewise the inference 'If every man runs, Socrates runs; therefore, if every animal runs Socrates runs' is a good one.

(298) In both cases the argument is by the rule 'Whatever follows from a consequent follows from the antecedent' [(261)]. For example, because the proposition 'A man runs' follows from 'Socrates runs', therefore whatever follows from 'A man runs' follows from 'Socrates runs'. Therefore, if it follows 'A man runs; therefore, an animal runs', then 'Socrates runs; therefore, an animal runs' follows as well.

(299) Likewise, because it follows 'Every animal runs; therefore, every man runs', therefore whatever follows from 'Every man runs' follows from 'Every animal runs'. And therefore, if it follows 'Every man runs; therefore, Socrates runs', it will follow 'Every animal runs; therefore, Socrates runs'.

### Fourth Observation

(300) †From these remarks it is plain that in a conditional in which the antecedent is a universal proposition the subject does not supposit in the antecedent mobilely with respect to the consequent, but rather immobilely. For if the antecedent of the conditional is a universal proposition, one cannot descend under the subject of the antecedent with respect to the same consequent. For it does not follow 'If every man runs, Socrates runs; therefore, if Plato runs, Socrates runs', because it argues by a false rule, namely by (p. 68) 'Whatever

follows from an antecedent follows from the consequent'. This rule is false, as was said above [(263)].

(301) Now it is plain that the argument *is* through that false rule. For 'Every man runs' is antecedent to 'Plato runs'. And the argument here is that since 'Socrates runs' follows from 'Every man runs', for this reason it follows from 'Plato runs'. So the argument is through the rule 'What follows from an antecedent follows from the consequent' [(263)].

### Fifth Observation

(302) From the same rule, namely 'Whatever follows from a consequent', etc. [(261)], it is plain that in a conditional in which the antecedent is a particular or indefinite proposition the subject of the antecedent supposits confusedly and distributively with respect to the consequent in such a way that from such a conditional in which the antecedent is a particular or indefinite proposition there follows a conditional in the antecedent of which something inferior to the subject of the first conditional is in subject position. For example, it follows 'If an animal runs, a substance runs; therefore, if a man runs a substance runs'. For the argument is through the rule 'What follows from a consequent follows from the antecedent' [(261)].

(303) Thus in conditionals it works in a contrary manner to the way it works in categorical propositions. For in categoricals, under the subject of a universal one can descend to anything over which the distribution is made, and under the subject of a particular or indefinite one cannot descend like this. But in conditionals it is the other way around, because under the subject of a universal proposition that is the antecedent one cannot descend with respect to the consequent, but under the subject of a particular or indefinite that is the antecedent of the conditional one *can* descend to any suppositum with respect to the same consequent.

### Sixth Observation

(304) It is also plain from these statements that the argument does not hold in conditionals when one argues from an inferior to a superior without distribution on the side of the antecedent. For one cannot ascend above the subject of an antecedent that is a particular or indefinite proposition, or argue to its superior, with respect the same consequent. For it does not follow: 'If a man runs, a risible runs; therefore, if an animal runs, a risible runs'. For this argu-

ment is through the false rule 'What follows from an antecedent follows from the consequent' [(263)]—for example, *because* from 'A man runs', which is the antecedent, there follows 'A risible runs', (p. 69) therefore from 'An animal runs', which is the consequent, there follows 'A risible runs'.

## Seventh Observation

(305) From the rule 'Whatever is antecedent to an antecedent is antecedent to the consequent' [(262)] it is plain that from every conditional there follows another conditional in which from the same antecedent a consequent of the first inference's consequent is denoted to follow. Thus just as in a universal affirmative the predicate supposits merely confusedly, so that the predicate is inferred from any inferior of it (as is plain—for it follows: 'Every man is this animal; therefore, every man is an animal'), so in a conditional the consequent is inferred from any antecedent of it. For it follows: 'If a man runs, an animal runs; therefore, if a man runs, a substance runs'.

(306) Thus the inference holds from an inferior to its superior on the side of the consequent with respect to the same antecedent. This argument is through the rule 'Whatever is antecedent to an antecedent is antecedent to the consequent' [(262)].

## Eighth Observation

(307) It must be understood further than when many inferences occur between the first antecedent and the last consequent, if in each inference the same thing that is the consequent in the preceding conditional is the antecedent in the following conditional, then an inference 'from first to last' holds, so that the last consequent follows from the first antecedent. Such an inference 'from first to last' holds through the rule 'Whatever follows from a consequent follows from the antecedent' [(261)].

(308) For example, it follows: 'If a man runs, an animal runs; and if an animal runs, a body runs; and if a body runs, a substance runs'. Therefore, it follows from first to last: 'If a man runs, a substance runs'. This holds through the rule 'Whatever follows from a consequent follows from the antecedent' [(261)]. For if it follows: 'A man runs; therefore, an animal runs', then whatever follows from 'An animal runs' follows from 'A man runs'. If then it follows: 'An animal runs; therefore, a body runs', it follows: 'A man runs; therefore, a body runs'. Whatever follows from 'A body runs' follows from 'A man runs'.

If therefore it follows: 'A body runs; therefore, a substance runs', it follows: 'A man runs; therefore, a substance runs'. †And so it is plain that through the rule 'Whatever follows from a consequent follows from the antecedent' [(261)] an inference holds 'from first to last' when one argues through many intermediary inferences.

(309) (p. 70) I said that when one argues from first to last through many intermediary inferences, what is the consequent in the preceding conditional has to be the antecedent in the subsequent conditional. For otherwise the inference from first to last would not be valid, because it would not be argued through any good rule. Thus just as in a syllogism there must be one middle that couples the premises to one another, so when one argues from first to last there must be some middle that couples the later conditional with the earlier one. That middle is what is the consequent in the preceding conditional and the antecedent in the subsequent conditional.

(310) If however the same thing is *not* the consequent in the preceding conditional and the antecedent in the following conditional, then an inference from first to last does not hold. Instead it is a fallacy of accident because of a variation of the middle. †From this it is clear that if someone argues like this: 'If no time exists, it is not day; and if it is not day and some time exists, it is night; and if it is night, some time exists; therefore, from first to last, if no time exists, some time exists', the inference from first to last does not hold. For the same thing is not the consequent in the preceding conditional and the antecedent in the subsequent conditional. For in the first conditional nothing but the proposition 'It is not day' is the consequent, and in the second conditional the whole 'It is not day and some time exists' is the antecedent. And therefore, the inference from first to last does not hold.

## Ninth Observation

(311) Once again, you need to know that every conditional is true in which an antecedent that includes opposites implies its contradictory. For example, it follows: 'You know you are a stone; therefore, you do not know you are a stone', because the antecedent includes opposites. For the proposition 'You know you are a stone' includes the two propositions 'You are a stone' and 'You are not a stone'. For it follows: 'You know you are a stone; therefore, you are a stone', through the middle 'Nothing but the true is known'. It also follows: 'You know you are a stone; therefore, you do not know you are a stone', through the middle 'No knower is a stone'. For it follows: 'You know you are a stone; therefore, you are a knower'. And it follows: 'You are a knower; there-

fore, you are not a stone'. So it is plain that the proposition 'You know you are a stone' includes opposites.

(312) Now the fact that every proposition that includes opposites implies its contradictory is plain through two rules set out earlier. One of them is that if some inference is a good one, from the contradictory (p. 71) of the consequent there follows the contradictory of the antecedent [(279)–(282)]. The second is that whatever follows from a consequent, the same thing follows from the antecedent [(264)].

(313) From these rules, the claim is proved as follows: If some proposition includes opposites, it implies either one of them. Since therefore, from the opposite of a consequent there follows the opposite of its antecedent [(279)], from the opposite of either of those contradictory consequents there must follow the opposite of the antecedent. Since therefore, the opposite of either one follows from the same antecedent, and whatever follows from the consequent follows from the antecedent, from that antecedent there must follow its contradictory.

(314) For example, because 'You know you are a stone' implies the two propositions 'You are a stone' and 'You are not a stone', therefore from the opposite of either one there follows the opposite of the antecedent. But the opposite of 'You are a stone' is 'You are not a stone', and the opposite of 'You are not a stone' is 'You are a stone'. Therefore, from either one of 'You are a stone' and 'You are not a stone' there follows 'You do not know you are a stone'. Since therefore, either of these is a consequent of 'You know you are a stone', and whatever follows from a consequent follows from the antecedent, it follows that from 'You know you are a stone' there follows 'You do not know you are a stone'.

(315) Thus, in brief, it follows: 'You know you are a stone; therefore, you are a stone'. And it follows: 'You are a stone; therefore, you do not know you are a stone'. Therefore, from first to last: 'You know you are a stone; therefore, you do not know you are a stone'. The first inference is plain from the assumption. For we assumed that the first antecedent includes the two propositions 'You are a stone' and 'You are not a stone'. And the second inference holds because from the opposite of the consequent there follows the opposite of the antecedent, as is plain. Therefore, the rule is infallibly true that every proposition that includes opposites implies its contradictory.

(316) It is plain from this rule that the inference 'Only the origin exists; therefore, not only the origin exists' is a good one. For the antecedent includes opposites. For the proposition 'Only the origin exists' includes the two propositions 'The originated exists' and 'Nothing originated exists'. For 'Only the origin exists; therefore, nothing originated exists' follows immediately. It also follows: 'Only the origin exists; therefore, the origin exists; and further, there-



fore the originated exists'. Therefore, from first to last: 'If only the origin exists, the originated exists'. And so from 'Only the origin exists' there follows 'Not only the origin exists', because the antecedent includes contradictories.

(317) (p. 72) There is the same verdict about 'Only the Father exists'.<sup>199</sup> For it includes the two opposites 'The Son exists' and 'No Son exists'. And therefore, it correctly follows: 'Only the Father exists; therefore, not only the Father exists'. This should not be doubtful to any intelligent person, although many who do philosophy in our time do not understand it.

### *First Doubt*

(318) Therefore, in order to understand this better, I raise three doubts. The first is: It does not seem that any proposition includes opposites. For what is 'included' in something is 'in' it; but opposites cannot be in the same thing; therefore, they cannot be included in the same thing.

### *Second Doubt*

(319) The second doubt is that conditionals in which contradictories are inferred from the same antecedent seem to be incompatible. For these conditionals seem to be incompatible: 'If only the origin exists, the originated exists' and 'If only the origin exists, nothing originated exists'. Since therefore, incompatibles cannot be true together, it follows that these two conditionals cannot be true together.

### *Third Doubt*

(320) Third, there is a doubt because it seems to be impossible that one of a pair of opposites implies the other. For every inference holds by reason of some agreement; but there is no agreement between contradictories; therefore, one contradictory can in no way imply the other.

## A CONFIRMING ARGUMENT

(321) This is confirmed. For every inference is based on some dialectical topic. But an inference in which one of a pair of opposites is denoted to be inferred from the other one is not based on any dialectical topic; therefore, etc.

199. The reference is to the doctrine of the Trinity.

### *Reply to the First Doubt*

(322) To the first of these [(318)], I say that some proposition does include opposites. All people generally agree on this. For it is generally said that God can do everything that does not include a contradiction—that is, that does not include contradictories. This is enough to establish that something includes a contradiction—that is, contradictories. And nothing can include contradictories except a proposition. Therefore, I say that some proposition does include contradictories.

(323) It is also plain that the proposition 'The rational is irrational' includes contradictories. For it includes the two propositions 'Something is rational' and 'The same thing is irrational'.

(324) (p. 73) Therefore, when it is said [(318)] that what is 'included' in something is 'in' it, I say that in the way it is 'included' in something, it is 'in' it. Therefore, I grant that contradictories are in the same thing together in that way of being whereby a consequent is in an antecedent. Nevertheless, a consequent is not in an antecedent formally and in act, in the way a form is in matter. Hence, in brief, I say it is not inconsistent for contradictories to be together in the same thing in the way of being whereby a consequent is in an antecedent.

### *Reply to the Second Doubt*

(325) To the second doubt [(319)], I say that conditionals in which contradictories are denoted to follow from the same antecedent are *not* incompatible. For although the consequents are incompatible, nevertheless the conditionals are not incompatible.

(326) †Thus, with conditionals, in order to give a contradictory, the condition-sign<sup>200</sup> has to be denied. And in all cases generally, what is the main thing affirmed in one contradictory has to be denied in the other. This is plain from the Philosopher, *On Interpretation* II [12 21<sup>a</sup>38–<sup>b</sup>3].

(327) Thus because in assertoric categoricals the verb 'is' is the main thing, therefore in their case contradiction should be given by affirmation and negation of the verb 'is' with respect to the same extremes. And because in modal propositions the mode is the main thing, therefore in order to give a contradiction with modal propositions the mode that is affirmed in one contradictory has to be denied in the other.

(328) So I say that because in conditionals the condition-sign is the main thing, therefore the contradictory of a conditional is a proposition in which

200. That is, the word 'if'.

the condition-sign is denied. Thus the contradictory of 'If only the origin exists, the originated exists' is 'Not: if only the origin exists, the originated exists'. And this is equipollent to a proposition that says that 'Only the origin exists' and 'Nothing originated exists' are compatible with one another.

(329) Therefore, this is a general rule, that the main thing affirmed in one contradictory should be denied in the other. For the Philosopher says, 'Whatever an affirmation affirms the negation denies' [*On Interpretation* 7 17<sup>b</sup>38]. This is understood for the main thing affirmed. For what is mainly affirmed in one contradictory should be denied in the other.

(330) This is contrary to certain solemn men<sup>201</sup> who say nowadays that in reduplicatives the reduplication-sign should be affirmed in both contradictories. Yet this is not true. For according to that, contradictories would be false together. For each of these is false: 'Socrates insofar as he is a man is white' and 'Socrates insofar as he is (p. 74) a man is not white'. Likewise Avicenna, who as the Commentator says did not make a mistake in logic,<sup>202</sup> says in his *Metaphysics* V, Chapter 1,<sup>203</sup> that with reduplicatives contradiction should be given by denying in the negative the reduplication that is affirmed in the affirmative. Thus he says the contradictory of 'Horsehood insofar as it is horsehood is one' is not 'Horsehood insofar as it is horsehood is not one, or is non-one'. Rather its contradictory is: 'Horsehood not insofar as it is horsehood is one'. This will be looked into in what follows [(969)–(978)].

(331) Suppose someone says contradictories do not follow from the same antecedent. For in that case the same thing would follow from contradictories, which seems to be contrary to the Philosopher in *Prior Analytics* I,<sup>204</sup> who says the same consequent does not follow from the same antecedent affirmed and denied. I say that the same consequent does not follow from the same antecedent affirmed and denied, unless the opposite of that consequent includes contradictories. And Aristotle's statement should be so understood.

### *Reply to the Third Doubt*

(332) To the third doubt [(320)], when it says: 'Every inference holds by reason of some agreement', I grant that. And when it says that contradictories agree in nothing, that has to be denied. For contradictories certainly agree in

201. I have not identified these authors.

202. Averroes, *Commentary on On the Soul* III, comm. 30, Crawford, ed., lines 45–47.

203. Avicenna, *Metaphysics*, V.1, Van Riet, ed., lines 43–57 (pp. 229–230) [= 1508 ed., fol. 86<sup>va-b</sup>a].

204. See probably instead *Prior Analytics* II.4 57<sup>b</sup>2–3.

their terms. Nevertheless the agreement by reason of which one contradictory implies the other lies in the fact that one proposition is common to them both. That proposition is a consequent of one of them and an antecedent of the other. Thus contradictories from one of which the other is inferred agree in a middle proposition connecting them to one another, which middle is a consequent of one and an antecedent of the other.

(333) For example, the propositions 'Only the origin exists' and 'Not only the origin exists' agree in the proposition 'The originated exists', which is a consequent of 'Only the origin exists' and an antecedent of 'Not only the origin exists'. Such agreement in one proposition that is a consequent of the one and an antecedent of the other is enough for one proposition to imply the other.

(334) But it will be said against this that there is as much agreement between 'Not only the origin exists' and 'Only the origin exists' as there is the other way around; therefore, if on account of some agreement it follows: 'Only the origin exists; therefore, not only the origin (p. 75) exists', then on account of the same or an equal agreement it will follow the other way around. And so it follows: 'Not only the origin exists; therefore, only the origin exists', which is false. For the antecedent is true and the consequent false.

(335) It has to be said in reply that 'Not only the origin exists' follows from 'Only the origin exists', not on account of the *amount* of agreement but on account of the *kind* of agreement that is required and sufficient for the goodness of the inference. This agreement lies in a proposition that is a consequent of the antecedent and an antecedent of the consequent.

(336) Thus one and the same proposition, which is a consequent of 'Only the origin exists', is an antecedent of 'Not only the origin exists'. But this agreement does not go the other way around. For there is not any one proposition that is a consequent of 'Not only the origin exists' and an antecedent of 'Only the origin exists'.

(337) And when it says [(334)], 'There is as much agreement', etc., I say that the inference does not hold on account of the amount of agreement but on account of the kind of agreement—namely, in a proposition that is a consequent of the antecedent and an antecedent of the consequent.

(338) Alternatively, it could be said that there are two kinds of agreement, one kind in *being* and another kind in *following*, and an inference holds by reason of an agreement in *following*. Now although there is as much agreement in being between 'Not only the origin exists' and its opposite as there is the other way around, nevertheless there is not as much agreement in following. For agreement in following is what was said, namely agreement in a proposition that is a consequent of the antecedent and an antecedent of the consequent.

(339) And suppose it is said that agreement in following arises from agree-

ment in being, and that therefore where there is an equal agreement in being there is an equal agreement in following. It has to be said in reply that in an inference holding through an intrinsic topic, agreement in following does arise from agreement in being. But where the inference holds through an extrinsic topic, this is not true. But the inference mentioned above holds through an extrinsic topic.

#### REPLY TO THE CONFIRMING ARGUMENT

(340) To the other reason [(321)], which was so to speak its confirmation,<sup>205</sup> when it says every good inference holds through some dialectical topic, I say that every good inference holds through some *logical* topic. Yet not every good inference has to hold through some *dialectical* topic—except by extending ‘dialectic’ to the whole of logic.

(341) (p. 76) And when it says [(321)] that an inference like this is not based on any dialectical or logical topic, I say there are two kinds of dialectical or logical topic. One is the kind that is a maximal proposition, and the other is the kind that is a difference of a maxim. Every good inference holds through some topic that is a maximal proposition. For a maximal proposition is nothing but a rule through which an inference holds. For all these rules: ‘Whatever follows from a consequent follows from the antecedent’ [(261)] and ‘Whatever is an antecedent of the antecedent is an antecedent of the consequent’ [(262)], and so on, are maxims, and so are logical topics, which are maximal propositions.

(342) I say therefore, that the inference ‘Only the origin exists; therefore, not only the origin exists’ holds through some logical topic—that is, through some rule of logic—namely through: ‘Every proposition that includes opposites implies its opposite’ or through: ‘Whatever follows from a consequent follows from the antecedent’. For each of these of these rules is a maxim in logic. Nevertheless the first of these rules arises from the second. For because whatever follows from a consequent follows from the antecedent, therefore every proposition that includes opposites implies its own opposite, as was seen above [(312)–(313)].

#### *Objection 1*

(343) Suppose it is said that Boethius does not set out a topic like this among his topics.<sup>206</sup>

205. That is, a confirmation of the reasoning in [(320)].

206. See Boethius, *Boethius's De topicis differentiis*.

*Objection 2*

(344) Likewise, every topic that is a maximal proposition is taken from some topic that is the difference of a maxim; therefore, if there is not any topic that is the difference of a maxim, there will not be any topic that is a maximal proposition.

*Reply to Objection 1*

(345) To the first objection it has to be said that although Boethius does not set out such a topic among his dialectical topics, nevertheless Aristotle does set out this topic among his logical topics. For in *Prior Analytics* I [32 47<sup>a</sup>28–30], he sets out the rule ‘Whatever follows from a consequent follows from the antecedent’ [(261)], from which it follows that every proposition that includes opposites implies its contradictory.

*Reply to Objection 2*

(346) To the second objection, when it says that every topic that is a maximal proposition is taken from some topic that is the difference of a maxim, it could be said that not every maximal proposition arises from a maxim’s difference known to us. For not every difference of a maxim has a name. For many maximal propositions are necessary and (p. 77) yet do not have names imposed on the differences of those maxims.

(347) Nevertheless I say every maximal proposition *can* have a difference of a maxim. Thus, just as there are many special rules each of which is a maximal proposition, so special terms could be taken that are the differences of maxims. For example, the difference of the maxim for the rule ‘Whatever follows from a consequent follows from the antecedent’ [(261)] can be called ‘following from a consequent’. And then if one argues ‘If a man runs an animal runs; and if an animal runs a body runs; therefore, from first to last, if a man runs a body runs’, and it is asked ‘From where is the topic?’ it is to be said that it is the topic from ‘following from a consequent’. And if one asks for the maxim, it must be responded that it is ‘Whatever follows from a consequent follows from the antecedent [(261)]. “If one asks ‘Where is the topic in “If only the origin exists, not only the origin exists”’, it can be said that it is the topic ‘from the inclusion of opposites’. And if one asks for the maxim, it is to be replied that it is ‘Every proposition that includes opposites implies its contradictory’.

(348) Alternatively, it could be said that the inference ‘Only the origin exists; therefore, not only the origin exists’ holds from ‘the following from a consequent’. For ‘Not only the origin exists’ follows from a consequent of ‘Only the origin exists’, as was seen above [(332)–(333)]. And then the maxim to which this inference has recourse is ‘Whatever follows from a consequent follows from the antecedent’ [(261)].

## Tenth Observation

(349) Once more, you have to know that sometimes a conditional proposition follows from a categorical proposition and sometimes a categorical follows from a conditional. Thus special rules can be given here.

### *First Special Rule*

(350) One is that from every categorical proposition in which it is denoted that the subject and the predicate are entirely or convertibly the same, there follows a conditional in which from the pluralization of the one there follows or is denoted to follow the pluralization of the other.

(351) For example, it follows: 'A man is risible convertibly;<sup>207</sup> therefore, if there are several men there are several risibles'. This is a hypothetical enthymeme the antecedent of which is a categorical proposition and the consequent a hypothetical conditional. The Philosopher argues this way in *Physics* IV [10 218<sup>b</sup>3-5], the treatise on time: 'If time is the motion of the first heaven, so that time and the first motion are entirely the same, then if there are several heavens there are several times'. It follows also: 'Time is the same as the heaven; therefore, if there are several (p. 78) heavens there are several times'. And if the conditional that is the consequent is false, the proposition that is the antecedent has to be false.

### *Second Special Rule*

(352) Another special rule can be given as follows: From every conditional the antecedent of which is necessary there follows the consequent of that conditional. For example: 'If man is an animal, man is a substance; therefore, man is a substance'. This holds through the rule 'If a conditional is a good one and the antecedent is true, the consequent has to be true', because from the true nothing follows but the true.

### *Third Special Rule*

(353) Further, you have to know that from every conditional there follows a categorical, in which categorical the consequent is denoted to follow from the

207. That is, the converse is also true: A man is risible *and* a risible is a man. But the convertibility appears to play no real role in the example.

antecedent. And conversely, from every categorical in which it is denoted that one proposition follows from another, there follows a conditional in which an inference is exercised between these proposition.

(354) For example, it follows: 'If a man runs an animal runs; therefore, from a man's running there follows an animal's running'. It also follows conversely: 'If from a man's running there follows an animal's running, therefore if a man runs an animal runs'. Both of these inferences hold through the fact that from every exercised act there follows the signified act and conversely.

#### *Fourth Special Rule*

(355) Again, you have to know that from every negative categorical in the subject of which there is included the opposite of the predicate there follows a conditional in which from the affirmation of the subject, no matter what it is affirmed of, there follows the predicate's being denied of the same thing. For example, it follows: 'Nothing that rests when something else rests is moved by itself primarily; therefore, if the heaven rests when something else rests—as when a part rests—it follows that the heaven is not moved by itself primarily'. This inference is a composite conditional the antecedent of which is a negative categorical proposition and the consequent is a conditional the antecedent of which is an affirmative categorical and the consequent is a negative categorical. The Commentator argues this way in *Physics* VII.<sup>208</sup> Every such inference holds through the fact that everything included in something follows from it. For it follows: 'Socrates is a man; therefore, he is not a stone', because man includes the denial of stone.

(356) If it is said that the antecedent in this case is true and the consequent false, because it involves the heaven's resting when a part rests, it must be said that the consequent is true just as the antecedent is. For (p. 79) the consequent is a true conditional, even though the antecedent of the conditional that is the consequent is impossible. For a conditional can be necessary with its antecedent's being impossible. For the conditional 'If an ass flies, an ass has wings' is necessary, and yet the antecedent is impossible. Neither does a conditional posit what is involved in the conditional's antecedent.

(357) This rule seems to be the same as the rule that says that from every negative in which the subject is incompatible with the predicate there follows a conditional in which it is denoted that from the subject's being affirmed of something there follows the predicate's being denied of the same thing [(355)].

208. Averroes, *Commentary on the Physics* VII, comm. 2, Giuntas ed., vol. 4, fol. 307c–308c.



CHAPTER 3: IN WHICH ARE SOLVED  
DIFFICULTIES THAT SEEM TO BE AGAINST  
THE RULES IN THE FIRST CHAPTER

(358) But against the rules stated above there seem to be certain doubts.

## Doubts

### *Against the Second Main Rule*

(359) First it seems that the rule 'Whatever follows from a consequent follows from the antecedent' [(261)] is not true.<sup>209</sup>

#### FIRST DOUBT

(360) †First, because Socrates' running or not running is a consequent of Socrates' not running. And yet something follows from Socrates' running or not running that does not follow from Socrates' not running. For from Socrates' running or not running a man's running follows, and yet from Socrates' *not* running a man's running does not follow. Now that from Socrates' running or not running a man's running follows is plain. For it follows: 'From Socrates' running a man's running follows; therefore, from Socrates' running or not running a man's running follows'. The antecedent is true; therefore, the consequent is too.

#### SECOND DOUBT

(361) Again, from Socrates' running alone there follows Socrates' running. And yet something follows from Socrates' running that does not follow from Socrates' running alone. For 'From Socrates' running a man's running follows' is true, and 'From Socrates' running alone a man's running follows' is false, because from Plato's running a man's running follows, and consequently from something other than from Socrates' running a man's running follows. From this it follows that a man's running does not follow from Socrates' running alone.

209. The arguments in (360)–(362) will be made much clearer if you consult Burley's replies in (369)–(379) below.

## THIRD DOUBT

(362) (p. 80) Again, the proposition 'Some proposition is true' is a consequent of 'Every proposition is true', and yet something follows from some proposition's being true that does not follow from every proposition's being true. For from some proposition's being true it follows that it is true that you are an ass. For from 'Every proposition is true' it follows that it is true that you are an ass; therefore, from some proposition's being true it follows that it is true that you are an ass. And yet from every proposition's being true it does not follow that it is true that you are an ass. For if from every proposition's being true it did follow that it is true that you are an ass, therefore from 'God exists' it would follow that it is true that you are an ass, which is false.

*Against the First Subrule to the Second Main Rule*

(363) Again, it can be argued as follows against the other rule, which says 'Whatever follows from an antecedent and its consequent follows from the antecedent by itself' [(264)]. It follows: 'Brownny<sup>210</sup> is risible; therefore, Brownny is a man'. And from these two propositions it follows formally that a man is risible. For it follows formally: 'Brownny is risible; Brownny is a man; therefore, a man is risible'. And yet from the antecedent by itself the same consequent does not follow formally. For it does not follow formally: 'Brownny is risible; therefore, a man is risible'. For in that case when the consequent is distributed the antecedent follows. And in that case it follows: 'Every man is risible; therefore, Brownny is risible', which is false.

(364) Also, if it followed formally 'Brownny is risible; therefore, a man is risible', it would follow in the same direction when a negation is put after [the subject]. In that case it would follow: 'Brownny is not risible; therefore, a man is not risible'. Yet there the antecedent is true and the consequent false. Therefore, the rule 'Whatever follows from an antecedent and its consequent follows from the antecedent by itself' [(264)] seems to be false.

*Against the Fifth Main Rule*

(365) Again, it is argued against the rule 'Whenever some inference is a good one, the opposite of the antecedent follows from the opposite of the consequent' [(279)]. For in that case the false would follow from the true. For the syllogism 'Every man is an animal; some stone is a man; therefore, some stone

210. 'Brownny' (= *Brunellus*) is the standard example of a name of an ass.

is an animal' is a good one. If the opposite of the antecedent followed from the opposite of the consequent, then it would follow: 'No stone is an animal; therefore, some man is not (p. 81) an animal and no stone is a man'. Yet there the antecedent is true and the consequent false.

(366) Again, the inference 'If some proposition is true, a contradictory of it is false' is a good one, and yet the opposite of the antecedent does not follow from the opposite of the consequent. For 'If no contradictory of it is false, no proposition is true' is not intelligible; therefore, it is not universally true that if an inference is a good one, the opposite of the antecedent is inferred from the opposite of the consequent.

### *Against the Third Main Rule*

(367) Again, it seems that the rule 'Whatever is incompatible with a consequent is incompatible with the antecedent' [(268)] is false. For *animal* is a consequent of *man*, and yet something is incompatible with *animal* that is not incompatible with *man*. For it is incompatible with *animal* that it be a most specific species, and it is not incompatible with *man* that it be a most specific species.

## Replies to These Doubts

(368) To these doubts it must be replied in brief that that the stated rules are necessary ones.

### *Replies to the Doubts Against the Second Main Rule*

#### REPLY TO THE FIRST DOUBT

(369) To the first doubt to the contrary [(360)], I say that the disjunctive proposition 'Socrates runs or does not run' is a consequent of 'Socrates does not run'. †And I say that from the disjunctive 'Socrates runs or does not run' the proposition 'A man runs' does not follow. Therefore, when it is said that for Socrates to run or not to run is a consequent of Socrates' not running, I say that this is to be distinguished according to composition and division. In the sense of composition it is true, and it is denoted that the proposition 'Socrates runs or does not run' follows from 'Socrates does not run'. And in the same sense 'From Socrates' running or not running it follows that a man runs' is

false. Neither is 'From Socrates' running it follows that a man runs; therefore, from Socrates' running or not running it follows that a man runs' valid, taking the consequent in the sense of composition. For it is argued through the rule 'What follows from an antecedent follows from the consequent' [(261)]. And the consequent is not a disjunctive proposition in the sense of composition; rather it is a proposition with a disjoint subject.

(370) But if 'Socrates' running or not running is a consequent of Socrates' not running' is taken in the sense of division, in that case also it is true. For it is denoted that either Socrates' (p. 82) running is a consequent of Socrates' not running or else Socrates' not running is a consequent of Socrates' not running. And in that case it amounts to 'One of these is a consequent of Socrates' not running'.

(371) And when it is said<sup>211</sup> that 'From Socrates' running or not running it follows that a man runs' is likewise true in the sense of division, I grant that it amounts to 'From one of these it follows that a man runs'. But from these<sup>212</sup> it does not follow that something follows from a consequent that does not follow from the antecedent. For each premise is particular, or equivalent to a particular. And nothing follows from particulars.<sup>213</sup>

(372) Thus it does not follow, indicating the contradictories 'Socrates runs' and 'Socrates does not run': 'Each of these is a consequent of Socrates' not running; and from one of these it does not follow that a man runs; therefore, something follows from the consequent that does not follow from the antecedent'. For each premise is particular, and nothing follows from particulars.

#### REPLY TO THE SECOND DOUBT

(373) †To the second doubt [(361)], it must be said that whatever follows from 'Socrates runs' follows from 'Socrates runs alone'. And when it is said that 'From Socrates' running it follows that a man runs' is true and 'From Socrates' running alone it follows that a man runs' is false, I say that the expression 'From Socrates' running alone it follows that a man runs' is to be distinguished according to composition and division. In the sense of composition it is true, and it is denoted that from 'Socrates runs alone' 'A man runs' follows, and that is true, and is not an exclusive proposition in the sense of composition. Indeed the whole 'Socrates' running alone' is the subject. There-

211. In the original argument [(360)], nothing was said about the sense of division.

212. That is, from 'Socrates' running or not running is a consequent of Socrates' not running' (in (370)) and 'From Socrates' running or not running it follows that a man runs' (here in (371)).

213. See Aristotle, *Prior Analytics* I.24 41<sup>b</sup>6–23.

fore, it does not follow: 'From Socrates' running alone it follows that a man runs; therefore, from nothing else's running does it follow that a man runs', taking the antecedent in the sense of composition.

(374) But in the sense of division 'From Socrates' running alone it follows that a man runs' is false. For it is denoted that from 'Socrates runs' alone does 'A man runs' follow, and that is false. Likewise, 'From Socrates' running alone it follows that Socrates runs' is false in the sense of division. For it is denoted that from 'Socrates runs' alone does 'Socrates runs' follow, which is false. For from 'Every man runs' 'Socrates runs' follows; therefore, not from 'Socrates runs' alone etc.

#### REPLY TO THE THIRD DOUBT

(375) (p. 83) To the third doubt [(362)], I say that whatever follows from 'Some proposition is true' follows from 'Every proposition is true'. And when it is said that from some proposition's being true it follows that it is true that you are an ass, I say that this is ambiguous according to composition and division. In the sense of composition it is false, because it is denoted that from 'Some proposition is true' it follows that it is true that you are an ass, and that is false. In the sense of division it is true, because it is denoted that there is some proposition such that from its being true it follows that it is true that you are an ass.

(376) In the same way 'From every proposition's being true it follows that it is true that you are an ass' has to be distinguished according to composition and division. In the sense of composition it is true, because it is denoted that from the proposition 'Every proposition is true' there follows 'It is true that you are an ass', and that is true. Neither does it follow in this sense: 'From every proposition's being true it follows that it is true that you are an ass; therefore, from its being true that God exists it follows that it is true that you are an ass'. Rather it is a fallacy of the consequent, because it is argued through the false rule 'Whatever follows from an antecedent follows from the consequent' [(263)]. In the sense of division 'From every proposition's being true it follows that it is true that you are an ass' is false, because in the sense of division it is a universal proposition about an oblique case,<sup>214</sup> and many of its singulars are false.

(377) Thus it needs to be known that whenever some dictum occurs before the main composition, such an expression has to be distinguished according

214. In the Latin the universal quantifier 'every', which makes the sentence a universal affirmative, is in the accusative case following a preposition.

to composition and division. In the sense of composition the whole dictum is the subject and the whole proposition is singular. And in that case a descent does not have to be made under the subject of the dictum, even though it is distributed by the universal quantifier. For this reason it does not follow: 'That every mule is sterile is known by me; therefore, that this mule is sterile is known by me'. For the antecedent is true in the sense of composition, and the consequent is false.

(378) And if it is said that one can descend under a distributed term, I say that this is true when the distributed term is an extreme and not a *part* of an extreme, and also when the distributing quantifier makes the proposition be universal. But it is not like that in the present case, for every such expression in the sense of composition is singular. On the other hand, in the sense of division such an expression is of the same quantity as is the proposition of which it is the dictum. And in this sense (p. 84) the same thing is the subject of the whole proposition and the subject of the dictum.

(379) Thus every such proposition in the sense of division is about an oblique case. Thus 'From every proposition's being true it follows that it is true that you are an ass' is universal in the sense of division. And 'From some proposition's being true' etc. is particular. Each of these is in an oblique case and in each the word 'proposition' is in subject position.

*Reply to the Doubt Against the First Subrule  
to the Second Main Rule*

(380) To the other doubt [(363)], when it is proved that the rule 'Whatever follows from an antecedent and its consequent' etc. [(264)] is not valid, because in that case it would formally follow: 'Brownny is risible; therefore, a man is risible', I say the inference is formal by reason of three terms, not by reason of two terms only. Thus, if the predicate is changed, the inference does not hold. For it does not follow: 'Brownny runs; therefore, a man runs'. Neither does it follow: 'Brownny is rudible;<sup>215</sup> therefore, a man is rudible'. And therefore, the inference 'Brownny is risible; therefore, a man is risible' does not hold on account of some relation between Brownny and man, but on account of a relation among the three terms 'Brownny', 'man', and 'risible' so arranged in propositions.

215. Rudibility is the ability to bray and was regarded as a distinguishing feature of asses, just as risibility, the ability to laugh, was regarded as a distinguishing feature of human beings.

(381) Thus, you have to know that some inferences hold by reason of the whole structure, like the conversions of syllogisms and such, and some hold by reason of their incomplex terms. Among the latter inferences, some hold by reason of two terms only, like 'A man runs; therefore, an animal runs'. Some hold by reason of three terms, like 'Browny is risible; therefore, a man is risible'. And some hold by reason of four terms, like 'A man runs; therefore, an animal is moved'. I say, therefore, that the inference 'Browny is risible; therefore, a man is risible' is a good one and holds by reason of three terms, as was said.

(382) And when it says [(363)] that in that case when the consequent is distributed the antecedent follows, or the distributed antecedent follows, I say that this rule is not a general one. For where an inference holds by reason of the whole structure or by reason of more than two terms, the rule is out of place. For although it follows 'An animal is a man; therefore, a man is an animal', nevertheless from the distribution of the consequent the distributed antecedent does not follow. For it does not follow 'Every man is an animal; therefore, every animal is a man'. This is because the first (p. 85) inference held by reason of the whole structure.

(383) Neither does the antecedent without distribution have to follow in all cases when the consequent is distributed. For although it follows 'A man runs; therefore, an animal runs', nevertheless it does not follow 'Every animal runs; therefore, a man runs'. I say, therefore, that the rule 'When a consequent follows from an antecedent, if the consequent is distributed the antecedent follows with or even without distribution' has to be understood for when the inference holds by reason of two terms only and the distributive quantifier is added in the consequent to the term by reason of which the consequent is inferred from the antecedent. If the term in the antecedent by reason of which the consequent is inferred is distributable, then the distributed antecedent follows from the distributed consequent. But if the term in the antecedent by reason of which the consequent is inferred is not distributable, then the antecedent follows without distribution from the distributed consequent. For it follows 'Socrates runs; therefore, a man runs'. And the term 'Socrates' is not distributable. Therefore, it follows 'Every man runs; therefore, Socrates runs'.

(384) I said that the distributive quantifier should be added to the term in the consequent by reason of which the consequent follows from the antecedent. For if it is added to another term, it does not have to happen that when the consequent is distributed, etc., as is plain. For it follows 'A man is an ass; therefore, a man is an animal'. And yet it does not follow 'Every man is an animal; therefore, a man is an ass'. This is because the distributive quantifier is not added in the consequent to the term by reason of which the consequent

follows from the antecedent. If it *is* added to that term, then the inference does follow correctly. Thus it follows correctly 'A man is every animal; therefore, a man is an ass'.

(385) I say, therefore, that although 'Browny is risible; therefore, a man is risible' [is valid], nevertheless when the consequent is distributed the antecedent does not follow. This is because the first inference does not hold by reason of two terms only. Thus the consequent does not follow from the antecedent by reason of the subject in the consequent. For 'man' is not included in 'Browny'. This is plain, because if the predicate is changed it does not follow, as was said [(380)].

(386) And when it says further [(364)] that if it followed 'Browny is risible; therefore, a man is risible', then the inference would be good when the negation is put after [the subject], I say that is true when the inference (p. 86) holds by reason of two terms only. But when it holds by reason of three terms, this is not necessary. Thus from what is inferior by itself to what is superior by itself with a negation put after [the subject] there is a good inference.

(387) But perhaps it would be said that the inference that holds by reason of three terms is not formal; therefore, if the inference 'Browny is risible; therefore, a man is risible' holds by reason of three terms, then it does not hold except because of the matter, and will not be formal.

(388) It has to be said in reply that a formal inference is of two kinds: one kind that holds by reason of the form of the whole structure. Conversion is such an inference, and syllogism, and so on for other inferences that hold by reason of the whole structure. Another kind is a formal inference that holds by reason of the form of incomplex terms. For example, an inference from an inferior to a superior affirmatively is formal, and nevertheless holds by reason of the terms.

(389) Thus for an inference to hold by reason of the terms can happen in two ways, either because it holds materially by reason of the terms, or because it holds formally by reason of the terms—that is, by the *formal* reason of the terms. I say, then, that an inference can be formal by reason of the terms; this happens if it holds through itself by reason of the terms. But if it holds accidentally by reason of the terms, then it is not formal.

### *Reply to the Doubts Against the Fifth Main Rule*

(390) To the other argument [(365)], when it is proved that it is not necessary that, in every good inference, the opposite of the antecedent follows from the opposite of the consequent [(279)], I say that in every good non-syllogistic



inference it is required that the opposite of the antecedent be inferred from the opposite of the consequent. But in a syllogistic inference this is not necessary. For a syllogistic antecedent does not have an opposite, and therefore in a syllogistic inference the opposite of the antecedent does not follow from the opposite of the consequent.

(391) But from the opposite of the consequent together with either part of the antecedent there does follow the opposite of the other part. Thus if a syllogism is a good one, the opposite of the minor premise has to be inferred from the opposite of the conclusion together with the major premise. Also the opposite of the major has to be inferred from the opposite of the conclusion together with the minor. If not, the syllogism is not valid.

(392) To the other argument [(366)], that in an inference in which a relative pronoun occurs in the consequent, the pronoun cannot be understood without its antecedent, I say that from the opposite of the consequent the opposite (p. 87) of the antecedent ought to be inferred by putting the opposite of the antecedent in front of the opposite of the consequent, as follows: 'If some proposition is true, a contradictory of it is false; therefore, no proposition is true if no contradictory of it is false'.

### *Reply to the Doubt Against the Third Rule*

(393) To the other argument [(367)], when it is said that something is incompatible with the consequent that is not incompatible with the antecedent, I say that is not true. And when it is said that it is incompatible with *animal* that it be a most special species, and it is not incompatible with *man*, I say that the same thing that is incompatible with *animal* is incompatible with *man*. Thus just as it is incompatible with *animal* that it be a most special species, so it is incompatible with *man* that *animal* be a most special species. But that *man* is a most special species is incompatible with neither *man* nor *animal*.

### Clarification of an Earlier Rule

(394) With respect to another rule set out in the first chapter of this tract, claiming that 'whatever follows from a consequent together with something added follows from the antecedent with the same thing added' [(265)], it must be understood that this rule has to be understood about a *proposition* added to the consequent and the antecedent. Thus if from the antecedent there fol-

lows a consequent and some proposition is added to the consequent, out of which proposition and the consequent a copulative is made, and out of the antecedent and the same proposition another copulative is made, then just as the antecedent implies the consequent so the copulative made out of the antecedent and any other proposition implies a copulative made out of the consequent and that same proposition.

(395) †It also needs to be understood that it is generally said that when a consequent follows from an antecedent, it still follows when the same thing is added on both side. Nevertheless I say it is not true. For it follows: ‘I am stuck in the mud with a hundred florins; therefore, I am stuck in the mud’. And it does not follow with the same thing added on both sides. For it does not follow: ‘I would like to be stuck in the mud with a hundred pounds;<sup>216</sup> therefore, I would like to be stuck in the mud’.

(396) Likewise, from the first principle in some science all the conclusions follow, and from one conclusion there follows another. And it does not follow with the same thing added on both sides. For it does not follow: ‘I know the first principle; therefore, I know all the conclusions that follow from that principle’. Neither does it follow: ‘I know some conclusion; therefore, I know the conclusions that follow from it’.

## *Part Two: On the Manner of Arguing Syllogistically in Hypothetical Conditionals*

(397) (p. 88) After these points, the next thing is to see how one is to form syllogisms with hypothetical conditionals. This part will contain four chapters. In the first chapter we must see how one is to form syllogisms in the first figure when both premises are conditional. In the second, how one is to form syllogisms in the second figure. In the third chapter, how hypothetical syllogisms are to be arranged in the third figure. In the fourth chapter it will be seen how one is to form syllogisms from one conditional and one categorical.

216. The switch from florins to pounds is presumably without significance.

## CHAPTER 1: ON CONDITIONAL SYLLOGISMS IN THE FIRST FIGURE

(398) With respect to the first [point], we must see how one is to form syllogisms in the first figure when both premises are conditional hypotheticals.

(399) Therefore, first it needs to be known that when both premises are conditional there is a syllogism in the first figure when what is the antecedent in the major is the consequent in the minor. For example, if one argues like this: 'If a man runs an animal runs; if Socrates runs a man runs; therefore, if Socrates runs an animal runs'.

(400) This is argued through the rule 'Whatever is antecedent to an antecedent is antecedent to the consequent' [(262)] as is plain. For if it follows: 'A man runs; therefore, an animal runs', whatever is an antecedent to 'A man runs' has to be an antecedent to 'An animal runs'. If therefore 'Socrates runs' is an antecedent to 'A man runs', which is the antecedent, it follows that 'Socrates runs' is an antecedent to 'An animal runs', which is the consequent.

(401) Such an inference also holds through the rule 'Whatever follows from a consequent follows from the antecedent' [(261)]. This is so to speak the same as the other rule. This is plain, beginning with the minor. For if it follows 'Socrates runs; therefore, a man runs', as the minor says, then whatever follows from a man's running follows from Socrates' running; therefore, if from a man's running it follows that an animal is running, as the major says, then from Socrates' running it has to follow that (p. 89) a man is running. And this the conclusion says.

(402) Whenever one argues from first to last through many intermediary inferences, one argues syllogistically in the first figure through a conditional hypothetical syllogism, as is plain if one argues: 'If a man exists an animal exists; if an animal exists a body exists; therefore, from first to last, if a man exists a body exists'. The middle conditional is the major premise and the first conditional is the minor; the conclusion is the third conditional. For example: 'If an animal exists a body exists; if a man exists an animal exists; therefore, if a man exists a body exists'.<sup>217</sup>

(403) You have to know that if only three inferences are made—for example: 'If a man exists an animal exists; if an animal exists a body exists; therefore, if a man exists a body exists'—then there is one syllogism only, in which the middle conditional is the major premise, the first conditional the minor and the third conditional the conclusion. But if four inferences are made, then there have to be two syllogisms: (a) the first, in which the second conditional

217. The purpose of the rewording seems to be merely to put the major premise in the first position.

is the major premise, the first conditional the minor, and the conclusion will be the conditional in which from the antecedent of the first conditional the conclusion of the second conditional is inferred. (b) The second syllogism will be one in which the third conditional will be the major premise, the minor will be a conditional in which from the antecedent of the first conditional the consequent of the second conditional is inferred, and the conclusion will be a conditional in which from the antecedent of the first conditional the consequent of the second conditional is inferred.

(404) For example, if one argues: 'If a man exists an animal exists; if an animal exists a body exists; and if a body exists a substance exists; therefore, from first to last, if a man exists a substance exists'. Here there are two syllogisms. The first is as follows: 'If an animal exists a body exists; if a man exists an animal exists; therefore, if a man exists a body exists'. The second syllogism is: 'If a body exists a substance exists; if a man exists a body exists; therefore, if a man exists a substance exists'. Thus when one argues from first to last, the minor is put in front of the major. This putting the minor in front of the major is the Commentator Averroes' and also Boethius' manner of forming syllogisms generally.

(405) You have to know that in such a hypothetical syllogism one proposition plays the role of the middle term, namely the proposition that is antecedent in the second conditional and consequent in the first conditional. For just as in categorical syllogisms in the first figure the middle term is in subject position in the major premise and in predicate position in the minor, so in hypothetical syllogisms when both premises are (p. 90) conditional, in the first figure the middle proposition is antecedent in the major and consequent in the minor. Thus the major and the minor agree in one categorical proposition that is antecedent in the major and consequent in the minor. This is said to be the 'middle proposition', and functions in a hypothetical syllogism just like the middle term in a categorical syllogism.

(406) Therefore, what is antecedent in the major and consequent in the minor is called the 'middle', because it is common to both major and minor. The consequent in the major is the major extreme and the antecedent in the minor is the minor extreme. Now whether a proposition or only a term should be called 'middle' in the other figures, that will be seen later [(423)-(426), (454)-(455)].

## Moods of the First Figure

(407) In the first figure there are eight useful moods when both premises are conditional: four moods in which an affirmation is antecedent to the minor

proposition (which Boethius in his *On Hypothetical Syllogisms* always puts in front of the major), and the other four moods are ones in which a negation is the antecedent. That is to say, there are four moods in which the antecedent of the minor is an affirmative proposition, and another four in which the antecedent of the minor is a negative proposition.

(408) The first mood: 'If *a* exists *b* exists; if *b* exists *c* exists; therefore, if *a* exists *c* exists'. Understand in this figure that the proposition that occurs second is always the major and the proposition that occurs first is the minor.

(409) The second mood: 'If *a* exists *b* exists; if *b* exists *c* does not exist; therefore, if *a* exists *c* does not exist'.

(410) The third mood: 'If *a* exists *b* does not exist; if *b* does not exist *c* exists; therefore, if *a* exists *c* exists'.

(411) The fourth mood: 'If *a* exists *b* does not exist; and if *b* does not exist *c* does not exist; therefore, if *a* exists *c* does not exist'.

(412) The sufficiency of these moods is plain, as follows. If the antecedent of the minor proposition is an affirmative proposition, therefore either (a) each other categorical is affirmative, and in that case it is the first mood, or some other categorical is negative. Therefore, either (b) the consequent of the major is a negative proposition and the antecedent of the major is affirmative, and in that case it is the second mood, or (c) the antecedent of the major is a negative proposition and the consequent is affirmative, and in that case it is the third mood, or (d) the antecedent of the major is negative and the consequent is negative, and in that case it is the fourth mood.

(413) The other four moods are those in which the antecedent of the minor is a negative proposition. For if the antecedent of the minor is a negative proposition, therefore the consequent of the minor is either an affirmative proposition or a negative one. (p. 91) If it is affirmative, therefore either (a) both the antecedent and the consequent of the major are affirmative propositions, and in that case it is the fifth mood, as here: 'If *a* does not exist *b* exists; and if *b* exists *c* exists; therefore, if *a* does not exist *c* exists'. Or (b) the antecedent of the major is an affirmative proposition and the consequent a negative proposition, and that is the sixth mood, as here: 'If *a* does not exist *b* exists; and if *b* exists *c* does not exist; therefore, if *a* does not exist *c* does not exist'. But if the consequent of the minor is a negative proposition, therefore, the consequent of the major is either affirmative or negative. If it is (c) affirmative, in that case it is the seventh mood, as here: 'If *a* does not exist *b* does not exist; and if *b* does not exist *c* exists; therefore, if *a* does not exist *c* exists'. But if (d) the consequent of the major is negative, in that case it is the eighth mood, as here: 'If *a* does not exist *b* does not exist; and if *b* does not exist *c* does not exist; therefore, if *a* does not exist *c* does not exist'.

(414) You have to know that in all these examples the conditional that occurs

first is the minor proposition and the one that occurs second is the major proposition. If the conditional that occurs second occurred first and the one that occurs first occurred second, then the syllogism would be more evident. For then it would be evidently apparent that what is the antecedent in the major would be the consequent in the minor.

(415) Thus when Boethius<sup>218</sup> distinguishes among these moods by the fact that an affirmation or a negation is the antecedent, he understands by the antecedent what is antecedent in the minor, which he puts in front. Yet if that proposition occurred in the second way,<sup>219</sup> the syllogism would be more evident, as is plain if one argues in the first mood like this: 'If *b* exists *c* exists; if *a* exists *b* exists; therefore, if *a* exists *c* exists'. This syllogism is evident. And if one argues in the second mood like this: 'If *b* exists *c* does not exist; if *a* exists *b* exists; therefore, if *a* exists *c* does not exist', this syllogism too is evident and perfect. And so on for the other moods.

(416) Thus you have to know in general that when both premises are conditional and the same thing that is antecedent in the major is consequent in the minor, whether all the categorical propositions are affirmative or negative or some affirmative and some negative, there is always a good syllogism in the first figure. It is never valid otherwise when both premises are conditional. This holds if the condition-sign is affirmed.

(417) From this it is plain that if one argues: 'If Socrates runs some man runs; if Socrates sits Socrates does not run; therefore, if Socrates (p. 92) runs some man does not run', the move is not valid. This is plain, because the same thing is not consequent in the minor as was antecedent in the major. For an affirmative proposition is antecedent in the major and a negative proposition is consequent in the minor.

(418) This rule is sufficient for the first figure when both premises are conditional and the condition is affirmed: if the same thing is antecedent in the major and consequent in the minor, there is always a good syllogism and never otherwise.

(419) Further, you have to know that if the condition-sign—that is, the conjunction 'if'—is denied in either premise or in both, a syllogism in the first figure is never valid. For (a) if the condition is denied in both, the syllogism is not valid, because from negatives nothing follows.

(420) Also, (b) if the condition is denied in the major and affirmed in the minor, the syllogism is not valid. For example, if one argues like this: 'Not if a man runs an ass runs; if every animal runs a man runs; therefore, not if every animal runs an ass runs'. For the premises are true and the conclusion false.

218. Boethius, *On Hypothetical Syllogisms*, Obertello, ed., II.i.7.60–II.iii.8.94, pp. 258–274.

219. That is, the alternative arrangement mentioned in (414).

Thus the argument is by a false rule, namely 'If something does not follow from a consequent it does not follow from the antecedent'. For example, because 'A man runs' is a consequent of 'Every animal runs', therefore because the proposition 'An ass runs' does not follow from 'A man runs', for this reason it does not follow from 'Every animal runs'. This rule is false and commits a fallacy of the consequent.

(421) Also, if the condition is affirmed in the major and denied in the minor, the move is not valid. For it does not follow: 'If a man runs an animal runs; not if an ass runs a man runs; therefore, not if an ass runs an animal runs'. For the premises are true and the conclusion false. Thus the argument is by the false rule 'What is not antecedent to the antecedent is not antecedent to the consequent'. For example, because the proposition 'A man runs' is antecedent to 'An animal runs', therefore what is not antecedent to 'A man runs' is not antecedent to 'An animal runs'. This rule is false and commits a fallacy of the consequent.

(422) Thus, just as these two rules are true—namely, 'Whatever follows from a consequent follows from the antecedent' [(261)] and 'Whatever is antecedent to an antecedent is an antecedent to the consequent' [(262)]—so these rules are universally true: 'What does not follow from an antecedent does not follow from the consequent' and 'What is not antecedent to a consequent is not antecedent to the antecedent'. But these rules are false: 'What does not follow from a consequent does not follow from the antecedent' and 'What is not antecedent to an antecedent is not antecedent to the consequent'.

## CHAPTER 2: ON CONDITIONAL SYLLOGISMS IN THE SECOND FIGURE WITH BOTH PREMISES CONDITIONAL

(423) (p. 93) In the second figure there is no hypothetical syllogism formed when both premises are conditional affirmatives and the middle is an affirmative or negative proposition in both premises, whether it is affirmative in both premises or is negative in both premises. I call a 'conditional affirmative' one in which the condition-sign is affirmed. For whenever the condition-sign is affirmed the whole conditional is affirmative, no matter what the quality of the antecedent or consequent was, whether affirmative or negative.

(424) Now it is plain that an affirmative hypothetical syllogism is not valid when the middle is either an affirmative proposition in both premises or a negative in both premises. For if an affirmative proposition in both premises

or a negative in both premises occurs as the middle, this proposition would have to be the consequent in both premises. For just as in a categorical syllogism in the second figure, the middle term is the predicate in both premises, so if a proposition were the middle in a hypothetical syllogism, that proposition would have to be the consequent in both premises. And it is certain that from premises so arranged there follows no conclusion made from the extremes of the premises. For the argument is by the false rule 'Whatever is antecedent to a consequent is antecedent to the antecedent' [(263)]. For example, if one argues: 'If *a* exists *b* exists; if *c* exists *b* exists; therefore, if *c* exists *a* exists'. Here it is argued that because the two propositions are antecedent to the same thing, therefore the one of them is antecedent to the other. And this rule is false.

(425) There is the same failure if the consequent of both premises is a negative proposition and the antecedent of both is an affirmative or negative proposition, or the antecedent of one premise is an affirmative proposition and the antecedent of the other is negative. From such premises a conclusion never follows by reason of the form, because the argument is always (p. 94) by the false rule 'Whatever is antecedent to a consequent is antecedent to the antecedent' [(263)].

(426) Therefore, I say that the middle in the second figure is an affirmative proposition in one premise and a negative in the other. And that middle is either a consequent that is affirmed in one premise and denied in the other or else some term of that consequent. If it is said here that in that case the middle term in the consequent can occur indifferently as the subject or the predicate of the consequent, nevertheless it seems better to me that the whole proposition that is affirmed in one premise and denied in the other should be regarded as the middle, even though Boethius seems to say the contrary.<sup>220</sup>

## Moods of the Second Figure

(427) Now that we have settled what the middle is for hypothetical affirmatives in this figure, we must see in how many moods and by what rules useful syllogisms are formed in this figure. First it must be seen how affirmative hypothetical syllogisms are formed when the condition is affirmed in both premises. Second it must be seen how syllogisms are formed when the condition is affirmed in one premise and denied in the other.

(428) With respect to the first point, you need to know first that all useful syllogisms in this figure when both premises are affirmative conditionals hold

220. I have not found this reference in Boethius.



by one and the same rule, namely through the rule: 'Whatever is antecedent to the opposite of a consequent, the same thing is antecedent to the opposite of the antecedent'.

(429) This rule arises from the main rule: 'Whatever is antecedent to an antecedent is antecedent to the consequent' [(262)]. This is plain, because if there is some good inference, the opposite of the antecedent follows from the opposite of the consequent [(279)]. Consequently, the opposite of a consequent is antecedent to the opposite of the antecedent. Therefore, whatever is antecedent to the opposite of a consequent is antecedent to the opposite of the antecedent.

(430) Hypothetical conditional syllogisms in this figure hold through this rule. For from the fact that the antecedent of the minor proposition is antecedent to the contradictory of the consequent in the major it follows that the antecedent in the minor proposition is antecedent to the opposite of the antecedent in the major conditional.

(431) Thus, in order to draw conclusions more easily with affirmative hypothetical syllogisms in this figure, you need to inspect the antecedent in the minor and the opposite of the antecedent in the major. For the conclusion in syllogisms like this will always be a conditional in which it is denoted that from the antecedent of the minor proposition there follows the contradictory of the antecedent of the major proposition. Thus the conclusion is a conditional (p. 95) in which what is antecedent in the minor is antecedent to the opposite of the antecedent in that very minor.

### *Affirmative Conditional Hypothetical Syllogisms*

(432) Having seen these things, I say that a useful affirmative conditional hypothetical syllogism in the second figure is formed in eight moods. For a useful syllogism is formed in four moods when the consequent of the major is an affirmative proposition, and in four other moods when the consequent of the major is a negative proposition. You have to know that in this figure the consequent of the minor in such syllogisms should always be the contradictory of the consequent of the major.

(433) The first mood occurs when the antecedent of both premises is an affirmative proposition. For example: 'If *a* exists *b* exists; if *c* exists *b* does not exist; therefore, if *c* exists *a* does not exist'. The argument is by the rule 'Whatever is antecedent to the opposite of a consequent is antecedent to the opposite of the antecedent' [(428)]. For example, because the antecedent of the minor is antecedent to the opposite of the consequent of the major, therefore it is antecedent to the opposite of the antecedent of the major.

(434) The second mood occurs when the antecedent of the major is an affirmative proposition and the antecedent of the minor a negative proposition. For example: 'If *a* exists *b* exists; if *c* does not exist *b* does not exist; therefore, if *c* does not exist *a* does not exist'. The argument is by the same rule. In brief, in all the moods of this figure the argument is by the rule 'Whatever is antecedent to the opposite of a consequent', etc.

(435) The third mood occurs when the antecedent of the major is a negative proposition and the antecedent of the minor an affirmative proposition. For example: 'If *a* does not exist *b* exists; if *c* exists *b* does not exist; therefore, if *c* exists *a* exists'.

(436) The fourth mood occurs when the antecedent of both premises is a negative proposition, as here: 'If *a* does not exist *b* exists; if *c* does not exist *b* does not exist; therefore, if *c* does not exist *a* exists'.

(437) The other four moods are taken from the fact that the consequent of the major is a negative proposition. The first mood<sup>221</sup> occurs when the antecedent of both premises is an affirmative proposition. For example: 'If *a* exists *b* does not exist; if *c* exists *b* exists; therefore, if *c* exists *a* does not exist'. This is the fifth mood in the whole arrangement.

(438) The sixth mood occurs when the antecedent of the major is an affirmative proposition and the antecedent of the minor a negative proposition. For example: 'If *a* exists *b* does not exist; if *c* does not exist *b* exists; therefore, if *c* does not exist *a* does not exist'.

(439) (p. 96) The seventh mood occurs when the antecedent of the major is a negative proposition and the consequent of the minor an affirmative proposition. For example: 'If *a* does not exist *b* does not exist; if *c* exists *b* exists; therefore, if *c* exists *a* exists'.

(440) The eighth mood occurs when the antecedent of both premises is a negative proposition, as here: 'If *a* does not exist *b* does not exist; if *c* does not exist *b* exists; therefore, if *c* does not exist *a* exists'.

(441) Thus in all these syllogism I understand by *b*'s being and *b*'s not being two contradictories, no matter what they are, not two subcontraries. Thus by *b*'s being and *b*'s not being I do not understand propositions like 'A man runs' and 'A man does not run', but like 'A man runs' and 'No man runs'.

*Conditional Syllogisms in One Premise of Which  
the Condition-Sign Is Affirmed and in the Other Denied*

(442) Now that we have talked about affirmative conditional syllogisms in the second figure, we have to talk about conditional syllogisms in the same

221. That is the fifth, the first of the second four.

figure in one premise of which the condition-sign is affirmed and in the other it is denied. You have to know that in the second figure, if the condition-sign is affirmed in one proposition and denied in the other, while the consequent in both premises is the same, there is always a useful syllogism with respect to a negative conclusion in which the condition-sign is denied.

(443) But it needs to be considered whether in the major proposition the condition is affirmed or denied. If the condition-sign is affirmed in the major and denied in the minor, there is always a good syllogism that directly concludes the denial of the major's antecedent's following from the proposition that is antecedent in the minor proposition. For example, this syllogism is a good one: 'If *a* exists *b* exists; not if *c* exists *b* exists; therefore, not if *c* exists *a* exists'.

(444) This is argued by the rule 'What is not antecedent to a consequent is not antecedent to the antecedent'. This necessary rule is an immediate descendant of the rule 'Whatever is antecedent to an antecedent is antecedent to the consequent' [(262)]. For if the rule 'Whatever is antecedent to an antecedent is antecedent to the consequent' is true, the rule 'Whatever is not antecedent to a consequent is not antecedent to the antecedent' has to be true. For if some inference is good, the opposite of the antecedent has to be inferred from the opposite of the consequent. Thus if it follows: 'If something is antecedent to an antecedent, it is antecedent to the consequent', it must follow negatively the other way around—that is, so that if something is not antecedent to a consequent, it is not antecedent to the antecedent.

(445) But if the condition-sign is denied in the major and affirmed in the minor with respect to the same consequent, then there indirectly follows a conclusion (p. 97) in which the conditional denoting that the antecedent of the minor follows from the antecedent of the major is denied. For example, if one argues like this: 'Not if an animal runs a man runs; if Socrates runs a man runs', from these premises it correctly follows: 'Therefore, not if an animal runs Socrates runs'. And this is an indirect conclusion. For if it were concluded directly, the conclusion would not follow from the premises. For it does not follow: 'Not if an animal runs a man runs; if Socrates runs a man runs; therefore, not if Socrates runs an animal runs'. For the premises are true and the conclusion false.

(446) Now it is obvious that the indirect conclusion does follow. For if the minor were put in front, so that the minor became the major, it is obvious that the conclusion follows. For it follows: 'If Socrates runs a man runs; not if an animal runs a man runs; therefore, not if an animal runs Socrates runs', by the rule 'What is not antecedent to a consequent is not antecedent to the antecedent'.

(447) Hypothetical syllogisms like this, in which the condition-sign is af-

firmed in one of the premises and denied in the other, could be formed in many moods, and the ways of arguing with such syllogisms could be multiplied: (a) insofar as the antecedent of the major can be negative or affirmative; (b) and further, insofar as the antecedent of both conditionals can be affirmative, or (c) one affirmative and the other negative. This last occurs in two ways, because either the antecedent of the major is an affirmative proposition and the antecedent of the minor a negative proposition, or conversely. Or (d) the antecedent of both premises can be a negative proposition.

(448) Eight moods could be set up for hypothetical syllogisms in the second figure when one premise is an affirmative conditional and the other is a negative conditional. Nevertheless, for the sake of brevity, I leave this to the diligence of one who thinks about it.

(449) You have to know that in this figure the proposition I put first is the major and the one I put second is the minor. If the propositions are arranged the other way around, so that what in reality is the minor would occur before the major and would become the major, then one would have to conclude indirectly by denying in the conclusion a conditional in which the antecedent in the major proposition is denoted to follow from the antecedent in the minor proposition, as was seen [(445)].

(450) You have to know that if the condition is denied in the proposition that occurs first, that proposition is in reality the minor with respect to a direct conclusion. Yet it can be the major with respect to an indirect conclusion. (p. 98) Thus a conclusion never follows directly unless the condition is affirmed in the major and denied in the minor.

(451) It must also be understood that this figure, which I put as the second figure, Boethius in his *On Hypothetical Syllogisms*<sup>222</sup> seems to put as the third figure. I believe that in this respect I put it better.

(452) You have to know that when one argues in the second figure from two hypotheticals in one of which the condition-sign is affirmed and in the other denied, the middle is a proposition (namely, the consequent in both premises) that is affirmative in both premises or negative in both.

### CHAPTER 3: ON CONDITIONAL SYLLOGISMS IN THE THIRD FIGURE

(453) Now that we have made clear how and in how many moods conditional hypothetical syllogisms are formed in the second figure, the next thing

222. Boethius, *On Hypothetical Syllogisms*, Obertello, ed., III.iv.2.12–vi.4.41, pp. 338–354.

is to see how and in how many moods syllogisms are formed like this in the third figure. First it has to be seen how and in which moods affirmative conditional syllogisms are formed; second, how and in which moods negative syllogisms are formed. I call affirmative syllogisms those in which the condition-sign is affirmed in both premises; on the other hand, I call negative syllogisms those in which the condition-sign is affirmed in one of the premises and denied in the other.

(454) You have to know that the middle in this figure is the antecedent affirmed in one of the premises and denied in the remaining one of the premises. Thus the proposition that is the affirmed antecedent in one of the premises is the middle. Thus in this figure the middle should be affirmed in one of the premises and denied in the other. This holds for affirmative syllogisms.

(455) The middle in this figure stands on the side of the antecedent. For just as in categorical syllogisms the middle term is the subject in both of the premises in the third figure, so in hypothetical syllogisms the middle stands on the side of the antecedent in both premises in this figure.

(456) I said that the middle in this figure should be affirmed in one premise and denied in the other for affirmative syllogisms. For if it is affirmed or denied in both premises, the syllogism would not be valid and would not conclude any conclusion made from the extremities of the premises. For the argument would be by the false rule 'Whatever follows from an antecedent follows from the consequent' [(263)]. Thus if the same proposition (p. 99) is antecedent to two propositions, the one of them does not on this account have to be antecedent to the other.

(457) By this it is plain that syllogisms like the following are not valid: 'If you are every animal you are an ass; and if you are every animal you are a man; therefore, if you are a man you are an ass'. For the premises are true and the conclusion false. Thus here the argument is that because from 'You are every animal', which is antecedent to 'You are a man', the proposition 'You are an ass' follows, for this reason from 'You are a man', which is the consequent, the proposition 'You are an ass' follows. And so the argument is by the rule: 'Whatever follows from an antecedent follows from the consequent'.

(458) It is also plain that it does not follow: 'If you are everywhere you are in Rome; and if you are everywhere you are here; therefore, if you are here you are in Rome'. For the argument is by the false rule already stated.

(459) It is the same way if one negative proposition is the antecedent in both premises. No conclusion follows made from the extremities of the premises. For the argument is by the false rule 'Whatever follows from an antecedent', etc. And therefore, the move 'If you are not an animal you are not a man; if you are not an animal you are not an ass; therefore, if you are not an ass you are not a man' is not valid. For the premises are true and the conclusion false. Thus

the argument is that because from 'You are not an animal', which is antecedent to 'You are not an ass', there follows the proposition 'You are not a man', therefore from 'You are not an ass', which is the consequent, there follows the same proposition, namely 'You are not a man'. So the argument is by the rule 'What follows from an antecedent follows from the consequent' [(263)].

(460) Therefore, I say that in order for an affirmative conditional hypothetical syllogism to be formed in the third figure, the antecedent of one of the premises has to be an affirmative proposition and the antecedent of the other premise has to be a negative proposition contradicting the affirmative that is antecedent in the remaining one of the premises.

(461) You have to know that all useful affirmative conditional syllogisms in this figure hold by the rule 'Whatever follows from the opposite of an antecedent, the same thing follows from the opposite of the consequent'. This rule is a descendant of the main rule: 'Whatever follows from a consequent follows from the antecedent' [(261)]. This is plain. For if some inference is good, the opposite of the antecedent follows from the opposite of the consequent. Therefore, the opposite of the antecedent is a consequent of the opposite of the consequent, and therefore whatever (p. 100) follows from the opposite of the antecedent follows from the opposite of the consequent.

## Moods of the Third Figure

(462) Useful affirmative conditional syllogisms are formed in eight moods in this figure, four moods when the antecedent of the first conditional is an affirmative proposition, and four other moods when the antecedent of the first conditional is a negative proposition.

(463) You have to know that the conclusion in this figure for affirmative syllogisms can be formed in two ways: (a) in one way so that there is concluded a conditional in which the opposite of the consequent of the first conditional is the antecedent, and the consequent of the second conditional is the consequent. (b) In the other way, a conditional can be concluded in which the opposite of the consequent of the second conditional is the antecedent, and the consequent of the first conditional is the consequent. In either way the argument is by the rule: 'What follows from the opposite of an antecedent follows from the opposite of the consequent'.

(464) Therefore, I say there are four moods whereby conditional affirmative syllogisms are formed when the antecedent of the first conditional is an affirmative proposition. The first mood is like this: 'If *a* exists *b* exists; if *a* does not exist *c* exists; therefore, if *b* does not exist *c* exists. The argument is that because

from '*a* does not exist', which is the contradictory of the antecedent of the first conditional, there follows '*c* exists', therefore from the opposite of the consequent of the first conditional, namely from '*b* does not exist', there follows the proposition '*c* exists'. So the argument is by the rule 'What follows from the opposite of an antecedent follows from the opposite of the consequent'.

(465) Another conclusion can also be concluded from the same premises, namely 'If *c* does not exist *b* exists'. For it follows: 'If *a* exists *b* exists; if *a* does not exist *c* exists; therefore, if *c* does not exist *b* exists'. The argument is that because *c*'s existing is consequent to *a*'s not existing, and from the opposite of '*a* does not exist', namely from '*a* exists', there follows '*b* exists', therefore from the opposite of '*c* exists', namely from '*c* does not exist', there follows the same proposition '*b* exists'. So the argument is by the rule 'What follows from the opposite of an antecedent follows from the opposite of the consequent'.

(466) Nevertheless you have to know that a conclusion made out of the opposite of the consequent in the minor and out of the consequent in the major—that conclusion follows directly. But a conclusion made out of the opposite of the consequent of the first conditional as out of the antecedent and out of the consequent of the second conditional as out of the consequent—that one follows indirectly. For the minor extremity is concluded of the major extremity.

(467) (p. 101) The second mood is formed like this: 'If *a* exists *b* exists; if *a* does not exist *c* does not exist'. Two conclusions follow, (a) one directly: 'If *c* exists *b* exists', and (b) the other indirectly: 'If *b* does not exist *c* does not exist'. Either conclusion follows by the rule 'Whatever follows from the opposite of an antecedent follows from the opposite of the consequent'.

(468) The third mood is formed as follows: 'If *a* exists *b* does not exist; if *a* does not exist *c* exists'. Two conclusions follow, (a) one directly: 'If *c* does not exist *b* does not exist', and (b) the other indirectly: 'If *b* exists *c* exists'. Either conclusion follows by the general rule for this whole figure [(461)].

(469) The fourth mood is as follows: 'If *a* exists *b* does not exist; and if *a* does not exist *c* does not exist'. Two conclusions follow. (a) One follows directly: 'If *c* exists *b* does not exist'. (b) The other follows indirectly: 'If *b* exists *c* does not exist'. Either conclusion follows through the general rule 'Whatever follows from the opposite of an antecedent follows from the opposite of the consequent'.

(470) Affirmative conditional syllogisms are formed in four other moods when the antecedent of the first conditional is negative. In one mood as follows: 'If *a* does not exist *b* exists; if *a* exists *c* exists'. From these premises two conclusions follow, (a) one directly: 'If *c* does not exist *b* exists', and (b) the other indirectly: 'If *b* does not exist *c* exists'. This is the fifth mood.

(471) The sixth mood is: 'If *a* does not exist *b* exists; if *a* exists *c* does not

exist'. A twofold conclusion follows, (a) one directly: 'If *c* exists *b* exists', and (b) the other indirectly: 'If *b* does not exist *c* does not exist'.

(472) The seventh mood is: 'If *a* does not exist *b* does not exist; if *a* exists *c* exists'. Two conclusions follow, (a) one directly: 'If *c* does not exist *b* does not exist', and (b) the other indirectly: 'If *b* exists *c* exists'.

(473) The eighth mood: 'If *a* does not exist *b* does not exist; if *a* exists *c* does not exist'. One direct conclusion follows: 'If *c* exists *b* does not exist', and another indirect one: 'If *b* exists *c* does not exist'.

(474) You have to know that in each of the three figures two conclusions can follow. (a) One is direct, as when the proposition that is the major extremity stands on the side of the consequent and the proposition that is the minor extremity stands on the side of the antecedent. (b) An indirect conclusion can also be concluded, a conditional in which from (p. 102) the opposite of the consequent of the direct conclusion there is inferred the opposite of the antecedent of the same conclusion.

(475) Now that we have talked about affirmative conditional hypothetical syllogisms, we must see how negative conditional hypothetical syllogisms are formed in which the condition-sign is affirmed in one of the premises and denied in the other. You have to know that in this figure negative syllogisms are formed by the rule 'What does not follow from an antecedent does not follow from the consequent'. This rule descends from the rule 'Whatever follows from a consequent follows from the antecedent' [(261)]. For if this rule is true, then the opposite follows from the opposite. That is, 'Whatever does not follow from an antecedent does not follow from the consequent'.

(476) Negative syllogisms in this figure are formed in two ways: (a) in one way if the major is affirmative and the minor negative; (b) in another way if the major is negative and the minor affirmative. If the major is affirmative and the minor negative, then an indirect conclusion follows in which it is denoted that from the consequent of the major the consequent of the minor does not follow. For instance, it correctly follows: 'If a man runs an animal runs; not if a man runs a white thing runs; therefore, not if an animal runs a white thing runs'. The argument is by the rule 'What does not follow from an antecedent does not follow from the consequent'. For if from a man's running there follows an animal's running, then what does not follow from a man's running does not follow from an animal's running.

(477) But a direct conclusion does not follow. There is a counterexample. For it does not follow: 'If an animal runs a substance runs; not if an animal runs a man runs; therefore, not if a man runs a substance runs'. For the premises are true and the conclusion false.

(478) But if the major is negative and the minor affirmative, then a direct conclusion always follows in which it is denoted that from the consequent of



the minor the consequent of the major does not follow. For example, it correctly follows: 'Not if a man runs a white thing runs; if a man runs an animal runs; therefore, not if an animal runs a white thing runs'. The argument is by the rule 'What does not follow from an antecedent does not follow from the consequent'.

(479) Aristotle uses such a syllogism in the *Categories* [7 7<sup>b</sup>28–35], where he proves that the knowable is prior to knowledge. For he argues like this: When *animal* is destroyed, knowledge is destroyed; but when *animal* is destroyed the knowable is not (p. 103) destroyed; therefore, when knowledge is destroyed the knowable is not destroyed. Since therefore, when the knowable is destroyed knowledge is destroyed, it follows that the knowable is prior to knowledge.

(480) The proposition 'When *animal* is destroyed knowledge is destroyed' amounts to 'If there is no animal there is no knowledge'. And 'When *animal* is destroyed the knowable is not destroyed' amounts to 'Not if there is no animal there is no knowable'. The conclusion, namely 'When knowledge is destroyed the knowable is not destroyed', amounts to 'Not if there is no knowledge there is no knowable'.

(481) A syllogism can be formed from these propositions in two ways: (a) in one way, by putting the affirmative in front, like this: 'If there is no animal there is no knowledge; not if there is no animal there is no knowable'. The indirect conclusion follows: 'Not if there is no knowledge there is no knowable'. (b) In the other way, the syllogism can be formed by putting the negative in front, like this: 'Not if no animal exists no knowable exists; if no animal exists no knowledge exists'. The direct conclusion follows: 'Not if there is no knowledge there is no knowable'.

(482) These negative syllogisms could be multiplied (a) by the fact that the antecedent of the affirmative conditional is an affirmative or negative proposition, and (b) further, by the fact that the consequent of either is negative. So, many moods could be set out, just as for affirmatives, as is plain to any intelligent person.

#### CHAPTER 4: ON SYLLOGISMS FROM ONE CONDITIONAL AND ONE CATEGORICAL PREMISE

(483) After this, we have to see how syllogisms are formed from one conditional and one categorical premise. You need to know that syllogisms like this are formed in two ways: one way by positing the antecedent, the other way by

destroying the consequent. Those that are formed by positing the antecedent are called hypothetical syllogisms of the 'first form'. But those that are formed by destroying the consequent are called syllogisms of the 'second form'.

(484) Both kinds, syllogisms of the first form as well as syllogisms of the second form, are formed in two ways. In one way, from a conditional major and a categorical minor, which minor is exactly the antecedent in the major. In the other way, from a categorical minor that is the contradictory of the consequent of the major.

(485) For example: 'If a man runs an animal runs; but a man runs; therefore, an animal runs'. But this move is not in any figure. Rather it is called a syllogism (p. 104) of the 'prior form'. It holds through the topic 'from an antecedent'. The maxim is: 'When an antecedent is posited the consequent is posited too'.

(486) Likewise, a syllogism is formed by the destruction of the consequent, as here: 'If a man runs an animal runs; but no animal runs; therefore, no man runs'. This syllogism is not formed in any figure. Rather it is said to be formed in the 'second form'. It holds through the topic 'from the destruction of the consequent'. The maxim is: 'When a consequent is destroyed the antecedent is destroyed'.

(487) Syllogisms are formed in another way from one conditional premise and one categorical premise with the major a conditional when the subject of the antecedent of that conditional is a transcendental term and the minor is a categorical in which the predicate of the major's antecedent is said of the minor's subject in the same way as the predicate of the conditional's antecedent is said of the subject of the conditional's [antecedent]. For example, if the predicate of the antecedent of the major is said affirmatively of the subject of the antecedent, then the minor will be an affirmative in which the same thing is predicated as is predicated in the antecedent of the major. And if the antecedent of the conditional that is the major is a negative, the minor will be a negative.

(488) For example: 'If something is a man it is an animal; Socrates is a man; therefore, Socrates is an animal'. Or the following: 'Whatever is a man, it is an animal; Socrates is a man; therefore, Socrates is an animal'. Likewise, this syllogism is a good one: 'If something is not an animal it is not a man; Socrates is not an animal; therefore, Socrates is not a man'. Both<sup>223</sup> of these syllogisms are made in the first form.

(489) They are formed in another way when the predicate of the consequent in the conditional that is the major is said of the subject of the minor

223. There are *three* syllogisms given in this paragraph, not two. But the second is apparently intended as nothing more than a simple rewording of the first.

in the opposite way than it is predicated in the consequent of the major. For example, if it is said affirmatively in the consequent of the major, then in the minor it is said negatively of the subject of the minor, and if it is predicated negatively in the consequent of the major, then it is predicated affirmatively in the minor. In that case there is always a good syllogism when the subject of the antecedent in the conditional that is a major is a transcendental term. For example, this syllogism is a good one: 'Whatever is a man, it is an animal; a piece of wood is not an animal; therefore, a piece of wood is not a man'. Likewise this syllogism is a good one: 'Whatever is a stone, it is not an animal; a man is an animal; therefore, a man is not a stone'.

(490) These syllogisms, in which the predicate of the consequent in the major is predicated in the minor, are syllogisms of the second form. The truth of the matter is that they are formed in the second figure, and the middle term (p. 105) is the predicate in the consequent of the conditional that is the major. But syllogisms in which the predicate of the antecedent in the conditional that is the major is predicated in a minor that is a categorical are syllogisms of the prior form and are formed in the first figure. The middle term is what is the predicate in the antecedent of the major.

## Moods of Such Syllogisms

(491) These mixed syllogisms from one conditional and another categorical premise can be multiplied through the fact that the antecedent of the conditional can be affirmative or negative. If the antecedent is affirmative, there are two moods: one when the consequent of the conditional is affirmative, and the other mood when the consequent of the conditional is negative.

(492) But if the antecedent of the conditional is negative, then there are two other moods: one when the consequent of the conditional is affirmative, the other when the consequent of the conditional is negative. And in that case there are four moods in which hypothetical syllogisms are formed from one conditional and another categorical premise: two in which the antecedent of the conditional is affirmative, and two others in which the antecedent of the conditional is negative.

(493) Examples of these moods: The first mood: 'If something is *a* it is *b*; *c* is *a*; therefore, *c* is *b*'. The second mood: 'If something is *a* it is not *b*; *c* is *a*; therefore, *c* is not *b*'. The third mood: 'If something is not *a* it is *b*; *c* is not *a*; therefore, *c* is *b*'. The fourth mood: 'If something is not *a*, it is not *b*; *c* is not *a*; therefore, *c* is not *b*'.

(494) Likewise there are four moods in which hypothetical syllogisms are

formed in the second form—that is, when one argues from the destruction of the consequent: two moods in which the antecedent of the major is an affirmative proposition, and two other moods in which the antecedent of the major is a negative proposition. For when the antecedent is an affirmative proposition the consequent can indifferently be either an affirmative or a negative proposition. And likewise if the antecedent is a negative proposition, the consequent can indifferently be either an affirmative or a negative proposition.

(495) The first mood is: ‘If something is *a* it is *b*; *c* is not *b*; therefore, *c* is not *a*’. The second mood: ‘If something is *a* it is not *b*; *c* is *b*; therefore, *c* is not *a*’. The third mood: ‘If something is not *a* it is *b*; *c* is not *b*; therefore, *c* is *a*’. The fourth mood: ‘If something is not *a* it is not *b*; *c* is *b*; therefore, *c* is *a*’.

(496) You have to know that when the subject of the antecedent in a conditional is a transcendental term, then a syllogism is formed when (p. 106) the predicate of the antecedent of the major is predicated in the minor of another subject than the subject of the antecedent of the major in the same way as it is predicated in the antecedent of the major, as was said [(487)]. But if the subject of the antecedent of the major is not transcendental, but rather a special term,<sup>224</sup> the syllogism is not valid.

(497) For example, if one says ‘If every man is an animal every man is a body; Socrates is an animal; therefore, Socrates is a body’, certainly this is not a syllogism. Neither too is a syllogism formed if one argues like this: ‘If every man is an animal every man is a body; and Socrates is a man; therefore, Socrates is a body’.

(498) You have to know that in the third figure a syllogism is not formed from one conditional and another categorical premise. Thus from the premises: ‘If a man runs a risible thing runs’ and ‘Every man is an animal’, there does not follow any conclusion. For a conditional conclusion does not follow, and neither does a categorical conclusion. For it does not follow: ‘If a man runs a risible thing runs; every man is an animal; therefore, if an animal runs a risible thing runs’. For the premises are true and the conclusion false. Neither does it follow: ‘If a man runs a risible thing runs; every man is an animal; therefore, an animal runs’. For the premises are necessary and the conclusion contingent.

(499) You have to know that hypothetical syllogisms of the first form are syllogisms perfect and evident by themselves. But hypothetical syllogisms of the second form are nonevident. Nevertheless they are necessary. Their necessity is demonstrated through the impossible,<sup>225</sup> as follows: ‘If *a* exists *b* exists; but *b* does not exist; therefore, *a* does not exist’. If it is given that the conclusion

224. A term that is not a transcendental term.

225. That is, by *reductio ad absurdum*.

does not follow, let the opposite of the conclusion be given, namely '*a* exists'. Therefore, these propositions would be compatible: '*If a exists b exists*' and '*b does not exist*', and yet '*a exists*'. Therefore, '*a exists*' is compatible with '*b does not exist*'. But it follows: '*a exists; therefore, b exists*', as the major says; and whatever is compatible with an antecedent is compatible with the consequent [(269)]; therefore, if '*b does not exist*' is compatible with '*a exists*', it follows that '*b does not exist*' will be compatible with '*b exists*'. So contradictions will be compatible, which is impossible.

### *Part Three: On Other Hypothetical Propositions*

(500) Now that we have talked about conditional hypotheticals, it remains to treat the other species of hypothetical propositions, such as the copulative, the disjunctive, the temporal, and propositions reducible to these. This part will contain two subparts. The first is about such (p. 107) explicit hypotheticals. The second treats implicit hypotheticals, such as exceptives, exclusives, reduplicative propositions, and the like, which are expounded by explicit propositions. The purpose of the first subpart will be contained in one chapter.

#### SUBPART 1: ON OTHER EXPLICIT HYPOTHETICALS

##### Chapter 1

(501) It has to be understood that five species of hypothetical proposition are commonly assigned: the conditional, the causal, the temporal, the copulative, and the disjunctive. Nevertheless, more species can be assigned, because every true or false proposition that consists of many categoricals joined by means of a conjunction or adverb is a hypothetical. Now there are many other true or false propositions that consist of different categoricals, like '*As is the master in the schools, so is the captain in the ship*'. Similarly, '*Socrates is moved where he runs*', and the like.

(502) Nevertheless, it can be said that such propositions are reducible to one of the five species mentioned. For the proposition '*As is the master in the*

schools', etc., amounts to a copulative, namely to 'The master is one way in the schools and the captain is that way in the ship'.

(503) You have to know that each species of hypothetical proposition is divided into the simple and the composite. A simple hypothetical is one that consists of two categoricals only, joined by means of a conjunction or adverb. But a composite hypothetical is one that consists of more than two categoricals. Thus one hypothetical can be formed out of three or four categoricals, as is plain. For this is one hypothetical: 'Socrates runs and Plato disputes and William reads'. Likewise a hypothetical proposition can be formed out of one hypothetical or several hypotheticals together with one categorical or several. For this is one hypothetical: 'Socrates or Plato runs and William disputes'. And this one likewise: 'If a man runs, Socrates runs or Plato runs', and so on.

(504) But in that case there is a doubt: In which species is a hypothetical like this, in which conjunctions or adverbs occur that naturally make specifically different hypotheticals? It has to be said that such propositions must be distinguished, insofar as one or another of the words that make a hypothetical proposition can be (p. 108) the main one. The whole proposition is denominated from the word that is the main one, and it is put in a species by that word.

(505) For example, the expression 'Socrates or Plato runs and Cicero disputes' must be distinguished according to amphiboly, insofar as there can be a disjoining of a coupling or a coupling of a disjoining. If it is a disjoining of a coupling, then it is a disjunctive proposition, because in that case the disjunction is between one categorical and one copulative: between the categorical 'Socrates runs' and the copulative 'Plato runs and Cicero disputes'. Thus the sense is: 'Socrates runs, or else Plato runs and Cicero disputes'. So it is a disjunctive, because the disjunctive conjunction is the main and formal one.

(506) But if the proposition is a coupling of a disjoining, then it is a copulative proposition, and one disjunctive and one categorical are coupled with one another. Thus, in that sense, there is a coupling formed between the disjunctive 'Socrates runs or Plato runs' and the categorical 'Cicero disputes'. The sense is: 'Socrates runs or Plato runs, and Cicero disputes'. So it is a copulative, because the copulative sign is the main and formal one.

(507) These various senses sometimes differ with respect to truth and falsehood. For example, 'Socrates runs or Plato runs if one of these runs', indicating Socrates and Plato, is ambiguous insofar as the disjunction can be on the condition or the condition on the disjunction. The first way it is false, assuming that Socrates does not run. For it is denoted that either Socrates runs or else, if one of these runs, Plato runs. And that is false, because in that case it is a disjunctive both parts of which are false. For the first part is false, namely

'Socrates runs'. And the second part is a false conditional, because the conditional 'If one of these runs, Plato runs' is false.<sup>226</sup>

(508) But if the condition is on the disjunction, then the proposition is one conditional, the antecedent of which is a categorical proposition and the consequent a disjunctive proposition. Thus the sense is 'If one of these runs, Socrates runs or Plato runs'. And that is true.

(509) This distinction has a place so to speak in all cases universally where two auxiliary or syncategorematic words occur. For each such expression can be distinguished insofar as one of those words can include the other or conversely. The one that includes the other is the main and formal one, and the one that is included is so to speak secondary and material.

(510) Now a doubt is usually raised whether a hypothetical proposition is one proposition. Some people say that one kind of hypothetical proposition is (p. 109) one and another kind not. A disjunctive, according to them, is one, but a copulative is not. Yet it seems to me that a proposition can be called one in two ways, either simply or by conjunction, as Aristotle says in the book *On Interpretation* [5 17<sup>a</sup>8–9]. A proposition that is simply one is a categorical proposition. But a proposition that is one by conjunction is a hypothetical proposition. And I understand by 'conjunction' any word that naturally makes a proposition hypothetical.

(511) Therefore, I say that no hypothetical proposition is simply one, but any hypothetical proposition is several by a plurality opposed to unity simply. Nevertheless any hypothetical is one by conjunction, and this unity is enough for contradiction. Thus any hypothetical proposition has a contradiction,<sup>227</sup> and one can truly respond to any hypothetical proposition with a single response.<sup>228</sup>

(512) Thus, it can be truly responded to a copulative by a single response. Neither does a true refutation of a respondent occur in this way, but only an apparent one. For example, if Socrates is at home and Plato is not, and someone asks 'Are Socrates and Plato at home or not?', and it is said that they are not, that is a true response. And a true refutation of the respondent does not occur in this way, but only an apparent one, as the Philosopher says in *Sophistic Refutations* II [= 17 175<sup>b</sup>31–<sup>a</sup>18].<sup>229</sup>

226. The conditional is being interpreted here as a *simple* inference in the sense given in (253).

227. That is, a proposition contradictory to it.

228. On the logic of 'responding' in the sense used here and in (512), see Stump "Obligations," and Spade, "Obligations."

229. In the Middle Ages, the *Sophistic Refutations* was divided into two books. The division came at the end of ch. 15 of the modern numbering.

(513) It has to be understood that in every hypothetical proposition the word through which the proposition is put in a species is the main one. Therefore, this is general to every hypothetical proposition: that contradiction should be directed to the affirmation and negation of the word that makes the proposition hypothetical in a determinate species. For the conjunction or adverb that makes the proposition hypothetical should not be affirmed in both contradictories, or denied in both. Rather it should be affirmed in one contradictory and denied in the remaining one. For that conjunction or adverb is the main thing affirmed in the affirmative, and therefore it should be the main thing denied in the negative.

(514) Once again, it must be noticed further that this is general to all cases, both hypotheticals and others: when some proposition actually includes many propositions that expound and exhaust the understanding of it, the contradictories of those propositions are the causes of truth for the contradictory of the same proposition. For example, because 'Only a man runs' is expounded, and its understanding exhausted, by the two propositions 'A man runs' and 'Nothing (p. 110) other than a man runs', therefore the contradictories of these two propositions are the causes of truth for 'Not only a man runs'. For the causes of truth for 'Not only a man runs' are the two propositions 'No man runs' and 'Another than a man runs', so that either of them implies 'Not only a man runs'. And not the other way around. Rather there is a fallacy of the consequent in arguing the other way around.

(515) Thus it is a general rule that when some things are actually and copulatively posited by one of a pair of contradictories, their contradictories are posited disjunctively by the other of the contradictories, so that just as the copulative formed out of the propositions that expound and exhaust the understanding of one of the contradictories is converted with the proposition, so the disjunctive formed out of the opposites of those propositions is converted with its opposite.

### *On Copulatives*

(516) Now that we have seen these general points, certain special ones must be seen. First, about copulatives, we have to say (a) what is required for the truth, possibility, and impossibility of a copulative, (b) what is the contradictory of a copulative, (c) whether or not one can form syllogisms with a copulative, and how.



THE TRUTH, POSSIBILITY,  
AND IMPOSSIBILITY OF COPULATIVES

(517) As for (a) the first point, you need to know that a copulative is a hypothetical proposition in which two or more categoricals are conjoined by means of the conjunction 'and', or something equipollent to it, so that the conjunction 'and' or its equipollent is the main thing in such a hypothetical.

(518)† For the truth of a copulative it is required that each part of it, which parts the conjunction 'and' primarily couples, be true.

(519) I said 'which parts the conjunction "and" primarily couples', because for the truth of a copulative it is not required that each categorical that is a part of it be true. For the copulative 'You are an ass or a man and God exists' is true, insofar as the coupling in it is on the disjunction. Nevertheless not every categorical that is a part of it is true. For 'You are an ass' is false. But the coupling is true, because both the parts that the conjunction 'and' primarily couples are true. For in this proposition the conjunction 'and' primarily couples a disjunctive proposition, namely 'You are an ass or a man', and a categorical, namely 'God exists', and both of these are true. Therefore, the copulative made out of them is true.

(520) Thus, in brief, for the truth of a copulative it is sufficient and required that all its main parts that the copulative conjunction couples be true.

(521) (p. 111) Now for the possibility of a copulative it is required that each main part of it be possible. For if some main part of it is impossible, then since the impossible can never be true it follows that that part can never be true and consequently the copulative can never be true, since for the truth of a copulative the truth of each part is required. So a copulative is impossible if one main part is impossible. Consequently, for the possibility of a copulative the possibility of each main part is required.

(522) But still, the possibility of each part is not *enough* for the possibility of a copulative. Rather together with this it is required that all the parts be compossible among themselves. For 'Socrates is white and Socrates is black' is impossible, because the parts of this copulative are impossible among themselves. So I say, therefore, that in order for a copulative to be possible, it suffices and is required that all the main parts be possible and compossible among themselves.

(523) From these statements it is plain what is sufficient and what is required for the impossibility of a copulative. For in order for some copulative to be impossible it suffices that some main part of it be impossible or that its main parts be impossible. And this is required for the impossibility of a copulative, that some part of it be impossible or its parts be impossible. (I

am talking about the main parts.) From this it is plain that every copulative is impossible the main parts of which are impossible.

(524) From this it is plain that although the impossible does not follow from the possible, nevertheless from possibles that are impossible among themselves the impossible does correctly follow. For it follows: 'Socrates is white and Socrates is black; therefore, the black is white'. The conclusion is impossible and the premises are possible. Yet because they are impossible, the impossible correctly follows from them. The cause of this is that when the premises are impossible, then the whole antecedent is impossible, and the impossible correctly follows from the impossible. Nevertheless from possibles and compossibles the impossible never follows.

*Doubt 1*

(525)† There is a doubt raised about these statements. For it does not seem that for the truth of a copulative it suffices that each part be true, because 'Adam and Noah existed' is false and yet each part of this copulative is true. For 'Adam existed' is true, (p. 112) and likewise 'Noah existed'. Now that 'Adam and Noah existed' is false is proved because every true proposition about the past was sometime true about the present. But 'Adam and Noah exist' was never true; therefore, 'Adam and Noah existed' is false.

*Doubt 2*

(526)† Again, it seems that a copulative can be true when each part of it is false. For 'Two and three are five' is true, and nevertheless each part is false. For 'Two are five' is false, and likewise 'Three are five'.

*Reply to Doubt 1*

(527) To the first doubt, it has to be said that 'Adam and Noah existed' is true. For it follows: 'Adam and Noah are dead, or past; therefore, Adam and Noah existed'. The antecedent is true; therefore, the consequent is too. And when it is said that this was never true about the present, I say that for the truth of a proposition about the past, where the act is put in the plural, it does not have to have some *one* proposition about the present that was sometime true. Instead it is sufficient that it have *several* propositions about the present that were sometime true. Thus 'Adam and Noah existed' has these two propositions about the present that were sometime true: 'Adam exists' and 'Noah exists'.

(528) If it is said, 'If Adam and Noah existed, it follows that Adam and Noah sometime existed; therefore, at some one time they existed', you have to state your reply by conceding 'Adam and Noah sometime existed'. And it does not

follow: 'They sometime existed; therefore, at some one time they existed'. For in order for some things to have existed sometime, it is sufficient that they have existed at some *times*, so that the one existed at one time and the other at another.

*Reply to Doubt 2*

(529)† For the second doubt, it has to be understood that whenever the word 'and' or the like occurs between two terms with respect to the other extreme, such an expression is ambiguous according to composition and division. In the sense of composition it is a categorical, and is not a copulative but rather a proposition with a coupled extreme. In the sense of division it is a copulative.

(530) Therefore, I say that 'Two and three are five' is ambiguous according to composition and division. In the sense of composition it is true, and in that case it is not a copulative but rather a proposition with a coupled subject. In the sense of division it is a copulative and is false because both parts are false.

THE CONTRADICTORY OPPOSITE OF A COPULATIVE

(531) Further, (b) the next thing to see is what is the contradictory opposite of a copulative. On this point, you have to know that because for the truth (p. 113) of a copulative it is sufficient and required that each part of it be true, therefore the contradictories of the parts of the copulative are the causes of truth for the contradictory of the copulative. And because a proposition's causes of truth taken under a disjunction are converted with that proposition, therefore I say that the contradictory of a copulative is equipollent to a disjunction composed of the contradictories of the parts of the copulative. For example, the contradictory of the copulative 'Socrates runs and Plato runs' is equipollent to the disjunctive 'Socrates does not run or Plato does not run'. Thus, in brief, the contradictory of a copulative is a disjunctive composed of the contradictories of the parts of the copulative.

*Doubt 1*

(532) But perhaps someone will speak to the contrary, as follows: The contradictory of 'Socrates runs and Plato runs' is 'Socrates does not run and Plato runs'; but 'Socrates does not run and Plato runs' is not a disjunctive but rather a copulative; therefore, the contradictory of a copulative is not a disjunctive but a copulative.

*Doubt 2*

(533) Again, whatever an affirmation affirms the denial denies; but ‘Socrates runs and Plato runs’ affirms that Socrates runs and also that Plato runs; therefore, its contradictory should deny both that Socrates runs and that Plato runs; therefore, the contradictory of ‘Socrates runs and Plato runs’ will be ‘Socrates does not run and Plato does not run’.

*Reply to Doubt 1*

(534) To the first of these, I say that ‘Socrates does not run and Plato runs’ has to be distinguished according to amphiboly, insofar as it can be a denial of a coupling or a coupling of a denial. If it is a denial of a coupling,<sup>230</sup> in that case the denial is referred to the conjunction ‘and’ and not referred to the verb ‘is’. So what the copulative ‘Socrates runs and Plato runs’ primarily affirms is denied. Thus, insofar as the proposition is the denial of a coupling, it is denoted that the copulative ‘Socrates runs and Plato runs’ is not true, and so it is the contradictory of ‘Socrates runs and Plato runs’. In that case it is not a copulative but a disjunctive. Thus it is equipollent to ‘Socrates does not run or Plato does not run’.

(535) But if the proposition is a coupling of a denial, in that case it is a copulative, and so the denial denies the first part and is not referred to the copulative conjunction. In that case it does not contradict ‘Socrates runs and Plato runs’. For, assuming that Socrates runs and Plato does not, both ‘Socrates runs and Plato runs’ and ‘Socrates does not run and Plato runs’ are false.

(536) (p. 114) One could argue against this as follows: ‘Socrates runs and Plato runs’ and ‘Not Socrates runs and Plato runs’ contradict one another, because there is no truer way to give a contradiction than to put a negation in front; but with singular propositions putting the negation in front or putting it later<sup>231</sup> makes no difference; therefore, ‘Socrates runs and Plato runs’ and ‘Socrates does not run and Plato runs’ contradict one another.

(537) It must be said in reply that ‘Not Socrates runs and Plato runs’ has to be distinguished, insofar as it can be a coupling of a denial (and in that case it does not contradict ‘Socrates runs’, etc.) and insofar as it can be a denial of a coupling (and in that case it does contradict ‘Socrates runs and Plato runs’). In the same way ‘Socrates does not run and Plato runs’, insofar as it is a denial of a coupling, contradicts ‘Socrates runs and Plato runs’. And when it is said that with singular propositions it makes no difference, etc., it must be said that this is true when the negation is referred to the same thing when it is put

230. In this sense, read it as ‘Socrates does not run-and-Plato-runs’.

231. That is, after the subject.

in front and when it is put later. If, however, it is referred to different things, then putting the negation in front or putting it later does make a difference.

(538) To the other doubt [(533)], when it is proved that 'Socrates runs and Plato runs' and 'Socrates does not run and Plato does not run' contradict one another, I say they do *not* contradict one another. For the same formal factor, namely the conjunction 'and', remains affirmed in both. And when it says 'Whatever an affirmation affirms', etc., it must be said that whatever an affirmation *primarily* affirms, the denial denies the same thing. But it is not true that the negation in a negative proposition denies whatever the affirmation affirms 'as a consequent' in the affirmative contradicting the negative. Now, however, in a copulative, the copulative conjunction is primarily affirmed, and the parts of the copulative are affirmed as a consequent. Therefore, in the negative propositions contradicting the copulative, the copulative conjunction is primarily denied.

(539) If someone says that a proposition in which a copulative conjunction is denied seems to be a copulative insofar as a copulative conjunction occurs there, and so a copulative contradicts a copulative, it must be said in reply that a proposition like that, in which a copulative conjunction is denied, is *not* a copulative, even though a copulative conjunction is expressed in it. For the copulative conjunction is not affirmed but rather denied, and the denial of a copulative is the positing of a disjunctive.

(540) To take an example of another kind, not every proposition is universal in which a common term determined by a universal quantifier is in subject position. For 'Not every man runs' is not universal but particular, because the universal quantifier is denied. (p. 115) In the same way, not every proposition is copulative in which the conjunction 'and' occurs.

#### HOW TO FORM SYLLOGISMS WITH COPULATIVES

(541) As for (c) the way to form syllogisms out of a copulative, you have to understand that when one of the premises is copulative there can be a hypothetical syllogism, even though properly such a move should not be called syllogistic. There can be a 'syllogism' like this whether both premises are copulative or one premise is copulative and the other categorical.

(542) As an example of the first sort, this move is a good one: 'Every man runs and every ass sleeps; Socrates is a man and Brownly is an ass; therefore, Socrates runs and Brownly sleeps'. Yet really there are two syllogisms here.

(543) There is an example of the second sort if one argues like this: 'Socrates runs and Plato runs; every man is Socrates or Plato; therefore, every man runs'.

(544) There can be another example if it is argued like this: 'Every man runs

and an ass runs; Socrates is a man; therefore, Socrates runs and an ass runs'. This move is a good one. But because such syllogisms are not much in use, I pass over them for now.

### *On Disjunctives*

(545) Now that we have talked about the copulative, the next thing to consider is the disjunctive. It is the proposition that is put together out of several categoricals by means of a disjunctive conjunction. Therefore, three things need to be seen about the disjunctive proposition: (a) First, what is sufficient and required for the truth, necessity, possibility, and impossibility of a disjunctive. (b) Second, it must be seen what is the contradictory of a disjunctive. And (c) third, how one is to argue or form syllogisms with disjunctives.

#### THE TRUTH, NECESSITY, POSSIBILITY, AND IMPOSSIBILITY OF DISJUNCTIVES

(546)† As for (a) the first point, you have to know that some people<sup>232</sup> say that for the truth of a disjunctive it is required that one part of it be true and the other false. For if both parts were true, the disjunctive would not be true. For a disjunction will not allow what it distinguishes to exist together, as Boethius says.<sup>233</sup>

(547) But that is not true. In fact, if both parts of a disjunctive are true, the disjunctive has to be true. This is plain in three ways. First, because if both parts of a disjunctive are true, one part of it is true; and if one part is true, the disjunctive is true; therefore, from first to last, if both parts of a disjunctive are true, the disjunctive is true.

(548) (p. 116) Second, like this: A disjunctive is a consequent of both parts of it; but if an antecedent is true the consequent is true; therefore, if both parts are true the disjunctive is true.

(549) Third, like this: A proposition having several causes of truth is true if all its causes are true; but the parts of a disjunctive are causes of truth for the disjunctive; therefore, if all the parts of a disjunctive are true, the disjunctive will be true.

(550)† As for Boethius' statement, I say that a disjunction does not allow what it disjoins to exist together by a 'togetherness of identity', because there

232. Some manuscripts insert in the margin here 'Giles' [i.e., Giles of Rome's] opinion' in the margin.

233. Boethius, *On Hypothetical Syllogisms*, Obertello, ed., III.xi.6.48-7.57, p. 388.

is no disjunction properly made between the same thing and itself. Nevertheless by a 'togetherness of truth' there is disjunction correctly made between things that are together by a 'togetherness of truth'.

(551)† Therefore, I say that for the truth of a disjunctive it is sufficient and required that one part of it be true. Whether the other part is true or not, a disjunctive is always true if one part of it is true. The reason for this is that a disjunctive is inferred from both parts of it; and for the truth of a consequent the truth of one antecedent of it is sufficient; and so for the truth of a disjunctive it is sufficient that one part of it is true.

(552) Likewise, for the truth of a disjunctive it is required that one part of it be true. For the parts of a disjunctive are the causes of the disjunctive's truth. But now in order for a proposition having several causes of truth to be true, it is required that some cause of its truth be true.

(553) Yet some people<sup>234</sup> say that, with propositions about the future on a contingent matter, for the truth of a disjunctive the truth of one part is not required. For 'Tomorrow there either is or is not a sea battle' is true, and yet neither part is true. Aristotle seems to say this in his book *On Interpretation* [9 18<sup>a</sup>33–19<sup>a</sup>39].

(554) Nevertheless it must be said that, in all cases, for the truth of a disjunctive the truth of one part is required. Thus with propositions about the future on a contingent matter, one of the contradictories is true and the other one false, according to the Philosopher, *On Interpretation I* [9 18<sup>a</sup>33–39]. Nevertheless, with propositions about the future on a contingent matter the truth is not so determinate as with propositions about the past.

(555) To understand this, you need to know that a proposition is called 'determinately' true in three ways: in one way, a proposition that is so determined to truth that it is impossible for it to be false is called determinately true. Only the necessary is called determinately true in this way. In one way, therefore, 'determinate' excludes the possibility (p. 117) for falsehood at any time, and so the necessary is determinately true.

(556) In another way, my expression 'determinately' can exclude the possibility for falsehood at the instant at which the proposition is determinately true. And in this way a contingent proposition about the present that does not depend on the future is determinately true. For 'I sit' is so determinately true at this instant that it is impossible for it to be false at this instant or in this instant.

(557) In the third way, 'determinately' can exclude falsehood, and not the *possibility* for falsehood, at the instant at which the proposition is true. In this

234. See Peter Aureol, *Commentary on the Sentences I*, d. 38, a. 3, in Schabel, "Peter Aureol on Divine Knowledge and Future Contingents," pp. 125–149.

way, a proposition about the future on a contingent matter is determinately true. For, assuming that the Antichrist will exist tomorrow and yet that this is contingent, the proposition 'the Antichrist will exist tomorrow' is so determinately true at this instant that it is not false in this instant. Yet it is *possible* that it be false in this instant, because from the fact it is that contingent that the Antichrist will exist tomorrow, it is possible that he will not exist tomorrow. And so it is possible that 'the Antichrist will exist tomorrow' is now false.

(558) The Philosopher hints at these three modes of determinate truth in *On Interpretation* I, near the end.<sup>235</sup> I say, therefore, that Aristotle does not deny that a proposition about the future on a contingent matter is determinately true. Rather he denies that it is as determinately true as is a proposition about the present that does not depend on the future.

(559) Therefore, I say that for the truth of a disjunctive in propositions about the future on a contingent matter it is required that one part be so true that it is not then false. Yet there is not required a determinate truth in one part such as is in the disjunctive proposition itself. For the disjunctive can be necessary while yet both parts are contingent.

(560) Now for the necessity of a disjunctive it is sufficient and is required that one part of it be necessary or that its parts contradict each other or are equipollent to contradictories. For the necessity of one part is not required for the necessity of a disjunctive. 'You sit or you do not sit' is necessary, and yet neither part is necessary. Nevertheless, for the necessity of a disjunctive it is sufficient that one part of it be necessary, because the disjunctive is a consequent of either part of it; but now the contingent does not follow from the necessary; and therefore if one part is necessary, it follows that the disjunctive is necessary.

(561) It suffices also for the necessity of a disjunctive that its (p. 118) parts be contradictory. For it is impossible that contradictories be false together; therefore, it is necessary that always one of the contradictories be true. And because of this it is necessary that a disjunctive composed of contradictories be necessary.

(562) From these facts, it is plain that the contradictory of a disjunctive composed of contradictories includes contradictories, so that it implies both contradictories. For from 'Not Socrates runs or does not run' there follow the two contradictories 'Socrates runs' and 'Socrates does not run'. For it follows: 'Not Socrates runs or does not run; therefore, Socrates runs'. For the opposite of the antecedent follows from the opposite of the consequent [(279)]. It also

235. The exact references are unclear, but to a first approximation: 9 18<sup>a</sup>39<sup>b</sup>-16 (way 1), 19<sup>a</sup>23-25 (way 2), and 19<sup>a</sup>28-29 (way 3).



follows: 'Not Socrates runs or does not run; therefore, Socrates does not run', because opposite follows from opposite, as is plain to one who looks at it.

(563) Now for the possibility of a disjunctive it is sufficient and is required that one part of it be possible. This is plain as follows: For if the disjunctive is possible, it follows that the disjunctive can be true; and since the disjunctive cannot be true without the truth of one part, it follows that if the disjunctive can be true, one part of it can be true; and if one part of it can be true, one part is possible; therefore, from first to last, if a disjunctive is possible, one part of it is possible. So for the possibility of a disjunctive the possibility of one part is required.

(564) Likewise, for the possibility of a disjunctive the possibility of one part is sufficient. For if one part is possible, one part can be true; and consequently the whole disjunctive can be true; and consequently the whole disjunctive is possible; therefore, from first to last, if one part is possible the disjunctive is possible.

(565) Now for the impossibility of a disjunctive the impossibility of both parts is required. The reason for this is that a disjunctive is a consequent of both of its parts; but now if a consequent is impossible, the antecedent has to be impossible; therefore, if a disjunctive is impossible, both parts of it have to be impossible.

#### WHAT IS THE CONTRADICTION OF A DISJUNCTIVE?

(566) Now that we have seen these things, we must see what is the contradictory of a disjunctive. You have to know that the contradictory of a disjunctive is a copulative made out of the contradictories of the parts of the disjunctive. For example, the contradictory of 'Socrates runs or Plato runs' is 'Socrates does not run and Plato does not run'. And therefore, the same thing suffices and is required for the truth of the contradictory of a disjunctive as suffices and is required for the truth of a copulative.

#### ON DISJUNCTIVE SYLLOGISMS

(567) (p. 119) As for the way to argue and form syllogisms with disjunctives, you have to know that one kind of disjunctive is composed of several categoricals by means of the conjunction 'or', and another kind is put together out of several categoricals by means of the conjunction 'whether'. Therefore, first we have to see how one is to argue with disjunctives in which the conjunction 'or' disjoins the categorical propositions, and second how one is to argue with disjunctives in which the conjunction 'whether' disjoins the categorical propositions.

*On Disjunctives Formed with 'Or'*

(568) As for the first point, you have to know that with disjunctives composed of many categoricals by means of the conjunction 'or' inferences hold in the same way as among categorical propositions. For just as the inference holds affirmatively from an inferior to its superior with categorical propositions, and negatively the other way around, it is the same way with disjunctives—unless perhaps an impropriety in what is taken in consequent-position prevents it.

(569) For example, it follows: 'A man runs or a man is white; therefore, an animal runs or a man is white'. And further: 'Therefore, an animal runs or an animal is white'. And so the inference holds affirmatively with disjunctives from an inferior to its superior.

(570) Nevertheless, sometimes perhaps this kind of inference is prevented because of an impropriety. For example, perhaps it does not follow: 'Socrates runs or Plato runs; therefore, Socrates runs or a man runs', because the consequent seems to be improper. Or if the consequent is said to be proper, it does not follow further: 'Socrates runs or a man runs; therefore, a man runs or a man runs'. For that consequent is *not* proper, since the same thing cannot be properly disjoined with itself.

(571) Yet it can be said that verbal impropriety does not prevent its truth or prevent its inference. Thus we can grant the inference: 'Socrates runs or Plato runs; therefore, a man runs or a man runs'. Even though the consequent is improper, it is nevertheless true or false.

(572) Further, you have to know that from a disjunctive together with the contradictory of one part the remaining part follows. Such an inference holds through the topic 'from division' through the maxim: 'When one part of a division or disjunctive is destroyed, the other part is posited'. And if there are more than two parts, then when all the parts but one are destroyed, that one part has to be posited.

(573) An example of the first sort: 'Socrates is healthy (p. 120) or ill; but Socrates is not healthy; therefore, Socrates is ill'. As an example of the second sort, it follows: 'Socrates is white or black or colored with some intermediary color; but Socrates is neither white nor black; therefore, Socrates is colored with an intermediary color'.

*Objection 1*

(574) But there seem to be counterexamples against the stated rule. For it does not follow: 'You are an ass or are not an ass; but you are not an ass; therefore, you are an ass'. Yet here it is argued in the manner mentioned, namely through the topic 'from division'.

*Objection 2*

(575)† Again, if this way of arguing were valid, any proposition, no matter how false, could be proved and any true proposition disproved. Thus it could be proved that ‘A man is an animal’ is false. Let the proposition ‘A man is an animal’ be *a*. Then I prove that *a* is false. I do it as follows: ‘A truth or a falsehood is in this proposition, namely in *a*; but a truth is not in *a*; therefore, a falsehood is in *a*; therefore, *a* is false’. Here the argument is through the topic ‘from division’; and the premises are true; therefore, the conclusion is true. It is plain that the premises are true. For the major is certainly true. And the minor is true, namely ‘A truth is not in *a*’. Proof: For its contradictory is false, namely ‘Every truth is in *a*’; therefore, ‘A truth is not in *a*’ is true.

(576) This is confirmed, because ‘A truth is not in *a*’ and ‘Some truth is not in *a*’ are converted with one another; and ‘Some truth is not in *a*’ is true; therefore, ‘A truth is not in *a*’ is true.

(577)† In the same way it can be proved that ‘A man is an ass’ is true, as follows: Let *b* be the name of the proposition ‘A man is an ass’. Then I argue as follows: ‘A truth or a falsehood is in *b*; and a falsehood is not in *b*; therefore, *b* is true; therefore, ‘A man is an ass’ is true’. Now that ‘A falsehood is not in *b*’ is true is proved, because its contradictory, ‘Every falsehood is in *b*’, is false; therefore, ‘A falsehood is not in *b*’ is true.

*Reply to Objection 1*

(578) To the first objection [(574)], I say it does not follow: ‘You are an ass or are not an ass; and you are not an ass; therefore, you are an ass’. Neither is the argument through the topic ‘from division’. For an argument holding through the topic ‘from division’ occurs when from a disjunctive together with the contradictory of one part the other part is inferred. But here from a disjunctive together with the contradictory of one part the same part is inferred. For from the disjunctive together with the contradictory of ‘You are an ass’ the same ‘You are an ass’ is inferred, and therefore the conclusion does not follow.

(579) Yet the remaining part, other than the part that is destroyed in the minor, correctly follows. For it correctly follows: ‘You are an ass or (p. 121) are not an ass; and you are not an ass; therefore, you are not an ass’. Thus, when one part of a disjunctive is destroyed, the other part is posited and not the same one that is destroyed. Therefore, when ‘You are an ass’ is destroyed, ‘You are not an ass’ is posited.

*Reply to Objection 2*

(580)† To the other objection [(575)], I say it does not follow: ‘A truth or a falsehood is in this proposition; and a truth is not in this proposition; therefore, a falsehood is in this proposition’. For in order for an argument to be

valid through the topic 'from division', it has to argue from a disjunctive together with the contradictory of one part to the other part. But it is not argued like this here. Rather the argument is from a disjunctive together with the subcontrary of the one part to the other part. For 'A truth is in *a*' and 'A truth is not in *a*' are subcontraries.

(581) But if the contradictory of the one part were taken, the inference would be a good one, but the minor would be false. Thus it correctly follows: 'A truth or a falsehood is in *a*; and no truth is in *a*; therefore, a falsehood is in *a*'. But the minor is false.

(582) I say the same thing for the other example [(577)]: 'A truth or a falsehood is in *b*; and a falsehood is not in *b*; therefore, a truth is in *b*'. For the contradictory of the one part is not taken, but rather the subcontrary.

*On Ways of Forming Syllogisms from Disjunctives*

(583)† As for the way of forming syllogisms with disjunctives, it has to be understood that whenever the word 'or' occurs between two terms the locution is ambiguous according to composition and division, insofar as the word 'or' can disjoin either terms or propositions. If it disjoins terms, then the proposition is not a hypothetical; rather it is a categorical with a disjoined extreme. But if the 'or' disjoins propositions, then the proposition is a disjunctive hypothetical. In the sense of composition the 'or' disjoins the terms; in the sense of division it disjoins propositions.

(584) By means of this distinction all sophisms like 'Everything good or not good is to be chosen' and 'Every proposition or its contradictory is true' are solved. For both of these propositions are true in the sense of division and false in the sense of composition. And it is in the sense of composition that they enter into a categorical syllogism.

(585) For this is a categorical syllogism: 'Everything good or not good is to be chosen; evil is good or (p. 122) not good; therefore, evil is to be chosen', taking the major in the sense of composition. For in that case the major is false, because the whole disjoint term 'good or not good' is distributed over everything of which that whole is said. And therefore, it is denoted that everything of which the whole 'good or not good' is said is to be chosen.

(586) In the same way, 'Every proposition or its contradictory is true' is false in the sense of composition. For the whole 'proposition or its contradictory' is distributed, and it is denoted that everything of which the whole 'proposition or its contradictory' is said is true. And that is false.

(587) It is in the sense of composition that it enters into a categorical syllogism. Thus the syllogism 'Every proposition or its contradictory is true; "You are an ass" is a proposition or its contradictory; therefore, that you are an ass is true' is a good one, taking the major in the sense of composition.

(588) Suppose someone says each singular is true in the sense of composition, because when each proposition is indicated, 'This proposition or its contradictory is true' is true. It must be said in reply that many of its singulars are false in the sense of composition. Thus, indicating 'You are an ass', 'This proposition or its contradictory is true' is false in the sense of composition. For just as in 'Every proposition or its etc.' the whole 'proposition or its contradictory' is distributed, so in each singular this whole should be signified. Thus the sense of each singular is that *this*, which is a proposition or its contradictory, is true. Thus the truth of each singular depends on two things: (a) that this thing that is indicated be true and (b) that this thing be a proposition or its contradictory. Therefore, I say that, indicating 'You are an ass', 'This proposition or its contradictory is true' is false in the sense of composition. For it is denoted that *this*, which is a proposition or its contradictory, is true.

(589) But in the sense of division propositions like 'Every proposition or its contradictory is true' are true, because in that sense they are disjunctive hypotheticals and hypothetical syllogisms can be formed from them. Thus the syllogism 'Every proposition or its contradictory is true; 'You are an ass' is a proposition; therefore, 'You are an ass' or its contradictory is true' is a good one in the sense of division.

(590) This is how the syllogism has to be formed. For it is a general rule that the same thing that is distributed in the major in the first figure should be predicated in the minor, and nothing else; but in the sense of division nothing is distributed in 'Every proposition or its contradictory is true' but the (p. 123) term 'proposition', because the understanding is 'Every proposition is true or its contradictory is true'; therefore, the term 'proposition' should be predicated in the minor. Therefore, one must form the syllogism in the way stated.

#### *On the Word 'Whether'*

(591)† Next are hypothetical propositions in which the conjunction 'whether' disjoins categorical propositions. You have to know that the word 'whether' exercises disjunction and also interrogation. Yet it more principally exercises disjunction, because wherever it occurs it always exercises disjunction, but it does not always exercise an interrogation. This is plain. For when someone says 'You know whether Socrates runs', it does not exercise interrogation.

(592) There is a rule given about the word 'whether', such that whenever it occurs once in an expression, it disjoins contradictory opposites. For example, to say 'You know whether Socrates runs' is the same as to say 'You know whether Socrates runs or does not run'. But when the word 'whether' occurs

twice, it disjoins things found<sup>236</sup> or proposed. Thus it is usually said that 'whether' occurring once disjoins opposites, but 'whether' occurring twice disjoins things proposed.<sup>237</sup>

(593)† Again, there is a rule that an inference from an inferior term to its superior does not hold with the word 'whether'. Neither does an inference hold from a universal to a particular with the word 'whether'. For it does not follow: 'You know whether a man runs; therefore, you know whether an animal runs'. For, positing that you know that no man runs and do not know whether any other animal runs, in that case 'You know whether a man runs' is true and 'You know whether an animal runs' is false.

(594) Likewise it does not follow: 'You know whether every man runs; therefore, you know whether Socrates runs'. For, positing that you know that you sit and do not know if Socrates runs or not, 'You know whether every man runs' is true, because you know that *not* every man runs, and 'You know whether Socrates runs' is false.

(595)† From this it is plain that the inference from the word 'whether' occurring once to the word 'whether' occurring twice does not hold unless the disjunction takes place between contradictory opposites in the consequent, and in that case the inference is a good one. For it follows: 'You know whether Socrates runs; therefore, you know whether Socrates runs or does not run'. Nevertheless, it does not follow: 'You know whether Socrates runs; therefore, you know whether Socrates runs or Plato', insofar as the consequent has a disjoint predicate. For, assuming that you know that Socrates does not run and doubt whether Plato (p. 124) runs, in that case 'You know whether Socrates runs' is true and 'You know whether Socrates runs or Plato runs' is false, because you do not know whether 'Socrates runs or Plato runs' is true.

### *On Causals*

(596) Next is the causal proposition. A causal proposition is one that is put together out of several categoricals by means of the conjunction 'because' or something equivalent to it. For example 'Socrates is risible because he is a man'. Likewise, 'Socrates walks in order to be made healthy'. For this amounts to 'Socrates walks because he wants to be made healthy'. This is a causal too: 'Socrates learns lest he be ignorant'.

236. For the sense of 'things found' here, see n. 122 to the *Shorter Treatise*, above.

237. For example, William of Sherwood, *Treatise on Syncategorematic Words*, 150.

## THE TRUTH OF CAUSALS

(597) For the truth of a causal it is required that each part of it be true. And together with this it is required that the antecedent be the cause of the consequent. I call the 'antecedent' the proposition that immediately follows the conjunction 'because' or its equipollent. Thus, when one says 'Socrates is risible because he is a man', the proposition 'Socrates is a man' is the antecedent and the proposition 'Socrates is risible' is the consequent.

(598) Because for the truth of a causal the truth of both parts is required, and together with this that the antecedent be the cause of the consequent, therefore a causal proposition is equipollent to a copulative made out of the parts of the causal and a proposition saying that the antecedent is the cause of the consequent. Thus the proposition 'Socrates is risible because he is a man' is equipollent to the copulative made of three propositions: 'Socrates is risible', 'Socrates is a man' and '“Socrates is a man” is the cause whereby Socrates is risible'.

THE NECESSITY, POSSIBILITY,  
AND IMPOSSIBILITY OF CAUSALS

(599) For the necessity of a causal proposition, it is required that both parts be necessary and that the antecedent be a necessary cause of the consequent. On the other hand, for the possibility of a causal there is required the possibility of both parts, the compossibility of the parts, and that the antecedent can be the cause of the consequent. But for the impossibility of a causal the impossibility of some part is not required. Rather the impossibility of the parts is enough, or that the antecedent cannot be the cause of the consequent.

## THE CONTRADICTION OF A CAUSAL

(600) From the above statements it is plain what the contradictory is of a causal proposition. For from the fact that for the truth of a causal proposition there is required the truth of both parts and also that the antecedent be the cause of the consequent, (p. 125) it follows that the contradictory of a causal has three causes of truth, namely the contradictory of both parts and also that the antecedent is not the cause of the consequent.

(601) For example, 'Not Socrates is rudible because he is an ass' has these three causes: 'Socrates is not rudible', 'Socrates is not an ass' and 'That Socrates is an ass is not the cause whereby he is rudible'. Because all the causes of truth for a proposition taken under a disjunction are equipollent to that proposition, therefore the contradictory of a causal is equipollent to a dis-

junctive made out of the contradictories of the parts of the causal and out of a proposition saying that the antecedent is not the cause of the consequent. Thus 'Not because Socrates is an ass Socrates is rudible' is equipollent to the disjunctive 'Socrates is not an ass or Socrates is not rudible or that Socrates is an ass is not the cause whereby Socrates is rudible'.

(602) From the statements already made it is plain that every causal proposition implies a copulative made out of the parts of the causal proposition, but not conversely. For the truth of both parts is required for the truth of a causal, and so a causal implies a copulative. But because for the truth of a causal proposition the truth of both parts is not enough, therefore a copulative made out of the parts of a causal does not imply the causal.

#### HOW TO FORM SYLLOGISMS FROM CAUSALS

(603) As for the way to form syllogisms out of causal propositions, we do not need to go on at length. For such syllogisms are used quite rarely. Nevertheless, you do need to know that there is a good syllogism in the first figure with both premises causal, when what is the antecedent in the major is the consequent in the minor, and the causality-sign<sup>238</sup> is taken uniformly in the major and in the minor in such a way that it expresses the same causality according to genus and the same manner of causality in that genus. This is argued by the rule 'Whatever is the cause of a cause in some genus of cause and according to some manner of causing, it is a cause of the caused in the same genus and according to the same manner of causing'.

(604) But if the causality-sign is taken in different ways, so that it does not express the same causality according to genus in the major and in the minor, or not the same manner of causality, then the syllogism is invalid on account of a variation of the genus or the manner of causality.

(605) An example of the first sort: The syllogism 'Because *a* exists, *b* exists; because *c* exists, *a* exists; therefore, because *c* exists, *b* exists' is a good one. This is so if 'because' in the premises expresses the same causality and the same manner of causality. This holds by the rule stated above: 'Whatever is the cause of a cause in some genus of cause', etc. [(603)].

(606) An example of the second sort: It does not follow: 'Because Socrates works Socrates will be healthy; because Socrates will be healthy Socrates (p. 126) works; therefore, because Socrates will be healthy Socrates will be healthy'.<sup>239</sup> For the same causality according to genus is not taken in the major

238. That is, the word 'because' or its equivalent.

239. Read the minor premise in the sense, 'In order that Socrates will be healthy, Socrates works'. Compare the explanation at the end of the paragraph.



and in the minor. For 'because' in the major expresses efficient causality and in the minor it expresses final causality. Yet what is the antecedent in the major is the consequent in the minor. Nevertheless, because 'because' expresses a different causality in the major than in the minor, a syllogism in the first figure is not valid.

(607) For example, this move is not valid: 'Because something is seen from farther away, therefore it appears smaller; because something is larger, therefore it is seen from farther away; therefore, because something is larger, therefore it appears smaller'. For the major and minor are truncated propositions. If they are completed and their understanding is expressed, the consequent in the minor will not be the same as was the antecedent in the major. For example, the understanding of the major, insofar as it is true, is 'Because something is seen from farther away, therefore it appears smaller than it would appear from nearby'. And the understanding of the minor, insofar as the minor is true, is 'Because something is larger, therefore it is seen from farther away than if it were smaller'. Now it is certain that these premises are unconnected. Neither is the same thing the consequent in the minor and the antecedent in the major. For the antecedent in the major is that something is seen from farther away, and the consequent in the minor is that it is seen from farther away than a smaller thing would be seen.

(608) Thus there is certainly no relation here: 'Because something is seen from farther away, therefore it appears smaller than it would appear from nearby; and because something is larger, therefore it is seen from farther away than a smaller thing would be seen; therefore, because something is larger, therefore it appears smaller'. Rather there is a fallacy of accident from a variation of the middle.<sup>240</sup>

#### *A Sophism*

(609) From this the solution to the following sophism is plain: †To the extent you are thirstier, to that extent you drink more; to the extent you drink more, to that extent you are less thirsty; therefore, to the extent you are thirstier, to that extent you are less thirsty'. †Likewise, 'To the extent something is larger, to that extent it is seen from farther away; and to the extent it is seen from farther away, to that extent it appears smaller; therefore, to the extent something is larger, it appears smaller'.

<sup>240</sup>. That is not the only problem. The consequent of the first premise is not the consequent of the conclusion either.

*Reply to the Sophism*

(610) The solution consists of this, that just as with conditionals, in order for an inference to hold from first to last it is required that the same thing that is the consequent in the first conditional be the antecedent in the second, as was said in the first part of this tract [(307)–(310)], so with causals, in order for a causal proposition or inference to hold (p. 127) from first to last the same thing that is the consequent in the first causal has to be the antecedent in the second. Otherwise there is a fallacy of accident from a variation of the middle.

(611) But this is not so with the reasoning behind the sophisms stated above, as is manifestly plain. For the understanding of the first causal, insofar as it is true, is: 'To the extent you are thirstier, to that extent you drink more than if you were less thirsty', so that the consequent in this is the whole 'you drink more than if you were less thirsty'. But the antecedent in the second causal is the proposition 'You drink more' or 'You drink more than if you drank less'. Thus the understanding of the second causal, insofar as it is true, is: 'To the extent you drink more, to that extent you are less thirsty than if you drank less'. Certainly, in these propositions the same thing is not the consequent in the first causal as is the antecedent in the second causal. It is the same way for the reasonings behind the other sophism, namely 'To the extent something is larger, etc.'.

(612) Suppose it is said: 'I do not want to complete these propositions. Instead, I want to argue from them absolutely. And then the same thing certainly *is* the antecedent in the second as is the consequent in the first'. It has to be said in reply that such propositions are truncated, and therefore one must not respond to them until they are completed, according to Aristotle's teaching.<sup>241</sup>

(613) You must know that such propositions, in which there occur words like 'to that extent' and 'to the extent', can be indifferently causal or conditional. Thus they have to be distinguished insofar as 'to that extent' can express inference or causality. However they are taken, in the sophisms stated above there is certainly a variation that causes a fallacy of accident. For the same thing is not the antecedent in the second conditional or causal as is made the consequent in the first conditional or causal.

(614) You have to know that with causals syllogisms can be formed in every figure, and in each figure syllogisms can be multiplied by the different moods just as with conditional hypotheticals. But I pass over that on account of its tediousness. For from the statements here and from the statements above where we were arguing about conditional hypothetical syllogisms [(397)–(499)], a good intellect can easily arrive at the art of forming syllogisms with causals.

241. The reference is uncertain but see perhaps *Sophistic Refutations* 22 178<sup>a</sup>4–28.

### *On Temporals*

(615) Now that we have talked about the causal [hypothetical], we have to talk about the temporal hypothetical. A temporal hypothetical is one that is put together out of several categoricals by means of an adverb of time. For example, (p. 128) ‘Socrates runs while Plato sits’ is a temporal. And likewise ‘Socrates was white when Plato was black’.

(616) As for the truth, necessity, possibility, and impossibility of temporals, you need to know that some adverbs of time express togetherness in time and some express priority or posteriority in time. An example of the first kind: ‘while’, ‘when’, and the like express togetherness in time. But ‘beforehand’, ‘afterwards’, and the like express priority or posteriority in time.

#### THE TRUTH OF TEMPORALS

(617) For the truth of a temporal in which categorical propositions are conjoined by means of an adverb conveying togetherness in time it is required that both parts be true at the same time. For if the parts of such a temporal are propositions about the present, then it is required that both parts are now true at this present time. If they are about the past, it is required that both parts were true at some past time—that is, that their corresponding propositions about the present were true at some past time. And if they are propositions about the future, then it is required that both parts will be true at some future time—that is, that their corresponding propositions about the present will be true at some one future time.

(618) For it is not enough for the truth of a temporal of which both parts are about the past that those parts, the propositions about the past, were sometime true at some one past time. For if that were enough, then ‘Socrates was white when he was black’ would be true, and likewise ‘Socrates was asleep when he was awake’. For both of ‘Socrates was asleep’ and ‘Socrates was awake’ were true at the same adequate time<sup>242</sup> and even at the same instant. For at the first instant of this day both of them were true. And yet the temporal ‘Socrates was asleep when he was awake’ is false.

(619) Therefore, I say that for the truth of such a temporal, where both parts are about the past or about the future, it is required that the propositions about the present corresponding to those about the past were true together in the same adequate time or in the same instant.<sup>243</sup> And because the two propo-

242. That is, it is not just that they were true during *different parts* of some one interval, but that they were both true *throughout the whole* of some one interval.

243. And correspondingly where both parts are about the future.

sitions 'Socrates is asleep' and 'Socrates is awake' were never true together, therefore 'Socrates was asleep when he was awake' is false.

(620) Therefore, I say that for the truth of a temporal in which categorical propositions are conjoined by means of an adverb of time conveying togetherness in time, if those categoricals are about the present it suffices and (p. 129) is required that both parts be true at the same present time. If they are about the past, it suffices and is required that the propositions corresponding to those parts about the past were sometime true together at the same already past time. And if they are about the future, it suffices and is required that the propositions about the present corresponding to those about the future will be true at the same time.

(621) On the other hand, if the temporal is one in which categorical propositions are conjoined by means of an adverb of time that conveys an order, that is priority or posteriority in time, then the parts of that temporal have to be about the past or about the future. If the parts of such a temporal are propositions about the past, then for the truth of such a temporal it is required that the propositions about the present corresponding to the parts of the temporal were true at different times. For example, for the truth of 'Noah existed after Adam existed' it is required that the propositions 'Adam exists' and 'Noah exists' were true at different times.

(622) It does not have to be, on this account, that those propositions about the present were never true at the same time. Rather it suffices that they were true at different times. For example, 'Aristotle existed after Plato existed' is true, because 'Plato exists' and 'Aristotle exists' were true in some different times in such a way that the one was true when the other was false. Nevertheless 'Aristotle exists' and 'Plato exists' were sometime true together.

#### THE NECESSITY, POSSIBILITY, AND IMPOSSIBILITY OF A TEMPORAL

(623) For the necessity of a temporal it is required that both parts be necessary. Thus 'Socrates is moved when he runs' is contingent, because the parts are contingent. If it is said that 'When Socrates runs Socrates is moved' or 'Whenever Socrates runs Socrates is moved' seems necessary, it must be said that such adverbs of time are sometimes taken (a) absolutely, and in that case they make a temporal proposition. Sometimes they are taken (b) conditionally, and in that case they do not make a temporal hypothetical but rather make a conditional hypothetical.

(624) I say therefore, that 'When Socrates runs Socrates is moved' is ambiguous insofar as 'when' can be taken (a) merely temporally, and in that case the sense is 'Socrates sometimes runs, and then he is moved'. And thus 'When

Socrates runs Socrates is moved' is contingent. Or 'when' can be taken (b) conditionally, and in that case the sense is 'Whenever (p. 130) Socrates runs, then Socrates is moved'. This is the same as saying 'If Socrates sometimes runs, then<sup>244</sup> Socrates is moved'. And thus 'When Socrates runs Socrates is moved' is necessary. But in that case it is not a temporal, but is rather a conditional.

(625) You have to know too that when an adverb of time occurs between two terms, such an expression can be ambiguous according to composition and division, insofar as it can be either a temporal proposition or else a proposition with a temporal extreme. For example, the expression 'Everything that is, when it is, necessarily is' [*On Interpretation* 9, 19<sup>a</sup>23–24] is ambiguous according to composition and division insofar as it can be either a temporal proposition or a proposition with a temporal extreme.

(626) In the sense of division it is a temporal and true, and the sense is 'Everything that is necessarily is when it is'. And thus 'necessarily' does not express necessity simply, but only expresses necessity *at* the time when it is. In the sense of composition, the whole 'that is when it is' is the subject, and it is denoted that everything of which this whole is said—namely, 'that is when it is'—everything like that necessarily is. And thus it is false. For of everything that is it is true to say that it is when it is; yet not everything that is necessarily is.

(627) For the possibility of a temporal made by means of an adverb of time that conveys togetherness, it suffices that both parts can be true at the same time. But if it is a temporal made by means of an adverb of time that conveys an order of priority or posteriority, then for its possibility it suffices that both parts could be true at different times.

(628) For the impossibility of a temporal made by means of an adverb of time that conveys togetherness, it suffices that one part be impossible or that the parts be impossible. But if the temporal is made by means of an adverb of time that conveys an order of priority or posteriority, then it suffices for its impossibility that its parts be convertible, so that the one cannot be true without the other.

#### THE CONTRADICTION OF A TEMPORAL

(629) (p. 131) From the above statements it is apparent what the contradictory of a temporal is. For the opposite of a temporal is a disjunctive made out

244. The 'then' is ambiguous. It might be taken simply as the correlative of 'if' and so as making no special reference to time. Or it might be taken temporally as the correlative of 'sometimes'. The latter sense is probably predominant here, but the ambiguity is unmistakably present in the Latin.

of the opposites of what are required for the truth of the temporal. But what those things are that are required for the truth of a temporal is plain from the above statements.

(630) It is also plain from these statements that a temporal implies both its parts, but not conversely. From this it is plain that a temporal implies a copulative made out of the parts of the temporal, but not conversely. For it follows: 'Adam existed when Noah existed; therefore, Adam existed and Noah existed'. But it does not follow the other way around. For it does not follow: 'Adam existed and Noah existed; therefore, Adam existed when Noah existed'.

#### HOW TO FORM SYLLOGISMS WITH TEMPORALS

(631) For the sake of brevity, I do not intend to say anything at present about how to form syllogisms with temporals.

### SUBPART 2: ON IMPLICIT HYPOTHETICALS

(632) Having talked about explicit hypotheticals, now in the second subpart of this part we must talk about implicit hypotheticals, such as exclusives, exceptives, and reduplicatives. This subpart contains four chapters. The first is about exclusives, the second is about exceptives, the third about reduplicatives. The fourth will be about propositions in which there occur words that convey beginning or stopping, such as the words 'begins' and 'stops'.

#### Chapter 1: On Exclusives

(633) Therefore, in the first chapter we have to talk about exclusives, such as propositions like 'Socrates alone runs', 'Only Socrates runs', and the like. †Because the words 'alone' and 'only' convey exclusion in the same way, therefore they are to be treated together and without distinction.

##### *Rule 1*

(634) You must know, therefore, that an exclusive word added to some term literally excludes everything of which the term for which the exclusion is made is not truly affirmed. This is the first rule of exclusives.

(635) For example, when someone says 'Only Socrates runs', everything else that is not Socrates is excluded with respect to the predicate. For it follows: 'Only Socrates runs; therefore, nothing other than Socrates runs'.

#### FIRST SUBRULE

(636) (p. 132) Certain other rules follow from this rule. First, that when something is included, nothing is excluded of which the included is truly affirmed. Thus, because Socrates is a man, therefore when *man* is included Socrates is not excluded. For 'Only a man runs' and 'Socrates runs' are quite compatible.

#### SECOND SUBRULE

(637) Another rule is that every exclusive has two exponents, one affirmative and the other negative, in such a way that in one exponent that with respect to which the exclusion is made is attributed to the included, and in the other exponent that with respect to which the exclusion is made is removed from everything of which the included is not truly said. For example, the proposition 'Only a man runs' has the two exponents 'A man runs' and 'Nothing other than a man runs'.

### *Rule 2*

(638) Another rule: that for nominatives an affirmative exclusive implies a universal with the terms transposed, and conversely. For example, it correctly follows: 'Only an animal is a man; therefore, every man is an animal', and conversely.

(639) This is plain as follows: For it is denoted by an affirmative exclusive that the predicate is in the subject precisely, so that it is not in anything of which the subject is not said. Consequently, if such an exclusive is true, the subject has to be said of each thing contained under the predicate. For if the predicate were said of something of which the subject were not said, the predicate would be in something other than the subject, and consequently the exclusive would be false.

(640) For example, if 'Only an animal is a man' is true, everything of which 'man' is said has to be an animal. For if 'man' is said of something that is not an animal, then something that is not an animal would be a man. Consequently 'Only an animal is a man' would be false. So it is plain that an exclusive implies a universal with the terms transposed.

(641) Likewise, a universal implies an exclusive with the terms transposed. For if 'Every man is an animal' is true, 'animal' has to be affirmed of whatever 'man' is affirmed of. Therefore, 'man' is affirmed of nothing that is not an animal. Consequently, if 'Every man is an animal' is true, 'Only an animal is a man' has to be true.

(642) From this one can argue as follows: "Every man is an animal" implies both exponents of "Only an animal is a man"; therefore, it implies "Only an animal is a man". The antecedent is clear. For it follows: 'Every man is an animal; therefore, an animal is a man'. Likewise it follows: 'Every man is an animal; therefore, nothing other than an animal is a man', because the opposite of the antecedent follows from the opposite (p. 133) of the consequent [(279)]. For it follows: 'Something other than an animal is a man; therefore, a man is other than an animal'. And further: 'Therefore, a man is not an animal', which is the opposite of the antecedent. So it is plain, therefore, that an affirmative exclusive with nominative terms is converted with a universal with the terms transposed.

(643) I said 'with nominative terms'. For this is not necessary with oblique terms. For it does not follow: 'Belonging to each man is an ass; therefore, only an ass belongs to a man'. For assuming that each man has an ass and an ox, the antecedent is true and the consequent false. It also does not follow conversely: 'Only an ass belongs to a man; therefore, belonging to each man is an ass'. For assuming that no man but Socrates has an ass and that Socrates has nothing but one ass, then the antecedent 'Only an ass belongs to a man' is true and the consequent 'Belonging to each man is an ass' false.

(644) I said that a universal affirmative and an exclusive affirmative with the terms transposed are converted. For unless it is affirmative, an exclusive is not converted into a universal the with terms transposed, as is plain. For it does not follow: 'Only a nonman is not an animal; therefore, every animal is a nonman'. It also does not follow: 'Only a nonman is not an animal; therefore, every animal is not a man'. For the antecedent of both inferences is true and the consequent false.

(645) Although a negative exclusive does not imply a universal with the terms transposed, nevertheless it does imply a universal affirmative in which there is in predicate position what is in subject position in the exclusive. For example, it follows: 'Only a nonman is not an animal; therefore, everything that is not a man is a nonanimal'.<sup>245</sup>

245. The example stretches a point. In the negative exclusive, 'man' is in subject position, although it is modified there by the 'non-', whereas in the universal affirmative 'man' is in predicate position, although only as predicate in a subordinate clause.



## A SUBRULE

(646) From the rule 'An affirmative exclusive with nominative terms is converted with a universal with the terms transposed' [(638)] there follows another rule, that the subject of an affirmative exclusive with nominative terms, where a common term is in subject position, supposits merely confusedly and the predicate supposits confusedly and distributively. This is plain. For if the universal is converted with the exclusive with the terms transposed, the terms in the universal and the exclusive have to supposit the same way; but the subject in a universal affirmative supposits confusedly and distributively; and what is the subject in the universal affirmative is the predicate in the exclusive; therefore, the predicate in the exclusive supposits confusedly and distributively.

(647) Likewise, the predicate in a universal affirmative supposits merely confusedly; and what is the predicate in the universal is (p. 134) the subject in the exclusive; therefore, the subject in the exclusive supposits merely confusedly.

*First Subrule of the Subrule*

(648) From the rule 'The subject of an affirmative exclusive supposits merely confusedly and the predicate confusedly and distributively', there follow two other rules: first, that the inference is good from an inferior to its superior on the side of the subject with an exclusive word added to the subject. For example: 'Only a man runs; therefore, only an animal runs'. The reason for this is because the inference is good from an inferior to its superior that supposits merely confusedly. For it follows: 'Every man is an ass; therefore, every man is an animal'. And I say in all cases that the inference holds from an inferior to its superior [on the side of the subject] with an exclusive word added immediately to the subject.

*Second Subrule of the Subrule*

(649) The second rule is that the inference does not hold from an inferior to its superior on the side of the predicate with an exclusive word on the side of the subject. For it does not follow: 'Only a risible is a man; therefore, only a risible is an animal'. The reason for this is because the predicate of an affirmative exclusive supposits confusedly and distributively, and the inference does not hold from an inferior that supposits confusedly and distributively to a superior that supposits confusedly and distributively.

*Rule 3*

(650) You have to know that a proposition is not an exclusive unless the exclusion is made with respect to the main composition. Therefore, when an exclusive word is added to the predicate, the proposition is not then an exclusive. For 'A man is only an animal' is not an exclusive, just as 'Socrates is a nonman' is not negative. Thus it is a rule that no syncategorema is taken syncategorematically on the side of the predicate. Rather, when it is added to the predicate it is made a part of the predicate.

*Rule 4*

(651) Again, it is to be noted as a rule that every exclusive proposition is equipollent to a copulative made out its exponents. For instance, 'Only Socrates runs' amounts to the copulative 'Socrates runs and nothing other than Socrates runs'.

## A SUBRULE

(652) From this rule another rule follows: from the negation of an exclusive there does not follow the negation of either exponent, just as from the negation of a copulative there does not follow the negation of either part. Rather, it is a fallacy of the consequent. Thus, just as the opposite of a copulative amounts to a disjunctive made out of the contradictories of the parts of the copulative, so the opposite of an exclusive amounts to a disjunctive made out of the contradictories of the exclusive's exponents. For example, 'Not only Socrates runs' amounts to 'Socrates does not run or another than Socrates runs'. Therefore, just as a disjunctive can be made true for any part of it indifferently, so the opposite of an exclusive can be made true (p. 135) for the opposite of either exponent of it indifferently. So the opposite of an exclusive has two causes of truth, namely the opposites of its exponents.

*A Sophism*

(653) From this the solution to sophisms like 'If nothing runs something runs' is plain.

(654) It is proved as follows: 'If nothing runs, not only Socrates runs; and if not only Socrates runs, something other than Socrates runs; and it follows: something other than Socrates runs; therefore, something runs; therefore, from first to last: if nothing runs, something runs'.

(655) It is disproved as follows: The antecedent is possible; but a possible

proposition never implies its contradictory; therefore, 'If nothing runs something runs' is false.

(656) Solution: The sophism-proposition is false, and there is a fallacy of the consequent in its proof, when it argues like this: 'Not only Socrates runs; therefore, something other than Socrates runs'. For 'Not only Socrates runs' has two causes of truth, one of which is 'Another than Socrates runs' and the other 'Socrates does not run'.

(657) Suppose the inference 'Not only Socrates runs; therefore, another than Socrates runs' is proved. For it follows: 'Not only Socrates runs; therefore, only Socrates does not run', because, with singulars, putting the negation before the subject or putting it after makes no difference. Now it follows: 'Only Socrates does not run; therefore, anything other than Socrates runs', because that is one exponent. And it follows: 'Anything other than Socrates runs; therefore, another than Socrates runs'. Therefore, from first to last, it follows: 'Not only Socrates runs; therefore, another than Socrates runs'.

(658) It must be replied that the inference 'Not only Socrates runs; therefore, only Socrates does not run' is not valid. And when it is said that with singulars putting the negation before the subject or putting it after makes no difference, I say this is true for simple singulars taken without any mode. Thus insofar as it is a singular, putting the negation before or putting it after makes no difference, because a singular term cannot be confused. But nevertheless, by reason of the exclusive word, putting the negation before or putting it after makes a big difference.

(659) From these statements, it is plain that 'You not only are an ass' is true, because it has two causes of truth, namely 'You are not an ass' and 'Another than you is an ass', both of which are true. And (p. 136) 'You not only are an ass; therefore, you only are not an ass' is not valid, because the antecedent is true and the consequent false.

### *Summary of the Rules*

(660) These rules follow from all the ones above:<sup>246</sup> First, that when something is included nothing is excluded of which the included is truly said [(636)].

(661) Second: Each exclusive has two exponents, in one of which that with respect to which the exclusion is made is attributed to the included, and in the other it is removed from everything else [(637)].

246. In fact, they are instead merely repetitions of earlier rules.

(662) Third: An exclusive affirmative with nominative terms is converted with a universal with the terms transposed [(638)].

(663) Fourth: The subject included in an exclusive affirmative suppositis merely confusedly and the predicate confusedly and distributively [(646)].

(664) Fifth, that the inference holds from an inferior to its superior on the side of the subject with an exclusive word on the side of the subject [(648)].

(665) Sixth, that the inference does not hold from an inferior to its superior on the side of the predicate with an exclusive word on the side of the subject [(649)].

### *Objections and Replies*

#### FIRST OBJECTION

(666) But to the contrary, I prove that 'Only an animal is a man' is false. And I prove this in two ways.

(667) First, like this: It follows: 'Only an animal is a man; therefore, only an animal differs from a nonman'. For 'man' and 'differing from a nonman' are the same. And it follows: 'Only an animal differs from a nonman; therefore, only an animal differs from an ass'. The consequent is false; therefore, the antecedent is too. The falsehood of the consequent is obvious. For it follows: 'Only an animal differs from an ass; therefore, nothing other than an animal differs from an ass; therefore, no stone differs from an ass'. The consequent is false; therefore, the antecedent is too.

(668) Second, I prove that 'Only an animal is a man' is false, because it follows: 'Only an animal is a man; therefore, only an animal's being a man is true; and further: therefore, nothing other than an animal's being a man is true; therefore, that God exists is not true'. Therefore, from first to last: 'Only an animal is a man; therefore, that God exists is not true'.<sup>247</sup>

#### REPLY TO THE FIRST OBJECTION

(669) (p. 137) To the first of these [(667)], I say that the inference 'Only an animal differs from a nonman; therefore, only an animal differs from an ass' is not valid.

(670) Suppose it is proved: 'Only an animal differs from a nonman; there-

<sup>247</sup> This argument is never explicitly answered. Its plausibility rests on an ambiguity in 'only an animal's being a man is true'. It can be read either as 'it is true that only an animal is a man' or as 'it is true that an animal is a man, and nothing else is true'.

fore, everything differing from a nonman is an animal' by the given rule [(638)] that an exclusive implies a universal with the terms transposed. It follows: 'Everything differing from a nonman is an animal; therefore, everything differing from an ass is an animal'. And it follows: 'Everything differing from an ass is an animal; therefore, only an animal differs from ass'. Therefore, from first to last, it follows: 'Only an animal differs from a nonman; therefore, only an animal differs from an ass'.

(671) To this reasoning I say it does not follow: 'Everything differing from a nonman is an animal; therefore, everything differing from an ass is an animal'. Instead it is a fallacy of the consequent, arguing from an inferior to its superior with distribution. For 'differing from a nonman' is inferior to 'differing from an ass'.

(672) Suppose it is proved: 'Everything differing from a nonman is an animal; therefore, everything differing from an ass is an animal'. For the singulars of the antecedent imply the singulars of the consequent. For it follows: 'This thing differing from a nonman is an animal; therefore, this thing differing from an ass is animal', and so on.<sup>248</sup>

(673) To the main point,<sup>249</sup> I assume that every man is a grammarian and a logician. With this case assumed, 'Every man is a grammar knower' is true. From it the exclusive with the terms transposed does not follow. For it does not follow: 'Every man is a grammar knower; therefore, only grammar knowers are men'.<sup>250</sup> For the antecedent is true and the consequent false.

(674) It is said that the consequent is true just like the antecedent.

(675) To the contrary, it follows: 'Only grammar knowers are men; therefore, nothing other than other than a grammar knower is a man; and further: therefore, no logic knower is a man'. The consequent is false; therefore, the antecedent is too.

(676) Solution: The inference 'Nothing other than a grammar knower is a man; therefore, no logic knower is a man' is not valid, because the middle through which the inference should hold is false, namely 'Every logic knower is other than a grammar knower'.

248. This argument is never directly answered.

249. This seems to mean, 'Cutting all the arguments short and getting down to the main issue, back in (667), . . .'. Note how the argument in (675) closely parallels that at the end of (667).

250. The Latin has the singular in the consequent. I am forced to use the plural here and at one point in (675) to preserve a crucial ambiguity that cannot otherwise be reflected in English. The Latin consequent can be read as either (a) 'An only-grammar-knower [i.e., someone who knows nothing but grammar] is a man', which is false, since all men are assumed to know logic as well, or (b) 'Only a grammar-knower is a man', which is true in the assumed case.

## SECOND OBJECTION: A SOPHISM

(677) As for the rule 'When something is included, anything of which the included is not truly affirmed is excluded' [(634)], the sophism (p. 138) 'If only the Father exists, not only the Father exists' is proposed.<sup>251</sup>

(678) It is proved as follows: If only the Father exists, the Father exists; and if the Father exists, the Son exists; and if the Son exists, another than the Father exists; and if another than the Father exists, not only the Father exists; therefore, if only the Father exists, not only the Father exists.

(679) It is disproved as follows: Here it is denoted that one contradictory follows from the other; therefore, the conditional 'If only the Father exists, not only the Father exists' is false.

(680) To this sophism some people<sup>252</sup> say that the conditional 'If only the Father exists, not only the Father exists' is false. To the proof, it is said that all the inferences are good ones, and yet the one from first to last does not follow. It is said that although the Son's existing follows from the Father's existing absolutely, nevertheless the Son's existing does not follow from the Father's existing insofar as it stands under an exclusion. Therefore, 'The Father exists', insofar as that follows from 'Only the Father exists', does not imply 'The Son exists'.

(681) But this reasoning is not valid, because it denies the rule 'Whatever follows from a consequent follows from the antecedent' [(261)]. For if 'The Son exists' follows from 'The Father exists', and yet 'The Son exists' does not follow from 'Only the Father exists', which is antecedent to 'The Father exists', then it follows that the rule 'Whatever follows from a consequent follows from the antecedent' is not true, which is impossible.

(682) Again, I take 'The Father exists' insofar as it is consequent to 'Only the Father exists', and I ask: Does it follow: 'The Father exists; therefore, the Son exists'? If it does, then it follows from first to last: 'Only the Father exists; therefore, the Son exists'. For whatever follows from a consequent, insofar as it is a consequent, follows from the antecedent.

(683) If it is said that 'The Son exists' does not follow from 'The Father exists', insofar as that is a consequent of 'Only the Father exists', then as such the opposite of the consequent is compatible with the antecedent. In that case 'The Father exists' and 'No Son exists' would be compatible in some way, and the Philosopher's rule [*Categories* 7 7<sup>b</sup>15–8<sup>a</sup>12] 'Relatives posited posit one another, and destroyed they destroy one another' would be lost.

(684) Others<sup>253</sup> say that the inference 'Only the Father exists; therefore, the

251. The reference is to the doctrine of the Trinity.

252. I have not identified such authors.

253. I have not identified these authors either.

Father exists' is not valid. For in the antecedent 'Father' is taken in a diminished way,<sup>254</sup> because there is excluded from it something without which it cannot exist; but in the consequent (p. 139) it is taken simply; therefore, 'Only the Father exists; therefore, the Father exists' is a fallacy of 'in a certain respect' and 'simply'.

(685) To the contrary: Every exclusive implies its prejacent;<sup>255</sup> therefore, since 'The Father exists' is the prejacent of 'Only the Father exists', 'Only the Father exists; therefore, the Father exists' must follow.

(686) Again, every exclusive implies both of its exponents; 'The Father exists' is one exponent of 'Only the Father exists'; therefore, it follows: 'Only the Father exists; therefore, the Father exists'.

#### REPLY TO THE SOPHISM

(687) Therefore, I say to the sophism [(677)] that the conditional 'If only the Father exists, not only the Father exists' is true. And to the disproof [(679)], I say that the proposition 'Only the Father exists' includes two opposites, and every proposition that includes two opposites implies its opposite [(311)]. For the opposites that 'Only the Father exists' includes are 'The Son exists' and 'No Son exists'. For it follows: 'Only the Father exists; therefore, nothing other than the Father exists; and further: therefore, no Son exists'. Likewise it follows: 'Only the Father exists; therefore, the Father exists; and further: therefore, the Son exists'. So 'Only the Father exists' includes two opposites, and therefore correctly implies its opposite.

#### THIRD OBJECTION: ANOTHER SOPHISM

(688) With respect to the same rule, 'When something is included, anything of which the included is not truly affirmed is excluded' [(634)], another such sophism is proposed: 'Only one exists'.<sup>256</sup>

254. This does not appear to be exactly the same notion of being 'diminished' as that in n. 194, above, but rather something closer to the topic of (378).

255. The 'prejacent' of an exclusive is what remains when the excluding particle is omitted. Compare nn. 290 and 305, below.

256. It is impossible to translate this sophism consistently while preserving the deliberate ambiguity of the Latin. The difficult arguments in (689)–(694) will be much clearer if the reader recalls that Latin has no definite or indefinite article and that neuter adjectives are often used in Latin as nouns, so that a simple 'one' (in the neuter) means simultaneously (a) 'the One' in the Platonic or Neoplatonic sense, (b) 'one [thing]', and (c) 'a one'—i.e., something that is one, a unity.

(689) It is proved as follows: A one exists; and nothing other than a one exists; therefore, only a one exists.

(690) Again, every being is a one; therefore, only a one exists.

(691) It is disproved as follows: The many exists; therefore, not only the one exists.

#### REPLY TO THE SOPHISM

(692) Solution: I say that 'one' is equivocal between the one that is the principle of number in the genus quantity and the one that is converted with being. In the first sense, 'Only a one exists' is false, because the one that is the principle of number in the genus quantity is the same as the continuous one.<sup>257</sup> But now 'Only a continuous one exists' is false. Therefore, if 'one' is taken as what is the principle of number, 'Only a one exists' is false.

(693) But if 'one' is taken for the transcendental one, insofar as it is converted with being, 'Only a one exists' is true. For 'Only a being exists' is true.

(694) (p. 140) To the disproof, I say that the one that is converted with being is not opposed to the many [in the singular]. Rather they are the *genera* of opposites. But the one and the many [in the plural] are quite opposed, just as 'white' and 'whites' are, as is plain in *Metaphysics* X [3 1054<sup>a</sup>20–23]. And because the transcendental one and the many [in the singular] are not opposed, therefore it does not follow: 'The many is; therefore, not only the one is'.

#### Rule 5

(695) It is to be noted as a rule that whenever an exclusive word is added to some dictum, the locution is ambiguous insofar as it can make the exclusion either with respect to the whole or with respect to part of the dictum. When the exclusion is made with respect to part of the dictum, there is still a further ambiguity, insofar as the exclusion can be made with respect to the formal composition or with respect to the material composition. Because of this, the ambiguity is either according to amphiboly from a different construction,<sup>258</sup> or else according to composition and division.

257. On the 'continuous one', see Aristotle, *Metaphysics* V.6 1015<sup>b</sup>36–1016<sup>a</sup>17. The exact sense of Burley's argument here is obscure.

258. On this mode of amphiboly, see Aristotle, *Sophistic Refutations* 4 166<sup>a</sup>17–21.



## SOPHISMS

(696) Through this distinction these sophisms are solved: (a) 'Only God's being God is necessary', (b) 'Only Socrates' being a man is true', and (c) 'From Socrates' running alone a man's running follows', and so on.

*First Sophism*

(697) Therefore, the sophism 'Only God's being God is necessary' is proved: Nothing other than God's being God is necessary;<sup>259</sup> therefore, only God's being God is necessary.

(698) It is disproved like this: It follows: 'Only God's being God is necessary; therefore, everything necessary is God's being God'. The consequent is false; therefore, the antecedent is too. The inference is plain, because an affirmative exclusive implies a universal with the terms transposed [(638)].

(699) Likewise, only God's being God is necessary; therefore, only the proposition 'God is God' is necessary. The consequent is false; therefore, the antecedent is too. The inference is plain, because this is signified by the exclusion 'Only God's being God is necessary'.

*Reply to the Sophism*

(700) Solution: I say that 'Only God's being God is necessary' is ambiguous, insofar as the exclusion can be made either (a) with respect to the whole dictum, and in that case the proposition is false and it is denoted that only the dictum that God is God is necessary. And in that case it is signified that nothing is (p. 141) necessary but the proposition 'God is God'.

(701) On the other hand, if the exclusion is made (b) with respect to part of the dictum, then it must be distinguished further, insofar as the exclusion can be made with respect to the formal composition or the material one. And in either sense it is true. For if the exclusion is made with respect to the formal composition, then it is signified that only God's being God is necessary, that is, that only God is what is necessarily God—that is, that being God necessarily pertains to God alone. But if the exclusion is made with respect to the material composition, then it is signified that the dictum that only God is God is necessary, that is, that the proposition 'Only God is God' is necessary.

(702) To the proof, it has to be said that insofar as the exclusion is made with respect to the whole dictum, the negative exponent is false, because it is denoted that nothing else is necessary than the dictum that God is God.

(703) To the disproof, I say that when the exclusion is made with respect to part of the dictum, then nothing is the subject but the oblique term 'God's' that precedes, and the rest is the predicate. In that case the universal with the

259. This is true in the sense that it is necessary that nothing other than God is God.

terms transposed that corresponds to it, 'Everything that it is necessary to be God is God' is true.

(704) But if the exclusion is made with respect to part of the dictum and with respect to the material composition,<sup>260</sup> then 'Only God's being God is necessary' is not an exclusive. For just as in order for a proposition to be negative it is required that the negation be made with respect to the formal composition, so in order for a proposition to be exclusive the exclusion has to be made with respect to the formal composition.

#### *Second Sophism*

(705) Through the same solution or distinction the sophism 'From Socrates' running alone Socrates' running follows' is solved.<sup>261</sup>

(706) It is proved: 'Socrates runs alone; therefore, Socrates runs; therefore, from Socrates' running alone Socrates' running follows'. The inference is plain, because the signified act follows from the exercised act.

(707) It is disproved as follows: Socrates' running follows from every man's running; therefore, Socrates' running does not follow from Socrates' running alone.

#### *Reply to the Sophism*

(708) Solution: If the exclusion is made with respect to the whole dictum, then the proposition is false and the proof does not proceed. For something else is signified than is signified in an exercised way in the conditional (p. 142) 'If Socrates runs alone, Socrates runs'. But if the exclusion is made with respect to part of the dictum, then whether the exclusion is made with respect to the formal or the material composition, 'From Socrates' running alone Socrates' running follows' is always true. Neither is 'From Socrates' running alone Socrates' running follows' incompatible with 'From every man's running Socrates' running follows'. And the same way with respect to part of the dictum, whether the exclusion is made with respect to the formal or the material composition, the proposition is always true.<sup>262</sup>

260. The exclusion in (703) was made with respect to the formal composition. Compare (701).

261. Compare (696), sophism (c), above.

262. This last sentence seems to be a mere repetition of one earlier in the paragraph and to serve no further argumentative role. If the exclusion is with respect to the whole dictum, the sense is 'Socrates' running follows from Socrates' running, and not from anything else'. If with respect to the formal composition, the sense is 'Nothing but Socrates is such that its running follows from Socrates' running'. If with respect to the material composition, the sense is 'From the fact that Socrates alone runs, it follows that Socrates runs'.

*Third Sophism and Reply*

(709) Similar to this is 'Only a man's being an ass is impossible'. It is proved and disproved like the preceding one. And it is solved: If the exclusion is made with respect to the whole dictum, in that case the proposition is false. If the exclusion is made with respect to part of the dictum and with respect to the formal composition, in that case it is false; if with respect to the material composition, in that case it is true.<sup>263</sup>

(710) You have to know that the exclusion is made with respect to that the opposite of which is excluded, and a negation is made with respect to that on which the negation is brought to bear.

*Rule 6*

(711) Again, it is a rule that when two similar words are in the same expression, the locution is ambiguous insofar as the one of those words can include the other or conversely.

## FIRST SOPHISM

(712) Through this the sophism 'Necessaries alone necessarily are true' is solved.

(713) It is proved as follows: Necessaries necessarily are true; and no other things than the necessaries necessarily are true; therefore, necessaries alone necessarily are true.

(714) It is disproved as follows: If necessaries alone necessarily are true, therefore that necessaries alone are true is necessary. The consequent is false; therefore, the antecedent is too.

(715) Again, if necessaries alone necessarily are true, therefore necessaries alone are true. The consequent is false; therefore, the antecedent is too.

## SOLUTION TO THE FIRST SOPHISM

(716) The solution to this sophism is that there is an ambiguity here according to amphiboly, insofar as the exclusion can include the necessity or the necessity the exclusion. If the exclusion includes the mode of necessity, in that

263. If the exclusion is with respect to the whole dictum, the sense is 'It is impossible that a man is an ass, and nothing else is impossible'. If with respect to the formal composition, the sense is 'Nothing but man is such that its being an ass is impossible'. If with respect to the material composition, the sense is 'It is impossible that only a man is an ass—i.e., that a man is an ass and nothing else is an ass'.

case the sophism-proposition is true. And then the exclusion is made with respect to the whole 'necessarily true'. And then it is denoted that the predicate 'necessarily true' is in necessities alone, and that is true.

(717) But if the mode of necessity includes the exclusion, in that case the proposition is false. And it is denoted that (p. 143) 'Necessaries alone are true' is necessary, and that is false.

(718) The proof proceeds according as the exclusion includes the mode of necessity. The disproof proceeds according as the mode of necessity includes the exclusion.

#### SECOND SOPHISM

(719) This is similar: Let it be such that only Socrates is white and other people are black. The sophism 'Socrates alone is white or black' is proposed.

(720) It is proved as follows: One part of this disjunctive is true; therefore, the whole disjunctive is true.

(721) It is disproved as follows: Another than Socrates is white or black; therefore, not Socrates alone is white or black.

#### SOLUTION TO THE SECOND SOPHISM

(722) Solution: This is an ambiguous locution, because the exclusion can be of the disjunction or the disjunction of the exclusion. It is false in the first sense, because in that case the exclusion includes the disjunction and it is denoted that the disjunctive 'white or black' is in Socrates alone. And that is false. And in this sense the proposition is not disjunctive, but rather a proposition with a disjoint predicate.

(723) But if the sophism-sentence is a disjunction of the exclusion, in that case it is a disjunctive and it is denoted that only Socrates is white or only Socrates is black. And in that case the proposition is a disjunctive and not an exclusive. In this sense 'Another than Socrates is white or black' is not incompatible with it.

### *Two Rules of the Old Authors*

#### FIRST RULE

(724) Once again, other distinguishing rules are posited by the old authors.<sup>264</sup> One rule is that when an exclusive word is added to some individual

<sup>264</sup> I have not identified these authors.

or some species, the locution is ambiguous insofar as a general or special exclusion can be made. With a general exclusion made, everything of which the included is not truly said is excluded generally. With a special exclusion made, everything of which the included is not truly said is *not* excluded.<sup>265</sup> But if the exclusion is added to an individual, only the other individuals contained under the same species are excluded. And if it is added to some species, only the opposite species contained under the same genus are excluded. For example, when one says ‘Socrates alone runs’, with a general exclusion made each and every thing that is not Socrates is excluded; but with a special exclusion made, only the opposite species under ‘animal’ are excluded.

#### SECOND RULE

(725) Another rule is that when an exclusive word is added to an integral whole, the locution is ambiguous insofar as the exclusion can be made (p. 144) on behalf of the matter or on behalf of the form. If the exclusion is made on behalf of the form, in that case everything is excluded that does not participate the form of the included. Consequently everything is excluded of which the included is not said. But when the exclusion is made on behalf of the matter, everything is excluded that is not a part of the included and of which the included is not said.

(726) For example, ‘Only a house is white’. With the exclusion made on behalf of the form, everything is excluded that does not participate the form of the house. So the integral parts of the house are excluded. But when the exclusion is made on behalf of the matter, everything is excluded that is not the house or a part of it. Thus, when the exclusion is made on behalf of the matter, the integral parts are not excluded.

#### REJECTION OF THESE TWO RULES

(727) Yet I do not hold or approve of these distinctions. Instead, I say that *wherever* an exclusive word is put onto some term, literally it excludes everything of which the included term is not said. Therefore, it excludes everything that does not participate the form of the included term.

(728) Literally, exclusion is always made on behalf of the form. For there is no reason why an exclusive word should exclude some things and not others. For by whatever reason it excludes some things of which the included

265. The Latin word order here (Boehner, ed., p. 143.26–28) would suggest that this is a universal negative (‘everything . . . is not’). But the sense surely must be instead the denial of a universal affirmative (‘not everything . . . is’).

is not said, for the same reason it excludes all things of which the included is not said. For since nothing is excluded except by reason of the diversity and negation included in the exclusive word itself, therefore by whatever reason an exclusive word added to a singular term excludes individuals contained under the same species, it also excludes the individuals of another species, because the notion of an exclusive word is to exclude the things that are diverse from the included.

(729) Therefore, it excludes more the things that are more diverse. Therefore, since the individuals of one species are more diverse from an individual of another species than the individuals of the latter's own species are, it follows that if the exclusive word added to some individual excludes individuals of the same species, it also excludes the individuals of another species. But when someone says 'Socrates alone runs', all the individuals of *man* other than Socrates are excluded; it follows, therefore, that the individuals of any other species are excluded.

(730) In the same way, if the exclusive word added to a species excludes opposite species in the same genus, then the species of other genera are excluded much more, since the species of other genera are distinguished more [from this species] than are the species of the same genus.

(731) But if sometimes a special exclusion is admitted, or an exclusive proposition under the sense a special exclusion would make, that would be a misuse (p. 145) and not literal. One should say in that case that such a locution is false in the sense it makes, but true in the sense *in* which it is made. A locution like this can be distinguished according to the second mode of amphiboly, insofar as a locution like this can be taken in an improper signification—that is, a signification it does not have literally but from its use in speech or according to the speaker's instituting. This is for it to be taken in the sense *in* which it is made. This is the second mode of amphiboly, which occurs when we are used to talking this way, that is, when an expression is taken in the sense it has from people's using it in speech or some authority's using it in speech, as is plain with the expression 'The wolf is in the story'.<sup>266</sup>

### Rule 7

(732) From the above statements it is plain that every exclusive is false in which the exclusive word excludes with respect to a distributed common term that has several supposita. For by the affirmative exponent the supposita of

266. An idiom roughly like the English 'Speaking of the devil', said of someone who turns up just as we are speaking about him.

that term are posited with respect to the predicate or with respect to that with respect to which the exclusion is made, and by the negative exponent the supposita of the common term are excluded. For example, the exclusive 'Only every man runs' is expounded as follows: 'Every man runs and nothing other than every man runs'. Now by the affirmative exponent, namely 'Every man runs', 'Socrates runs' is posited, and by the negative exponent its opposite is posited. For it follows: 'Nothing other than every man runs; Socrates is other than every man;<sup>267</sup> therefore, Socrates does not run'. So every such exclusive includes opposites. For the same reason 'Only three men run' is impossible, because by the affirmative exponent it is posited that two men run and by the negative exponent it is posited that no two men run.

#### A SOPHISM

(733) Through this the solution of the sophism 'It is possible for Socrates to see only every man who does not see himself' is plain.

(734) It is proved as follows: Both exponents are true; therefore, the exclusive is true.

(735) It is disproved as follows: When the possible is posited, the impossible does not follow.<sup>268</sup> But positing that Socrates sees only every man who does not see himself, it follows that contradictories are true together. For positing that Socrates sees only every man who does not see himself, I ask whether Socrates sees himself or not. If he sees himself, therefore he is a man who sees himself; and (p. 146) he sees only every man who does not see himself; therefore, he does not see himself; therefore, if he sees himself he does not see himself. If it is given that he does not see himself, then both (a) he sees only every man who does not see himself and (b) Socrates is such; therefore, he sees himself; therefore, if he does not see himself he sees himself.

#### REPLY TO THE SOPHISM

(736) Solution: It is plain that 'Socrates sees only every man who does not see himself' is impossible. For the exponents are incompatible. For by the affirmative exponent it is posited that Socrates sees himself and by the negative exponent it is posited that Socrates does not see himself. And since both premises are impossible,<sup>269</sup> since their terms are impossible, the exclusive is impossible.

267. Since Socrates is *not* every man, but only one man.

268. Aristotle, *Prior Analytics* I.13 32<sup>a</sup>18–20; *Metaphysics* IX.4 1047<sup>b</sup>10–12.

269. That is, both exponents, construed here as premises of an argument. They are 'impossible' not individually, but jointly.

### *Rule 8*

(737) From the above statements it is also plain that when an exclusive word is added to an integral-whole term and the exclusion is made with respect to something that cannot be in the whole unless it is in the parts, every such exclusive is impossible. For by the affirmative exponent it is posited that that with respect to which the exclusion is made is in the parts, and by the negative exponent it is posited that that with respect to which the exclusion is made is not in the parts.

(738) For example, 'Only Socrates is white' is impossible. For the predicate 'white' cannot be in Socrates unless it is in Socrates' parts. Therefore, by the affirmative exponent it is posited that a part of Socrates is white and by the negative exponent it is posited that no part of Socrates is white. For it follows: 'Nothing other than Socrates is white; therefore, a part of Socrates is not white'. Nevertheless 'Only Socrates is a white man' is possible, because the predicate 'white man' can be in Socrates although it is not in any part of Socrates.

### *A Putative Rule*

(739) Again, some people say<sup>270</sup> that when an exclusive word is added to some term put together out of a substantive and an adjective, the locution is twofold insofar as the exclusion can be made (a) with respect to the adjective, (b) with respect to the substantive, or (c) with respect to the composite. That is to say, the exclusion can be made (a) with respect to the substance, (b) with respect to an accident, or (c) with respect to the whole. Or in other words, when an exclusive word is added to a whole put together out of a substantive and an adjective, the locution is ambiguous insofar as the exclusion can be made by reason of the whole composite term or by reason of one part. And the latter can come about in two ways, either by reason of the substantive or by reason of the adjective.

(740) For instance, 'Only a white man runs' can be understood in three ways. One is 'A white man runs and nothing other than a white man runs'. In that sense the exclusion is made by reason of the whole. Another understanding can be that (p. 147) a white man runs and no white ass runs, no white ox runs and so on. In that sense the exclusion is made by reason of 'man', and in that case the negative exponent is 'No white thing other than a man runs'. The third understanding can be 'A white man runs and no black man runs and no

270. I have not identified these authors.



man with an intermediate color runs'. In that sense the negative exponent is 'No man other than a white one runs'.

#### REJECTION OF THE PUTATIVE RULE

(741) Nevertheless, I believe that this distinction is not valid, but rather that the exclusion is always made by reason of the whole term put together out of the adjective and the substantive. This is so literally; nevertheless from its use in speech, and improperly, another understanding can be had.

#### *Rule 9*

(742) Another distinction or rule is posited, as follows: Whenever an exclusive word is added to a term put together by means of a copulation or disjunction, the locution is ambiguous insofar as the exclusion can be made with respect to the whole term or with respect to the first part. This distinction is true and is a good one.

#### A SOPHISM

(743) Through this distinction sophisms like 'Only the true and the false are opposed' are solved.

(744) It is proved as follows: 'Only the true is opposed to the false; therefore, only the true and the false are opposed'. The inference holds, because 'The true is opposed to the false' and 'The true and the false are opposed' are converted with one another; therefore, they are still converted when the same thing is added to both sides; therefore, etc.

(745) It is disproved as follows: 'The good and the bad are opposed; therefore, not only the true and the false are opposed'.

#### REPLY TO THE SOPHISM

(746) Solution: The sophism-proposition is ambiguous insofar as the exclusion can be made with respect to the whole couple or with respect to the first part. If with respect to the whole couple, the proposition is false. For it is denoted that only these—the true and the false—are opposed. So it is signified that the good and the bad are not opposed.

(747) But if the exclusion is made with respect to the part, then it is denoted that the true and the false are opposed and that nothing other than the true and the false are opposed—that is, that nothing other than the true

is opposed to the false. And that is still false, because the false is opposed contrarily.<sup>271</sup>

(748) Therefore, I say that 'Only the true and the false are opposed' is false in every way. Nevertheless 'Only the true and the false are contradictories' is quite true insofar as (p. 148) the exclusion is made by reason of the first part. But from this it does not follow: 'therefore, only the true and the false are opposed'. For the argument there is from an inferior to a superior on the side of the predicate with an exclusive word on the side of the subject.

(749) To the proof [(744)], I say that 'Only the true is opposed to the false' is false. Even if it were true, 'Only the true and the false are opposed' would still not follow from it insofar as the exclusion is made with respect to the whole couple.

(750) When it is argued that when some two things are converted, they should still be converted with the same thing added on both sides, I say that does not have to be so. Nevertheless, I say that when the same thing *that does the same thing* is added on both sides it is quite necessary that if they are converted at first, they should still be converted with the addition made on both sides. Therefore, if in 'Only the true and the false are opposed' the exclusion is made with respect to the same thing with respect to which the exclusion is made in 'Only the true is opposed to the false', and in the same respect, then it correctly follows: 'Only the true is opposed to the false; therefore, only the true and the false are opposed'.

(751) You will say: 'The same thing inasmuch as it is the same is naturally apt to do the same'.

(752) I say to you that this is true about the first cause, which is entirely immutable and free of all transmutation. For Aristotle means that cause in *On Generation* I [= II.10 336<sup>a</sup>27–28]. It can also be understood in another way so that the same thing with respect to the same thing is always naturally apt to do the same thing, and with respect to different things the same thing can do different things. For example, the quantifier 'every' added to 'man' and 'animal' does different things. For added to 'man' it distributes 'man' over all the supposita of 'man'. And the same thing added to 'animal' distributes it over all its supposita. And distributing over all the supposita of 'man' is not the same as distributing over all the supposita of 'animal'.

#### ANOTHER SOPHISM

(753) From the distinction stated above, the sophism 'Only Socrates or Plato is a white man' is solved, assuming that no man but Plato is white.

271. That is, one falsehood can be the *contrary* opposite of another falsehood.

(754) It is proved as follows: Socrates or Plato is a white man; and nothing that is not Socrates or Plato is a white man; therefore, only Socrates or Plato is a white man.

(755) It is disproved as follows: If Socrates or Plato is a white man, therefore not only Socrates or Plato is a white man.<sup>272</sup>

#### REPLY TO THE SOPHISM

(756) (p. 149) Solution: With the exclusion made with respect to the whole disjoint term, the sophism-proposition is true. And the proof proceeds in this way. But with the exclusion made with respect to the first part, in that case the sophism-proposition is false. And the disproof proceeds in this way. With the exclusion made with respect to the whole, its negative exponent is 'Nothing that is not Socrates or Plato is a white man'. But with the exclusion made with respect to the first part, the negative exponent is 'Nothing other than Socrates or Plato is a white man', which is false.<sup>273</sup>

#### *On Exclusive Syllogisms*

(757) Because frequently syllogisms in which both premises are exclusive, or one of them is, are proved and completed by the rule 'A universal affirmative in the nominative is converted with an exclusive with the terms transposed' [(638)], therefore, to begin with, this rule has to be explained.

(758) Therefore, I first explain that a universal affirmative implies an exclusive with the terms transposed. Second, I shall prove that the converse is a good inference.

(759) I prove the first point as follows: What implies both exponents of an exclusive implies the exclusive. This is plain at once, because the exponents exhaust the whole understanding of the exclusive. But a universal affirmative in the nominative implies both exponents of the exclusive with the terms transposed; therefore, etc.

(760) Proof of the minor: For 'Every *b* is an *a*' implies both exponents of 'Only an *a* is a *b*'. For the exponents of 'Only an *a* is a *b*' are 'An *a* is a *b*' and 'Nothing other than an *a* is a *b*'. Now it certainly follows: 'Every *b* is an *a*; therefore, an *a* is a *b*'. Likewise, it follows: 'Every *b* is an *a*; therefore, nothing other

272. See n. 273 below.

273. The reasoning seems wrong here. On the analogy of (747), the latter negative exponent should be read in the sense 'Nothing other than Socrates, or else Plato, is a white man'. But that would appear to be true, not false, since Plato is a white man.

than an *a* is a *b*'. For the opposite of the antecedent follows from the opposite of the consequent [(279)]. For it follows: 'Another than an *a* is a *b*; therefore, a *b* is other than an *a*'. And it follows: 'A *b* is other than an *a*; therefore, a *b* is not an *a*,' and that is the opposite of the antecedent. So it is plain that a universal implies an exclusive with the terms transposed.

(761) Proof that the exclusive implies the universal: For it follows: 'Only an *a* is a *b*; therefore, every *b* is an *a*'. Proof: The opposite of the consequent is incompatible with the antecedent, as is plain. For let the opposite of the consequent be given: 'Some *b* is not an *a*'. This is incompatible with 'Only an *a* is a *b*'. For each singular of 'Some *b* is not an *a*' is incompatible with 'Only an *a* is a *b*'. And whatever each singular of some particular is incompatible with, the particular is incompatible with the same thing, (p. 150) as is plain through the Philosopher, *Prior Analytics* I [2 25<sup>a</sup>14–19].

(762) Proof of the assumption: For let some singular of 'Some *b* is not an *a*' be given, and let it be 'This *b* (for example *c*) is not an *a*'. This is incompatible with 'Only an *a* is a *b*'. Proof: For if this *b* (for example *c*) is not an *a*, then *c* is a *b* and *c* is not an *a*. Now it follows: '*c* is a *b*; and *c* is not an *a*; therefore, something that is not an *a* is a *b*'. For *c*, which is not an *a*, is a *b*. But this is incompatible with 'Only an *a* is a *b*'. For 'Only an *a* is a *b*' and 'Something that is not an *a* is a *b*' are incompatible. It is the same way for each other singular.

(763) This proof is the same as the proof by which Aristotle, *Prior Analytics* I [ibid.], proves the conversion of the assertoric universal negative.

#### ON EXCLUSIVE SYLLOGISMS IN THE FIRST FIGURE

(764) Now that we have seen these points about the way to form syllogisms with exclusives, it has to be understood that in the first figure, from all exclusive premises in the nominative, there is a good syllogism when the exclusive word is affirmed in both premises. For the syllogism 'Only a man runs; only an animal is a man; therefore, only an animal runs' is a good one.

(765) Now it is plain that this syllogism is good, because from propositions convertible with the premises there follows a proposition convertible with the conclusion. This is plain. For an exclusive is converted with a universal with the terms transposed [(638)]. Therefore, let us take the universal that is converted with the minor and let it be put in place of the major, and let the universal that is converted with the major be put in place of the minor. From these propositions there follows a universal convertible with the conclusion.

(766) For example, the minor was 'Only an animal is a man', which is converted with 'Every man is an animal'. The major was 'Only a man runs', which is converted with 'Every runner is a man'. But now from 'Every man is an animal', which is converted with the minor, and from 'Every runner is a man',

which is converted with the major, the proposition 'Every runner is an animal' follows, which is converted with the conclusion.

(767) But if an exclusive word occurs in both premises and the exclusive word is affirmed in one of the premises and denied in the other, no conclusion formally follows syllogistically. This is plain through counterexamples in terms.<sup>274</sup> For if the exclusion is denied in the major and affirmed in the minor, no conclusion follows, as is plain. For (p. 151) assuming that every animal is asleep, the premises 'Not only a man is asleep' and 'Only an animal is a man' are true, and yet the conclusion 'Not only an animal is asleep' is false, and 'An animal is not asleep' likewise. Therefore, neither one follows. Yet if any conclusion followed, one of these would follow.

(768) On the other hand, if the exclusion is affirmed in the major and denied in the minor, no conclusion follows, as is plain. For assuming that every man and only a man runs, the premises 'Only an animal runs' and 'Not only a man is an animal' are true. Yet 'Not only a man runs' is false, and likewise 'A man does not run'. Yet if any conclusion followed from these premises, one of these would follow. But neither of them does follow, since the premises are true and the conclusion false.

(769) Now if the exclusion is denied in both premises, no conclusion follows, because nothing follows from negatives. This is plain by an example in terms.<sup>275</sup> For assuming that every man and only a man runs, the premises 'Not only an ass runs' and 'Not only a man is an ass' are true, and yet 'Not only a man runs' is false, and likewise 'A man does not run'. But if any conclusion followed, one of these would follow. Since therefore, neither of them does follow, it is also plain that no conclusion follows syllogistically.

(770) So it is plain that if an exclusion occurs in both premises, if the exclusion is affirmed in both premises, there is a good syllogism with respect to a conclusion in which the exclusion is affirmed. But if an exclusion occurs in both premises and the exclusion is denied in one or in both of the premises, no conclusion follows syllogistically.

(771) But if one of the premises is an exclusive and the other premise is a simple categorical proposition, if the exclusion is affirmed in the major and the subject of the major is not taken universally, and the minor is a simple affirmative categorical, then no conclusion follows, either a universal or a particular one. For it does not follow: 'Only an animal is an ass; every man is an animal; therefore, every man, or some man, is an ass'. The reason for this is that if the major is converted into a universal with the terms transposed, and it is argued from that universal together with the minor, there will be a syl-

274. That is, using ordinary common nouns and adjectives instead of variables.

275. See n. 274, above.

logism from all affirmatives in the second figure—from which no conclusion follows.

(772) Yet if the subject of the major is taken universally, the syllogism can be a good one. For it follows: 'Only every man runs; Socrates is a man; therefore, Socrates runs'. For it follows: 'Only every man runs; therefore, every man (p. 152) runs'. And whatever follows from a consequent with something added follows from the antecedent with the same thing added [(265)].

(773) Now if the major is a simple categorical proposition and the minor an affirmative exclusive, so that the exclusion as well as the composition is affirmed in the minor, then from such premises a particular conclusion follows. But an exclusive does not follow. The reason for this is that if the minor is converted into a universal with the terms transposed, there will be a syllogism in the third figure, in which nothing follows but a particular conclusion. For an exclusive conclusion does not follow. For it does not follow: 'Every man is an animal; only a risible is a man; therefore, only a risible is an animal'. For the premises are true and the conclusion false.

(774) On the other hand, if the exclusion is denied in one of the premises and the remaining premise is a universal affirmative simple categorical, there is always a good syllogism with respect to a conclusion in which the exclusion is denied. For if the exclusion is denied in the major and the minor is a universal affirmative, there is a good syllogism.

(775) For example, it follows: 'Not only an  $a$  is a  $b$ ; every  $c$  is an  $a$ ; therefore, not only a  $c$  is a  $b$ '. This is proved as follows: Let the opposite of the conclusion be given: 'Only a  $c$  is a  $b$ ', and let it be converted into a universal with the terms transposed, as follows: 'Only a  $c$  is a  $b$ ; therefore, every  $b$  is a  $c$ '. Let this be put in place of the minor, and let the minor of the first syllogism be put in place of the major, as follows: 'Every  $c$  is an  $a$ ; every  $b$  is a  $c$ '. From these premises the conclusion 'Every  $b$  is an  $a$ ' follows. This is incompatible with the major of the first syllogism, because it implies its contradictory. For it follows: 'Every  $b$  is an  $a$ ; therefore, only an  $a$  is a  $b$ '. This is the contradictory of the major, which was 'Not only an  $a$  is a  $b$ '.

(776) But if the exclusion is denied in the major and the minor is a simple particular affirmative, no conclusion follows. For example, assuming that every animal is awake, the premises 'Not only a man is awake' and 'Some animal is a man' are true. From these premises there does not follow the conclusion 'Not only an animal is awake', or even 'An animal is not awake'. For the premises are true and the conclusion false. Yet if any conclusion followed, one of these would follow.

(777) Now if the major is a universal affirmative simple categorical and the exclusion is denied in the minor, and the propositions are arranged in the first figure, there always follows a conclusion in which the exclusion is denied. For

example, it follows: 'Every runner is a man; not only an animal is a runner; therefore, not only an animal is a man'. For let the opposite of the conclusion be given, and let it be converted into a universal with the terms transposed. From that universal put in place of the major, together with the major of the earlier syllogism put in place of the minor, there follows the opposite of the minor of the earlier syllogism. For let the opposite (p. 153) of the conclusion be given, which is 'Only an animal is a man'. And let it be converted into a universal with the terms transposed, namely into 'Every man is an animal'. And let it be argued together with the major, as follows: 'Every man is an animal; every runner is a man; therefore, every runner is an animal'. This is incompatible with the minor 'Not only an animal runs', because it implies its opposite. For it follows: 'Every runner is an animal; therefore, only an animal runs'.

(778) But if the major is a particular affirmative or negative and the exclusion is denied in the minor, no conclusion follows. For it does not follow: 'Some animal is a man, or not a man;<sup>276</sup> not only a risible is an animal; therefore, not only a risible is a man'. Neither does it follow that 'A risible is not a man'. For the premises are true and the conclusion false. Yet if any conclusion followed, one of these would follow.

*Eight Rules for Exclusive Syllogisms in the First Figure*

(779) (a) From all exclusives, when the exclusion is affirmative in both premises, a syllogism is good in which the exclusion is affirmed [in the conclusion].

(780) (b) From all exclusives, when the exclusion is denied in one or in both of the premises, the syllogism is not valid.

(781) (c) From an exclusive affirmative major and an affirmative simple categorical minor no conclusion follows unless the subject is taken universally.

(782) (d) From a simple categorical major and an exclusive affirmative minor a simple particular conclusion follows.

(783) (e) From a major in which the exclusion is denied and a universal affirmative minor a conclusion follows in which the exclusion is denied.

(784) (f) From a major in which the exclusion is denied and a simple particular affirmative minor no conclusion follows.

(785) (g) From a universal affirmative simple categorical major and a minor in which the exclusion is denied a conclusion follows in which the exclusion is denied.

276. That is, if the major is either of the two premises 'Some animal is a man' or 'Some animal is not a man'.

(786) (h) (p. 154) From an affirmative or negative simple categorical particular major and a minor in which the exclusion is denied no conclusion follows.

#### ON EXCLUSIVE SYLLOGISMS IN THE SECOND FIGURE

(787) Now in the second figure, if the exclusion in both premises is affirmed, and also the main verb, from such premises an exclusive conclusion does not follow. Nevertheless a simple categorical particular does correctly follow. Thus it does not follow: 'Only an animal is a man; only a risible is a man; therefore, only a risible is an animal', because the premises are true and the conclusion false. Nevertheless, the conclusion 'Some risible is an animal' does correctly follow.

(788) This is plain, because if the premises are converted into universals with the terms transposed, this particular conclusion correctly follows. For it follows: 'Every man is an animal; every man is risible; therefore, a certain risible is a man'.

(789) Now if in both premises the exclusion is affirmed and the main verb is denied in both premises, no conclusion follows by the rules of syllogisms. For if any conclusion followed by the rules of syllogisms, a negative conclusion would follow, since both premises are negative. But no negative follows. For it does not follow: 'Only an intelligible is not a nonanimal; only a nonman is not a nonanimal; therefore, only a nonman is not intelligible'. It also does not follow that 'A nonman is not intelligible'. For the premises are true and the conclusion false. Yet if any negative conclusion followed, one of these would follow.

(790) For the same reason, if the exclusion is affirmed in both premises and the main verb is affirmed in one of the premises and denied in the other, no negative conclusion follows. For it does not follow: 'Only an intelligible is an animal; only a nonman is not an animal; therefore, only a nonman is not an intelligible'. It also does not follow that 'A nonman is not intelligible'. For the premises are true and the conclusion false. Yet if any conclusion followed, one of these would follow.

(791) Now if the exclusion is affirmed in one premise, and also the verb, and the remaining premise is a simple affirmative, there always follows some conclusion. For if the major is exclusive, so that both the exclusion and the verb are affirmed, and the minor is a universal affirmative, from such (p. 155) premises a universal affirmative follows. And if the minor is a particular affirmative, then a particular conclusion follows.

(792) For example, it follows: 'Only a *b* is an *a*; every *c* is an *a*; therefore, every *c* is a *b*'. Likewise it follows: 'Only a *b* is an *a*; some *c* is an *a*; therefore, some *c* is a *b*'. For if the major is converted into a universal with the terms



transposed, from that major together with the same minor the same conclusion follows, as is plain to one who looks at it.

(793) It is the same way with negatives. If the exclusion is affirmed in the major and the main verb is denied both in the major and in the minor, and the minor is a simple categorical, a conclusion always follows. For if the minor is a universal negative, a universal affirmative conclusion follows. And if the minor is a particular negative, a particular affirmative conclusion follows.

(794) For example: 'Only a *b* is not an *a*; every *c* is not an *a*; therefore, every *c* is a *b*'. Likewise it follows: 'Only a *b* is not an *a*; some *c* is not an *a*; therefore, some *c* is a *b*'.

(795) The reason for this is that it is denoted by the exclusive that only and precisely that with respect to which the exclusion is made is in the subject, or in the things of which the subject is said. Therefore, if that with respect to which the exclusion is made, whether it is affirmed or denied, is in something, the subject of the exclusive has to be said of that same thing. Thus, it is denoted by 'Only a *b* is not an *a*' that not being an *a* is only and precisely in a *b*. Therefore, if not being an *a* is in a *c*, a *c* has to be a *b*. It is also plain from this that 'Everything that is not an *a* is a *b*' is implied by 'Only a *b* is not an *a*'. Now it follows: 'Everything that is not an *a* is a *b*; every *c* is not an *a*; therefore, every *c* is a *b*'.

(796) So it is plain, therefore, that if the exclusion is affirmed in one premise and the main verb is affirmed (or even denied) in both premises, an affirmative conclusion always follows in which the major extremity is affirmed of the minor extremity. But this is not by the rules of syllogisms that Aristotle posits. Rather such an inference holds by the rule 'Whenever some affirmed or denied predicate is in some subject precisely, whatever that predicate is in the way in which it is denoted in the exclusive to be in the subject, the subject is in precisely the same thing'. This is manifest, because if the predicate were that way in something in which the subject were not, then the predicate would not be that way precisely in the subject. So it is apparent, therefore, how syllogisms in the second figure are and are not made when the exclusive word is affirmed in one premise or in both.

(797) (p. 156) You have to know further that when the exclusive word is denied in both premises—or in one, and the remaining premise is categorical—no conclusion ever follows by the form. For if the exclusion is denied in both premises, the syllogism is not valid. For it does not follow: 'Not only a risible is an animal; not only a man is an animal; therefore, not only a man is risible'. It does not even follow that 'A man is not risible'. For the premises are true and the conclusion false. So it is plain that from such premises a negative conclusion does not follow. An affirmative conclusion does not follow either. For

it does not follow: 'Not only a man is an animal; not only an ass is an animal; therefore, an ass is a man'.

(798) Now if the exclusion is denied in one premise, and the remaining premise is a simple categorical, no conclusion follows. For it does not follow: 'Every man is an animal; not only a risible is an animal; therefore, not only a risible is a man'. It does not even follow that 'A risible is not a man'. So no negative conclusion follows. There does not follow any affirmative conclusion either. For it does not follow: 'Every man is an animal; not only an ass is an animal; therefore, an ass is a man'.

(799) It is the same way if the exclusion is denied in the major and the minor is a simple categorical, as is plain from the same counterexamples. For it does not follow: 'Not only a man is an animal; every risible is an animal; therefore, not only a risible is a man'. It does not even follow that 'A risible is not a man'. So no negative conclusion follows. There does not follow any affirmative conclusion either. For it does not follow: 'Not only an ass is an animal; every man is an animal; therefore, a man is an ass'.

(800) Now if the exclusion is affirmed in one of the premises and denied in the other, if the exclusive word is affirmed in the major and denied in the minor, there always follows a conclusion in which the exclusion is denied. For example, it follows in general: 'Only an  $a$  is a  $b$ ; not only a  $c$  is a  $b$ ; therefore, not only a  $c$  is an  $a$ '. For, with all terms,<sup>277</sup> from the opposite of the conclusion together with the major there follows the contradictory of the minor. For let the opposite of the conclusion be given: 'Only a  $c$  is an  $a$ '. This is converted with 'Every  $a$  is a  $c$ '. And let the major be converted into a universal affirmative with the terms transposed, as follows: 'Only an  $a$  is a  $b$ ; therefore, every  $b$  is an  $a$ '. Now from these universals, which are converted with the opposite of the conclusion and with the major [respectively], there follows a universal that is converted with the opposite of the minor. For it follows: 'Every  $a$  is a  $c$ ; every  $b$  is an  $a$ ; therefore, every  $b$  is a  $c$ '. And this is converted with 'Only a  $c$  is a  $b$ ', which is opposed to the minor (p. 157) of the first syllogism.

(801) But if the exclusion is denied in the major and affirmed in the minor, a direct conclusion does not follow in which the exclusion is denied. For it does not follow: 'Not only a man is an animal; only a substance is an animal; therefore, not only a substance is a man'. For the premises are true and the conclusion false. Nevertheless an indirect conclusion in which the exclusion is denied does correctly follow: 'Not only a man is an animal; only a substance is an animal; therefore, not only a man is a substance'. This is plain, because if the minor is put in place of the major and the major in place of

277. That is, no matter what terms are substituted for the variables.

the minor, the same conclusion follows, as is plain from the preceding rule [(800)].

(802) Nevertheless, if the exclusion is denied in the major and affirmed in the minor, a simple categorical negative particular direct conclusion always follows. For it follows: 'Not only a man is an animal; only a substance is an animal; therefore, some substance is not a man'. For from the opposite of the conclusion, together with a proposition convertible with the minor, there follows a proposition convertible with the opposite of the major. For it follows: 'Every substance is a man; every animal is a substance; therefore, every animal is a man'. Now this minor is converted with the minor of the earlier syllogism, and this conclusion is converted with the opposite of the major of the earlier syllogism, as is plain to one who looks at it.

*Nine Rules for Exclusive Syllogisms in the Second Figure*

(803) (a) From two exclusive premises when the exclusion is affirmed, and the verb affirmed too, there follows a simple categorical particular conclusion, but an exclusive conclusion does not follow.

(804) (b) From two exclusive premises when the exclusion is affirmed and the verb denied in both no negative conclusion follows.

(805) (c) From two exclusive premises when the exclusion is affirmed in both and the verb denied in one and affirmed in the other no negative conclusion follows.

(806) (d) From an exclusive major with both the exclusion and the verb affirmed, and an affirmative simple categorical minor, there always follows an affirmative simple categorical conclusion of the same quantity as the minor.

(807) (e) From an exclusive major when the exclusion is affirmed and the verb denied, and a negative simple categorical minor, there always follows an affirmative simple categorical conclusion of the same quantity as the minor.

(808) (f) (p. 158) From two premises when the exclusion is denied in both no conclusion follows.

(809) (g) From one of the premises in which the exclusion is denied and the remaining one a simple categorical no conclusion follows.

(810) (h) From a major in which the exclusion is affirmed and a minor in which the exclusion is denied a conclusion always follows in which the exclusion is denied.

(811) (i) From a major in which the exclusion is denied and a minor in which the exclusion is affirmed there always follows a direct particular negative simple categorical conclusion and an indirect conclusion in which the exclusion is denied.

## ON EXCLUSIVE SYLLOGISMS IN THE THIRD FIGURE

(812) The next thing to see is how one is to form syllogisms in the third figure when one or both premises are exclusive.

(813) You have to know that if both premises are exclusive, so that the exclusion is affirmed in both premises, and also the main verb is affirmed in both premises, no conclusion follows. For if the exclusion is affirmed in both premise and the main verb is also affirmed in both premises, no conclusion follows.

(814) This is plain both (a) because if both premises are converted into universals with the terms transposed, no conclusion follows from them. For those universals are universal affirmatives arranged in the second figure, and no conclusion follows from affirmatives in the second figure. And also, (b) because there is a counterexample in terms.<sup>278</sup> For it does not follow: 'Only an animal is a man; only an animal is an ass; therefore, only an ass is a man'. Neither does it follow that 'Some ass is a man'. Yet if any conclusion followed, one of these would follow.

(815) In the same way, I say that if the exclusion is affirmed in both premises and the main verb is denied in both premises, no conclusion follows. For it does not follow: 'Only a nonman is not a man; only a nonman is not risible; therefore, only a risible is not a man'. It also does not follow that 'A risible is not a man'. For the premises are true and the conclusion false. Yet if any conclusion followed, one of these would follow.

(816) Now if one premise is a simple affirmative and universal categorical and in the other premise the exclusion is affirmed, and the main verb is affirmed in both premises, then if the major is exclusive and the minor a universal affirmative, there always follows a conclusion in which the exclusion is affirmed. For it follows: 'Only an animal (p. 159) is a man; every animal is a substance; therefore, only a substance is a man'. This is plain, because from the same minor together with 'Every man is an animal' — let this be put in place of the minor and the minor of the earlier syllogism in place of the major, as follows: 'Every animal is a substance; every man is an animal'. The conclusion 'Every man is a substance' follows, which is converted with the conclusion of the earlier syllogism, namely with 'Only a substance is a man'.

(817) But if the major is a universal affirmative and the minor an exclusive, an exclusive conclusion does not follow. Nevertheless a particular simple categorical does correctly follow quite well. For example, it does not follow: 'Every animal is a substance; only an animal is a man; therefore, only an animal is a substance'. Yet the conclusion 'Some man is a substance' does correctly follow.

278. That is, a counterexample if certain terms are substituted for the variables.

(818) Now if the major proposition is a universal negative simple categorical and the minor an exclusive affirmative, then a universal negative simple categorical conclusion follows. For example, this syllogism is a good one: 'No man is an ass; only a man is risible; therefore, no risible is an ass'. For if the minor is converted into a universal affirmative with the terms transposed, it is manifest that the same conclusion follows from the major and the universal affirmative that is converted with the minor. For this syllogism is a good one: 'No man is an ass; every risible is a man; therefore, no risible is an ass'.

(819) But if the minor is a universal negative, no conclusion follows in this figure, because the minor in the third figure should always be affirmative.

(820) Now if the exclusion is denied in one of the premises, or in both, therefore an exclusion occurs either in both premises or in one only. If an exclusion occurs in both premises, therefore either the exclusion is denied in both, and in that case no conclusion follows syllogistically. For nothing follows syllogistically from pure negatives.

(821) But if the exclusion is affirmed in one premise and denied in the other, if the exclusion is denied in the major and affirmed in the minor, there follows a conclusion in which the exclusion is denied. For it follows: 'Not only a man is an animal; only a man is risible; therefore, not only a risible is an animal'. For the opposite of the major follows from the opposite of the conclusion together with the minor, as was seen above in the first figure [(764)].

(822) Now if the exclusion is affirmed in the major and the exclusion is denied in the minor, there does not follow a direct conclusion in which the exclusion is denied. (p. 160) But an indirect conclusion in which the exclusion is denied does follow correctly. For example, from the premises 'Only an animal is a man' and 'Not only an animal is a substance', the conclusion 'Therefore, not only a substance is a man' does not follow. For the premises are true and the conclusion false. Nevertheless the conclusion 'Not only a man is a substance' does follow correctly. This is plain, because if the premises are transposed, the same conclusion follows, as was seen [(821)].

(823) Yet from a major in which the exclusion is affirmed and from a minor in which the exclusion is denied there always follows a direct particular negative conclusion. For it follows: 'Only an animal is a man; not only an animal is a substance; therefore, some substance is not a man'. For from the opposite of the conclusion together with a universal convertible with the major there follows a universal conclusion convertible with the opposite of the minor. For 'Every man is an animal' is converted with 'Only an animal is a man'. In that case, let this be taken in place of the major and let the opposite of the conclusion be taken in place of the minor, as follows: 'Every man is an animal; every substance is a man'. From these premises it follows that every substance is an animal. And this is convertible with the opposite of the minor, that is, with

'Only an animal is a substance'. So it is plain how one is to form syllogisms when an exclusion occurs in both premises and the exclusion is denied in one of the premises or in both.

(824) But if the exclusion is denied in one of the premises and the remaining one of the premises is a simple categorical, therefore either the major is the simple categorical and the minor the negative exclusive so that the exclusion is denied in it, or the other way around—that is, that the exclusion is denied in the major and the minor is a simple categorical.

(825) If the major is the simple categorical and the exclusion is denied in the minor, the major is either affirmative or negative. If it is negative, no conclusion follows syllogistically, because nothing follows syllogistically from pure negatives. But if the major is the universal affirmative and the exclusion is denied in the minor, no conclusion follows. For neither an affirmative conclusion nor a negative one follows. For a negative conclusion does not follow, because it does not follow: 'Every man is an animal; not only a man is an animate sensible substance; therefore, not only an animate sensible substance is an animal'. 'An animate sensible substance is not an animal' does not follow either. For the premises are true and the conclusion false. And so a negative conclusion does not follow.

(826) An affirmative conclusion does not follow either, because from the premises (p. 161) 'Every man is an animal' and 'Not only a man is a stone', no affirmative conclusion follows—because neither 'Only a stone is an animal' nor even 'A stone is an animal' follows.

(827) Now if the exclusion is denied in the major, the minor is therefore either affirmative or negative. If the minor is negative, no conclusion follows syllogistically. For nothing follows syllogistically from negatives. But if the minor is affirmative, no conclusion follows, because neither an affirmative nor a negative conclusion follows. For an affirmative conclusion does not follow, since from the premises 'Not only a man is a stone' and 'Every man is risible' there does not follow any affirmative conclusion. For it does not follow that 'Only a risible is a stone'. And it does not even follow that 'A risible is a stone'.

(828) A negative conclusion does not follow either, because from the premises 'Not only a man is an animal' and 'Every man is an animate sensible substance', the conclusion 'Not only an animate sensible substance is an animal' does not follow, and neither does 'An animate sensible substance is not an animal'. For the premises are true and both conclusions false. Yet if any conclusion followed syllogistically, one of these would follow.

(829) Now in the particular moods of this figure,<sup>279</sup> if the major is a particular affirmative and a simple categorical and the minor is an exclusive af-

279. That is, moods in which one premise is particular.

firmative, a particular conclusion correctly follows. But an exclusive conclusion does not follow. For it follows: 'Some man is an animal; only a man is risible; therefore, some risible is an animal'. But the conclusion 'Only a risible is an animal' does not follow, because the premises are true and the conclusion false.

(830) Now if the major is an affirmative exclusive and the minor a particular affirmative, no conclusion follows. For it does not follow: 'Only an animal is a man; some animal is an ass; therefore, some ass is a man'. It also does not follow that 'An ass is a man'. Yet if any conclusion followed syllogistically, one of these would follow syllogistically.

(831) But if the major is a particular negative and the minor an exclusive affirmative, no conclusion follows, neither an exclusive conclusion nor a particular simple categorical. For neither an affirmative nor a negative conclusion follows. For an affirmative conclusion does not follow, either an exclusive or a simple categorical, because from the premises 'Some animal is not man' and 'Only an animal is an ass' the affirmative exclusive conclusion 'Only an ass is a man' does not follow, and neither does 'An ass is a man'. So no affirmative conclusion (p. 162) follows.

(832) A negative conclusion does not follow either, because from the premises 'Some animal is not a man' and 'Only an animal is risible' the conclusion 'Only a risible is not a man' does not follow, and neither does 'A risible is not a man'—or even 'Not only a risible is a man'. For the premises are true and the conclusion false.

(833) Now if the major is a universal negative and the minor an exclusive affirmative, a universal negative simple categorical conclusion correctly follows. There also follows a conclusion in which the exclusion is denied. For example, it follows: 'No man is a stone; only a man is risible; therefore, no risible is a stone'. For with the minor converted into a universal affirmative with the terms transposed, the same conclusion correctly follows, as is plain to one who looks at it. And it is plain that a particular negative follows what a universal negative follows from, because whatever is antecedent to an antecedent, etc. [(262)].

(834) There also follows a conclusion in which the exclusion is denied. For it follows: 'No man is a stone; only a man is risible; therefore, not only a risible is a stone'. For the opposite of the conclusion—that is, 'Only a risible is a stone'—is not compatible with the premises. For from this it follows that a risible is a stone, and this is incompatible with the premises, because its opposite follows from the premises, as is manifestly plain.

(835) Now when one premise is particular and in the remaining one of the premises the exclusion is denied, if the major is a particular negative and the

exclusion is denied in the minor, no conclusion follows syllogistically since both premises are negative and nothing follows syllogistically from negatives.

(836) It is also plain by a counterexample in terms<sup>280</sup> that an affirmative or negative conclusion does not follow. For it does not follow: 'Some animal is not a man; not only an animal is a stone; therefore, a stone is a man'. So an affirmative conclusion does not follow. Neither does it follow: 'Some stone is not a man; not only a stone is risible; therefore, some risible is not a man'. It does not even follow that 'Not only a risible is a man'. Also, for the same reason, if the exclusion is denied in the major and the minor is a particular negative, no conclusion follows.

(837) Now if the major is a particular affirmative and the exclusion is denied in the minor, no conclusion follows. For an affirmative conclusion does not follow, and a negative conclusion does not follow either. For from the premises 'Some animal is a man' and 'Not only an animal is a stone' an affirmative conclusion does not follow—that is, that a stone is (p. 163) a man. And from the premises 'Some man is an animal' and 'Not only a man is an animate sensible substance' there does not follow any negative conclusion. For it does not follow that some animal sensible substance is not an animal. It also does not follow that not only an animate sensible substance is an animal. For the premises are true and the conclusion false.

(838) But if the exclusion is denied in the major and the minor is a particular affirmative, no conclusion follows, as is plain. For an affirmative conclusion does not follow, and neither does a negative conclusion follow, as is plain by a counterexample in the same terms.

*Nineteen Rules for Exclusive Syllogisms in the Third Figure*

(839) (a) From two exclusive premises when the exclusion is affirmed in both no conclusion follows.

(840) (b) From an exclusive major in which the exclusion as well as the verb is affirmed and a universal affirmative minor there follows a conclusion in which the exclusion as well as the verb is affirmed.

(841) (c) From a universal affirmative major and an exclusive affirmative minor there follows a particular affirmative conclusion. But an exclusive conclusion does not follow.

(842) (d) From a universal negative minor and an exclusive affirmative minor there follows a universal negative conclusion.

(843) (e) From an exclusive major and a universal negative minor no conclusion follows.

280. See n. 278, above.



(844) (f) From premises in both of which an exclusion is denied no conclusion follows in this figure.

(845) (g) From a major in which an exclusion is denied and a minor in which an exclusion is affirmed there follows a conclusion in which an exclusion is denied.

(846) (h) From a major in which an exclusion is affirmed and a minor in which an exclusion is denied there follows a conclusion—an indirect, not a direct one—in which an exclusion is denied. Nevertheless a [direct] particular negative conclusion always follows.

(847) (i) From a universal negative major and a minor in which an exclusion is denied no conclusion follows.

(848) (j) From a universal affirmative major and a minor in which an exclusion is denied no conclusion follows.

(849) (k) From a major in which an exclusion is denied and a negative minor no conclusion follows.

(850) (l) From a major in which an exclusion is denied and an affirmative minor no conclusion follows.

(851) (m) (p. 164) From a particular affirmative major and an exclusive affirmative minor there follows a particular affirmative conclusion, but not an exclusive conclusion.

(852) (n) From an exclusive affirmative major and a particular affirmative minor no conclusion follows.

(853) (o) From a particular negative major and an exclusive affirmative minor no conclusion follows.

(854) (p) From a universal negative major and an exclusive affirmative minor there follows a universal negative conclusion and also a conclusion in which an exclusion is denied.

(855) (q) From a major in which an exclusion is denied and a particular negative minor no conclusion follows.

(856) (r) From a particular affirmative major and a minor in which an exclusion is denied no conclusion follows.

(857) (s) From a major in which an exclusion is denied and a particular affirmative minor no conclusion follows.

## Chapter 2: On Exceptives

(858) Now that we have talked about exclusives, we must now talk about exceptives, like ‘except’ and ‘unless’, insofar as they are taken exceptively.

*'Besides'*

(859) Now you must first know that the word 'besides' can be taken in four ways.<sup>281</sup> For sometimes it is taken (a) associatively. For example, in saying 'Some man besides Socrates is risible', the sense can be that not only Socrates is risible but also some other man. Again, 'besides' is the same as 'with'. For to say 'Some man besides Socrates runs' is the same as to say 'Some man runs with Socrates',<sup>282</sup> insofar as 'besides' is taken associatively. In this case it expresses an association in act.

(860) (b) In the second way, 'besides' can be taken insofar as it expresses the privation of an association. In that case it amounts to the same as 'without'. For example, in saying 'Socrates besides Plato does this',<sup>283</sup> the sense can be 'Socrates does this without Plato'.

(861) (c) Third, the word 'besides' can be taken diminutively. For example, in saying 'Four besides one are three' the sense can be 'Four diminished by one are three'—that is, taking away one of the four, three remain.

(862) (d) In the fourth way the word 'besides' is taken exceptively. In that case it always excepts a subjective part<sup>284</sup> from some distributed universal whole. 'Besides' is taken in this fourth way in sophisms.

(863) (p. 165) Now you need to know that an exception is the extraction of a part from a whole with respect to some third thing. For this reason exceptive words are called 'counterinstances' to the whole, insofar as they posit a counterinstance to the whole. But a part does not posit a counterinstance to a whole unless the whole is necessarily abolished when the part is abolished. Now there is no such part unless it is a part that is actually in the whole and actually follows from the whole. Therefore, an exception is the extraction, not of just any part, but of a part actually contained in the whole and actually posited by the whole.

(864) Therefore, it is not well formed to say 'Every man besides an ass runs', because *ass* is not a part of *man*. Likewise, it is not well formed to say 'Some man besides Socrates runs', taking 'besides' exceptively. For although Socra-

281. There is no one English word that can translate the Latin *praeter* (= besides) smoothly in all these contexts. The basic meaning is 'beyond', 'over and above'.

282. This does not mean that they run side by side, but only that Socrates runs and so does some other man.

283. The Latin sounds a little less artificial than the English does here.

284. This terminology can be explained briefly by an example: Socrates and *man* are 'subjective parts' of the 'universal whole' *animal*. By contrast, the walls and roof are 'integral parts' of a house, which is their 'integral whole', and three is a 'quantitative part' of five, a 'quantitative whole', as a yard is likewise of a mile, or a pound of a ton.

tes is a subjective part of *man*, nevertheless he is not actually posited by the particular quantifier added to 'man'.

(865) Thus, this rule is posited, that an exceptive term should be actually contained in the supposition of the term from which the exception is made.

(866) It must be noted that four things are required for an exception: (a) the part that is excepted, (b) the whole from which the exception is made, (c) something with respect to which the exception is made, and (d) the act of excepting that is conveyed by the exceptive word as by an instrument. For example, in saying 'Every man besides Socrates runs', 'Socrates' is the part that is excepted, 'every man' is the whole from which the exception is made, 'running' is that with respect to which the exception is made, and 'besides' is the exceptive word.

(867) It must be noted too that each exceptive has two exponents, an affirmative one and a negative one. For example, 'Every man besides Socrates runs' is expounded like this: 'Every man other than Socrates runs and Socrates does not run'. And 'No man besides Socrates runs' is expounded like this: 'No man other than Socrates runs and Socrates runs'. Thus in an affirmative exceptive that with respect to which the exception is made is removed from the excepted part and attributed to everything else contained under the term from which the exception is made. But in a negative exceptive that with respect to which the exception is made is attributed to the excepted part and removed from everything else contained under that from which the exception is made.

(868) It has to be noted also that because an exceptive has two exponents, therefore the contradictory of an exceptive has two causes of truth. These causes are the contradictories of the exceptive's exponents. For example, because 'Every man besides Socrates runs' has the two causes of truth 'Every man other than Socrates runs' and 'Socrates does not run' as exponents,<sup>285</sup> therefore 'Not every man (p. 166) besides Socrates runs' has the two causes of truth 'A man other than Socrates does not run' and 'Socrates runs'. And since a proposition having several causes of truth is equipollent to a disjunctive made out of those causes, therefore I say that the opposite of any exceptive is equipollent to a disjunctive made out of the contradictories of the exceptive's exponents. For example, 'Not every man besides Socrates runs' amounts to 'Some man other than Socrates runs or Socrates runs'.

285. Note the unusual use of 'causes of truth' here as the *same* as the exponents. The more normal usage, as elsewhere in this paragraph, has the exponible proposition be equipollent to the *conjunction* of its exponents, whereas the contradictory of the exponible is equipollent to the *disjunction* of its causes of truth, so that the causes of truth are the contradictories of the exponents.

## RULE 1

(869) Now that we have seen these things, I set out the rules of exceptives as follows. This is the first rule: A wholly false proposition<sup>286</sup> cannot be made true through an exception. For 'Every man is an ass' is wholly false and therefore cannot be made true through an exception.

## RULE 2

(870) The second rule is this: Every proposition that is true in part and false in part can be made true through an exception, by excepting that for which the proposition is false. For example, let it be such that every man other than Socrates runs and that Socrates does not run. In that case 'Every man runs' is true in part and false in part; it is not false but for Socrates; therefore, with Socrates excepted, the exceptive is true. So 'Every man besides Socrates runs' is true.

(871) Likewise 'Every animal is a man' is in part true and in part false; it is not false but for an irrational animal; therefore, 'Every animal besides an irrational one is a man' is true.

(872) You have to know that when a proposition is in part true and in part false, if it is false for many singulars, the proposition should not be made true through an exception by excepting the things for which it is false under their own form.<sup>287</sup> Rather there should be excepted *one* thing common to all the things for which the universal is false. For example 'Every animal is a man' is false for many irrational singulars. Therefore, it should be made true through an exception by excepting all those irrational animals, saying 'Every animal besides an irrational animal is a man'. For if it were said like this: 'Every animal besides these animals is a man', indicating all irrational animals, the exceptive would be false.<sup>288</sup>

286. That is, a proposition *all* the singulars of which are false.

287. The sense is uncertain here. See also n. 288 below.

288. The reasoning in this paragraph is extremely obscure. What Burley means by the distinction between *several* things' being excepted 'under their own form', on the one hand, and one *common* thing's being excepted, on the other, is perhaps conveyed clearly enough by the exceptive phrases 'besides these animals' and 'besides an irrational animal' in his example. What is unclear however is why Burley thinks there is something *wrong* with expressing the exception by the former phrase, and even worse, why he thinks 'Every animal besides these animals is a man', indicating all irrational animals, is not just somehow 'improper' but actually *false*! Which animal or animals falsify it?

Burley's remarks suggest that, when there is more than one exceptional case ('if it is false for *many* singulars'), a true exceptive proposition can be formed to describe the situation

## RULE 3

(873) Again, another rule is that under the common term from which an exception is made, one can descend to each suppositum other than the excepted part with respect to the predicate, not with respect to the exception. But one cannot descend to the excepted part. For it correctly follows: 'Every man besides Socrates runs; therefore, Plato besides Socrates runs'. This is so insofar as 'besides' in the consequent is taken (p. 167) exceptively, because it cannot be taken otherwise in the consequent.<sup>289</sup> Now if it is taken associatively, it does not follow, because in that case the consequent posits that Socrates runs and the antecedent posits that Socrates does not run.

## RULE 4

(874) Another rule is that whenever the word 'besides' occurs with a double multitude and the excepted part belongs to both multitudes, the locution is ambiguous insofar as the exception can be made from the one multitude or from the other, or from both.

*A Sophism*

(875) Through this, the solution of the following sophism is plain: Let it be posited that every man other than Socrates sees every man other than Socrates, and that Socrates does not see anyone else and is not seen by anyone else. And let the sophism 'Every man sees every man besides Socrates' be proposed.

(876) It is proved as follows: Every man sees every man. This is false, and it is not false but for Socrates; therefore, with Socrates excepted the exceptive is true; therefore, 'Every man sees every man besides Socrates' is true.

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only if all the exceptional cases *have something in common* ('one thing common [*unum commune*] to all the things for which the universal is false'). This 'one common thing' is presumably not merely a term or descriptive expression in language, or else Burley's stipulation could be trivially satisfied by saying things like 'Every animal is a man, except those that aren't' and there would seem to be little point to his insisting on it. But if the 'one thing common' has to be a metaphysical common nature or universal, then Burley's stipulation amounts to the metaphysical claim that a universal affirmative proposition can fail to be true only if there is some real natural kind such that everything for which the proposition fails belongs to that kind. See also (879), below, for another place where the same claim is perhaps suggested.

Why is 'Every man besides these animals is a man' said to be *false*? Presumably the proposition is meant to be one in which the things for which 'Every animal is a man' is false are 'excepted under their own form'.

289. That is, not if the inference is to be valid.

(877) It is disproved as follows: Every man sees every man besides Socrates; therefore, Socrates sees every man besides Socrates. The consequent is false; therefore, the antecedent is too.

*Reply to the Sophism*

(878) The solution is that if Socrates is excepted from only the one multitude, the proposition is false. And when it is said that the preajcent<sup>290</sup> does not have a counterinstance but for Socrates only, I say this is true. But since the preajcent is a twofold multitude, there is a counterinstance for Socrates in both multitudes. If Socrates is excepted in both multitudes, then the exceptive is true. For 'Every man besides Socrates sees every man besides Socrates' is true and does not validly imply 'Therefore, Socrates sees every man besides Socrates'. For from the multitude from which the exception is made a descent should not be made from the excepted part. Thus when the exception is made from both multitudes, one can descend from the excepted part under neither one.

RULE 5

(879) Again, it is a rule that the word 'besides' is never taken exceptively but when it excepts a subjective part from a universal whole.

*A Sophism*

(880) (p. 168) Through this the solution is plain to the sophism: 'Ten besides five are five'.

(881) [It is proved as follows:] 'Ten are five' is false; and it is not false but for five; therefore, with five excepted the exceptive is true.

(882) It is disproved as follows: It follows: 'Ten besides five are five; therefore, five are not five'. The consequent is false; therefore, the antecedent is false too. The inference is plain, because in an affirmative exceptive the predicate is denied of the excepted part.

*Solution to the Sophism*

(883) Solution: 'Ten besides five are five' is not exceptive, but diminutive. For a subjective part is not excepted from a universal whole. Rather a quantitative part is excepted from a quantitative whole.<sup>291</sup> Therefore, I say that 'besides' in the proposed sophism is taken diminutively, and the sense is: 'Five

290. The 'preajcent' of an exceptive proposition is the result of taking the exception proposition and removing the exceptive phrase. Compare n. 255, above, and n. 305, below.

291. On this terminology, see n. 284, above.

diminished by or taking away five are five'. That is, taking five away from ten, what remain are five, and that is true. I say, therefore, that the sophism is true.

(884) To the disproof, I say that it does not follow: 'Ten besides five are five; therefore, five are not five'. And when it is said that in an affirmative exceptive the predicate is taken away from the excepted part, I say this is true. But this proposition is not an exceptive, but rather a diminutive. And in an affirmative diminutive the predicate is not taken away from anything. Instead the predicate is attributed to what remains after the diminishing of five from the whole is done.

#### RULE 6

(885) Again, it is a rule with exceptives that when as many things are excepted as are supposed, the exceptive is not true. Likewise, when more things are excepted than are supposed, the exceptive is not true.

(886) To the contrary, assuming that there are only three men—Socrates, Plato, and Cicero—and that Socrates alone runs, then 'Every man besides Plato and Cicero runs' is true. And yet more things are excepted than are supposed.

(887) It must be said that the rule has to be understood as holding when more things are excepted than are supposed *in the prejacent*. But that is not so here.

(888) To the contrary: 'No sun but this sun exists' is true. And yet as many things are excepted as are supposed in the prejacent.

(889) It has been said that more things are supposed in the prejacent aptitudinally but not actually.

#### *A Sophism*

(890) (p. 169) With respect to the rule stated above [(885)], let us ask about the sophism 'Every man sees every man besides himself', assuming that every man sees every man other than himself and that no man sees himself.

(891) It is proved inductively: 'Socrates sees every man besides himself; and Plato does too; and so on'.

(892) It is disproved as follows: There are as many things excepted as are supposed, because 'himself' suppositis for every man.

#### *Solution to the Sophism*

(893) It has to be said that the sophism-proposition is simply true. To the disproof it must be said that the rule 'When as many things are excepted, etc.' has to be understood as holding when the same things are excepted as are suppo-

sited. But that is not so in the proposed case. For in the prejacents 'every man' supposits under a universal quantifier, but in the exceptive the men are excepted with a reciprocal relative pronoun, and so under a division, by matching singulars with singulars one at a time. For positing the case stated above, 'Every man sees every man besides every man' would be quite false.

#### RULE 7

(894) Again, it is a rule that from an inferior to its superior with an exceptive word immediately preceding there is a good inference, provided however that the superior is a subjective part of that from which the exception is made. But if it is not a subjective part of that from which the exception is made, the inference does not hold.

(895) For example, just as 'Socrates' is a subjective part of 'man', so 'man' is a subjective part of 'animal'. Now it is obvious that it follows: 'Every animal besides Socrates runs; therefore, every animal besides a man runs'. For the exponents of the antecedent imply the exponents of the consequent. But the inference 'Every man besides Socrates runs; therefore, every man besides an animal runs' is not valid. This is because 'animal' is not a subjective part of 'man'.

#### RULE 8

(896) Again, it is a rule that if the prejacents are true, the exceptive is false.<sup>292</sup> For the prejacents and the exceptive are incompatible, and incompatibles cannot be true together.

#### *A Sophism*

(897) But against this there is the sophism 'Every man besides Socrates is excepted'. Let it be such that every man other than Socrates is excepted with respect to some act—for example, with respect to the act of being—and that Socrates is not excepted.

(898) (p. 170) Then it is proved as follows: 'Every man is excepted' is false, by the case; but it is not false unless for Socrates; therefore, 'Every man besides Socrates, etc.', is true.

(899) Again, the exponents are true; therefore, the exceptive is true.

(900) To the contrary: Its prejacents are true, namely 'Every man is excepted'. For every man other than Socrates is excepted. And Socrates is excepted in

292. This seems to be meant to hold only if the prejacents are universal. See (908), below.



'Every man besides Socrates is excepted'. Therefore, 'Every man besides Socrates is excepted' is false. For, by the rule, if the preajacent is true the exclusive is false.

*Solution to the Sophism*

(901) The solution to this sophism, according to some people,<sup>293</sup> is that before the uttering of 'Every man besides Socrates is excepted' the preajacent is false and the exceptive true, and after its utterance it happens the other way around. So they are not true together.

(902) Yet it could be plausibly said that, in the case assumed 'Every man is excepted' is false. And when it is said 'Socrates is excepted in "Every man besides Socrates is excepted"', I say that for Socrates to be excepted in 'Every man besides Socrates is excepted' is for Socrates to be excepted from exception; and for Socrates to be excepted from exception is for Socrates *not* to be excepted; and therefore, for Socrates to be excepted with respect to being excepted is for Socrates not to be excepted. Therefore, it is said that this is a fallacy 'in a certain respect and simply'. For Socrates is excepted in 'Every man besides Socrates is excepted', because for Socrates to be excepted in this is for Socrates to be excepted in a certain respect, not to be excepted simply.

*Another Sophism*

(903) Once again there is an objection against the stated rule [(896)], by proving that an exceptive and its preajacent can be true together, assuming that four propositions and no more are uttered, namely: 'God exists', 'A man exists', 'An animal exists', and 'Each spoken proposition besides one is true'. Then let the sophism 'Each spoken declaration besides one is true' be proposed.

(904) It is proved as follows: The declaration 'Each declaration besides one is true' is either true or false. If it is true, the point is established. If it is false, the other three are true; therefore, 'Each spoken declaration is true' is false, and for one alone; therefore, with that one excepted, the exceptive will be true; therefore, 'Each spoken declaration besides one is true' is true.

(905) It is disproved as follows: If 'Each spoken declaration besides one is true' and the other three declarations are true, then the exceptive and the preajacent are true together, which is against the rule.

*Solution to the Sophism*

(906) Solution: It could be said to the sophism that 'Each spoken declaration besides one is true' is not an exceptive, because a part is not excepted from a

293. I have not identified these authors.

whole. For the common name 'one' is not a [subjective] part of my common noun 'declaration', but rather conversely. Thus taking 'one' in its commonness, it is certainly not excepted.

(907) I say that 'one' in the proposed case can be taken in another way than in its greatest commonness. For it can be taken strictly, for one of the spoken declarations. Taking 'one' like that, I say that the sophism 'Each spoken declaration besides one is true' is false, because 'one' does not supposit for the whole 'Each spoken declaration besides one is true'; therefore, each spoken declaration other than this one is true, and this one is false'.<sup>294</sup> And when it is said [(905)] that then 'Each spoken declaration is true' is false, I say that it is false, and there is no distribution made in it over the exception stated.

#### A REMARK

(908) It must be noted that a preajcent in which the subject supposits particularly and an exceptive can sometimes be quite true together.<sup>295</sup> For example, 'Some man sees every ass' and 'Some man sees every ass besides Brownly' can be quite true together.

#### ANOTHER REMARK

(909) It has to be noted that one cannot reason syllogistically in a categorical syllogism with either an exceptive or an exclusive, but only in a hypothetical syllogism. This is because an exceptive and an exclusive are not simply categoricals but are implicitly hypotheticals. For they amount to a copulative made out of their exponents. Nevertheless, I say that one can reason syllogistically with them in a hypothetical syllogism. For this is a good syllogism: 'If every man besides Socrates runs, Socrates does not run; if every animal besides Socrates runs, every man besides Socrates runs; therefore, if every animal besides Socrates runs, Socrates does not run'. This is argued by the rule 'Whatever is antecedent to an antecedent is antecedent to the consequent [(262)]'.

#### 'Unless'

(910) Now that we have talked about exceptives exercised by the word 'besides' (and 'except', which is the same thing), we must talk about exceptives

294. Burley's point here is simply to deny self-reference. See Spade, *Mediaeval Liar*, item lxvii, pp. 111-113.

295. Contrast (896), above, and see n. 292, there.

exercised by the word 'unless'. For the word 'unless' has the force (p. 172) of an exception and also has the force of inferring. Therefore, the word 'unless' is something equivocal, because sometimes it is taken inferentially and sometimes exceptively. For 'unless' is composed of 'not' and 'if'.<sup>296</sup> When it is taken inferentially, the negation then falls under the condition. But when it is taken exceptively, then it amounts to the same thing as 'besides'.<sup>297</sup>

(911) For example, in saying 'No man runs unless Socrates', if it is taken inferentially, then it is denoted that no man runs if Socrates does not run. For 'If Socrates does not run' is the antecedent and 'No man runs' is the consequent. For the antecedent is always that to which the word 'unless' is immediately added when it is taken inferentially.

(912) You have to know that the word 'unless', insofar as it is taken exceptively, differs from the word 'besides'. For the word 'unless' excepts from a negative multitude or a negative term alone. For 'Every man unless Socrates runs' is ill-formed. But the word 'besides' excepts from an affirmative or negative multitude indifferently.

(913) You have to know that 'unless' is not taken exceptively unless when it is added to some part matched with the whole of which it is a part.

#### A SOPHISM

(914) Through this the sophism 'No man lectures at Paris unless he is an ass' is solved.

(915) It is proved as follows: Its contradictory is false 'Some man lectures [at Paris] unless he is an ass'; therefore, the sophism-proposition is true.<sup>298</sup>

(916) It is disproved as follows: If no man lectures at Paris unless he is an ass, therefore if some man does lecture at Paris he is an ass. The consequent is false; therefore, the antecedent is too.

#### SOLUTION TO THE SOPHISM

(917) It has to be said that 'No man lectures at Paris unless he is an ass' is simply false. For since 'unless' is not matched here with a part and a whole from which the part can be excepted, it has to be taken inferentially in the proposed sophism. Therefore, the sense is 'If no man is an ass, no man lectures at Paris'.

296. The Latin '*nisi*' = 'unless' is formed from '*ni*' (a negative word related to '*non*') and '*si*' = 'if'. The basic sense is therefore 'if not . . .'

297. But see the qualification in (912), below.

298. That is, the proposition *can* be false, and we are apparently assuming the case where it *is* false. For the sense of the proposition, see (917)–(918).

(918) (p. 173) To the proof, I say that 'No man lectures at Paris unless he is an ass' and 'Some man lectures, etc.' do not contradict one another, because they are both affirmative. For the condition is affirmed in both.

(919) Suppose you say that 'Some man lectures at Paris unless he is an ass' and 'Not some man lectures at Paris unless he is an ass' contradict one another; and 'Not some man lectures at Paris unless he is an ass' is equipollent to 'No man lectures at Paris unless he is an ass'; therefore, 'Some man lectures, etc.' and 'No man lectures, etc.' contradict one another. I say that in this,<sup>299</sup> insofar as it is the contradictory of 'Some man lectures at Paris, etc.', the negation is referred to the condition. But insofar as in 'No man lectures at Paris, etc.' the negation conveyed by 'no' is *not* referred to the condition but rather to the composition<sup>300</sup> in the antecedent, therefore they are not equipollent.

#### ANOTHER SOPHISM

(920) On this point, there is a question about the sophism 'Nothing is true unless in this instant'.

(921) It is proved as follows: Whatever is true is true in this instant; therefore, nothing is true unless in this instant.

(922) It is disproved as follows: Whatever is true is true in this instant; therefore, that you are an ass is not true unless in this instant; and further, therefore that you are an ass is true in this instant. The consequent is false; therefore, the antecedent is too.

#### SOLUTION TO THE SOPHISM

(923) Solution: It must be said that the sophism-proposition is ambiguous insofar as 'unless' can be taken exceptively or inferentially. If it is taken inferentially, in that case the proposition is true, and the sense is: 'Nothing is true unless in this instant', that is 'If nothing is true in this instant, nothing is true'. And that is true, insofar as 'unless' denotes inference 'as of now'. In this sense the proof holds quite well.

(924) To the disproof, I reply by granting the first inference: 'If nothing is true unless in this instant, that you are an ass is not true unless in this instant'. But in this sense it does not follow further: 'That you are an ass is not true unless in this instant; therefore, that you are an ass is true in this instant', just as it does not follow: 'If a stone is not an animal a stone is not a man; therefore, a stone is an animal'. Thus the sense of 'That you are an ass is not true unless

299. In 'Not some man lectures at Paris unless he is an ass'.

300. That is, the main verb.

in this instant', insofar as (p. 174) 'unless' is taken inferentially, is: 'If that you are an ass is not true in this instant, that you are an ass is not true'. And 'That you are an ass is true in this instant' in no way follows from this.

(925) But if 'unless' is taken exceptively, in that case the sophism-proposition is false, because it is expounded by two universal propositions, one of which is false. For it is expounded like this: 'Nothing is true in another instant than this one', and 'Anything is true in this instant'. And the latter affirmative is false.

(926) Thus whenever an exception is made on the side of the predicate, with the subject taken universally, such an exceptive should be expounded by two universals. For an exception in the predicate in no way blocks or immobilizes the distribution in the subject. For the inference 'No man sees an ass besides Brown; therefore, Socrates does not see an ass besides Brown' is a good one. And therefore, 'No man sees an ass besides Brown' should be expounded like this: 'No man sees an ass other than Brown' and 'Each man sees Brown'.

(927) In this sense there is a fallacy of the consequent in the proof [(921)], by arguing as follows: 'Whatever is true is true in this instant; therefore, nothing is true unless in this instant'. For 'Nothing is true unless in this instant' posits 'Anything is true in this instant'. And there is a fallacy of the consequent here: 'Whatever is true is true in this instant; therefore, nothing is true unless in this instant', because the argument is from an inferior to a superior with distribution, just as here: 'Anything true is true in this instant; therefore, anything existing is true in this instant'.

(928) You have to know that the exception here is made from the instant conveyed by the verb 'is'. For the sense is 'Nothing is true in this instant unless in this instant'. There can quite well be an exception made from the instant consigned by the verb, because the instant consigned by the verb stands confusedly and distributively by virtue of the preceding negation.

### *On Exceptive Syllogisms*

(929) As for the way to form syllogisms from exceptives, it has to be understood that an exceptive in which an exception is made from a transcendental term is converted with an exclusive. For an exceptive in which an exception is made from a denied transcendental term is converted with an exclusive affirmative. For example, the two propositions 'Nothing besides Socrates runs' and 'Only Socrates runs' are converted with one another.

(930) But if the exception is made from an affirmed transcendental term, such an affirmative exceptive is converted with (p. 175) a negative exclusive.

For example, the two propositions ‘Anything besides Socrates runs’ and ‘Only Socrates does not run’ are converted with one another.

(931) Therefore, the same rules are to be observed in forming syllogisms with exceptives where the exception is made from a transcendental term as were stated for exclusive syllogisms.<sup>301</sup>

(932) But if the exception is made from a special term, in that case the syllogism is not valid if one or both premises are exceptive. For if both premises are exceptive, an exceptive conclusion does not follow in the first figure. For it does not follow: ‘Every man besides Socrates runs; every animal besides an irrational animal is a man; therefore, every animal besides an irrational animal runs’.

(933) Likewise, from an exceptive major and a simple categorical minor no conclusion follows. For it does not follow: ‘Every substance besides a corporeal substance is an incorporeal substance; every man is a substance; therefore, every man, or some man, is an incorporeal substance’.

(934) From these statements it is plain that when an exception is made from a special term, a syllogism in the second or third figure is not valid when one or both premises are exceptive.

### Chapter 3: On Reduplicatives

(935) After we have talked about exclusives and exceptives, the next thing is to talk about reduplicatives. (a) First it must be seen which things are required for the truth of a reduplicative; (b) second, how contradiction is to be taken with reduplicatives; (c) third, how the terms supposit in reduplicatives; and (d) fourth, how one is to form syllogisms with reduplicatives.

#### *The Truth of a Reduplicative*

(936) As for the first point, you have to know that in a reduplicative proposition the word ‘insofar’ occurs, or an equivalent of it. Yet not every proposition in which the word ‘insofar’ or something equivalent to it occurs is a reduplicative proposition.

(937) To make this clear, it has to be understood that the word ‘insofar’ can be taken in two ways, negatively or positively. When it is taken negatively, it then expresses a denial of a cause of the predicate’s inhering in the subject.

301. The only mention of transcendental terms in the discussion of exclusives occurs in (693)–(694), but exclusive syllogisms are not discussed there.

(938) The truth of a proposition in which the word ‘insofar’ is taken negatively, when both the main verb and the word ‘insofar’ are affirmed, depends on two things, because for the truth of such (p. 176) a proposition it is required that the predicate be in the subject and that there not be any intermediary cause between the predicate and the subject by reason of which the predicate is in the subject.

(939) In this way ‘Man insofar as he is a man is a man’ is true. And likewise ‘Man insofar as he is a man is a rational animal’. For a man is a rational animal, and there is not any cause of this.

(940) Now it is plain that the word ‘insofar’ can sometimes be taken negatively, because from the Philosopher, *Physics* I [8 191<sup>b</sup>2–10]<sup>302</sup> ‘through itself’ and ‘insofar’ are the same thing. But ‘through itself’ is sometimes taken negatively, because ‘through itself’ sometimes expresses the denial of a cause, as the Lincolnite says on *Posterior Analytics* I.<sup>303</sup>

(941) So ‘Man through himself is a man’ is true, because there is not any cause of ‘Man through himself is a man’.<sup>304</sup> So too ‘God through himself exists’ is true not because God is the cause whereby God exists, but because God’s existing does not *have* a cause. The Philosopher speaks this way in *Topics* I [1 100<sup>a</sup>30–<sup>b</sup>21], where he says that principles are what have credence through themselves and not through other things. (The ‘and’ is taken expositively. The sense is: ‘Principles are what have credence through themselves—that is, not through other things’.)

(942)† But if the word ‘insofar’ is taken positively, this can be in two ways: specifically or reduplicatively. When it is taken specifically, it then determines that to which it is added to a certain way or aspect of taking or considering it, as is plain when someone says ‘Body insofar as it is mobile is the subject of the book of the *Physics*’. Likewise, when someone says ‘Being insofar as it is being is the subject of metaphysics’.

(943) For in these propositions, according as they are commonly admitted, ‘insofar’ is taken specifically, because it determines and specifies that to which it is added to a certain way of taking or considering it. For the same thing can be considered in many ways. For a body can be considered either according as it is a substance or according as it is mobile, and so on. But when one says ‘Body insofar as it is mobile’, it is specified and contracted to one aspect or one way. But as such ‘insofar’ is not taken reduplicatively. When how-

302. Some MSS have ‘*Posterior Analytics*’ [= I.4 73<sup>a</sup>34–74<sup>a</sup>3].

303. The ‘Lincolnite’ is Robert Grosseteste, bishop of Lincoln diocese. See Grosseteste, *Commentarius in Posteriorum analyticorum*, I.4.111–119 (p. 114).

304. That is, of its being true.

ever 'insofar' or its equivalent *is* taken reduplicatively, it is then expounded by many propositions.

REDUPLICATIVES WITH BOTH THE REDUPLICATION  
AND THE MAIN VERB AFFIRMED

(944) On this point it has to be understood that sometimes the reduplication in a reduplicative is affirmed, sometimes it is denied. The main verb also (p. 177) sometimes is affirmed, sometimes denied. If both the reduplication and also the main verb are affirmed, then such a reduplicative is expounded by three categorical propositions and by one conditional hypothetical, so that for the truth of such a reduplicative four propositions are required. If any of them is false, the whole reduplicative is false.

(945) Thus for the truth of an affirmative reduplicative in which both the reduplication and the main verb are affirmed, it is required (i) that the main predicate be in the main subject in the way it is made the subject in the reduplicative—so that if in the reduplicative it is taken universally, then in order for the reduplicative to be true it is required that the main predicate be in the main subject universally, and if particularly then particularly. It is also required (ii) that that on which the reduplication falls be in the main subject in the way it is taken. Third, it is required (iii) that the main predicate be universally in that on which the reduplication falls. And fourth, it is required (iv) that between that on which the reduplication falls and the main predicate there be a necessary inference.

(946) For example, for the truth of 'Every *a* insofar as it is a *b* is a *c*' there are required the three categoricals: 'Every *a* is a *c*', 'Every *a* is a *b*' and 'Every *b* is a *c*', and also the conditional 'If something is a *b* it is a *c*'. Also, for the truth of '*A* insofar as it is a *b* is a *c*' there are required the three categoricals: '*A* is a *c*', '*A* is a *b*', and 'Every *b* is a *c*', and the conditional 'If something is a *b* it is a *c*'. If any of these is false, the whole reduplicative is false.

(947) I say that the truth of the conditional is required, because the three stated categoricals are not enough for the truth of the reduplicative. For, assuming that every man is white, the reduplicative 'Socrates insofar as he is a man is white' is false, and yet the three categoricals 'Socrates is a man', 'Socrates is white', and 'Every man is white' are true. Nevertheless, the conditional 'If Socrates is a man Socrates is white' is false. Therefore, the reduplicative is false.

(948) I say also that for the truth of such a reduplicative it is required that the predicate be universally in that on which the reduplication falls. For 'Socrates insofar as he is an animal is a man' is false on account of the falsehood of the



universal 'Every animal is a man'. Therefore, for the truth of any reduplicative four exponents are required.

(949) But the four exponents stated above are not enough for the truth of just any reduplicative. Rather in some there is required a fifth (p. 178) proposition that expounds the understanding of the reduplicative. To understand this you have to know that a reduplicative word taken reduplicatively can reduplicate in two ways. For it can reduplicate either by means of an accompanying or by means of a cause. For when something that neither belongs to the essence of something else, nor is its cause, necessarily accompanies it, then a reduplicative is true that denotes that it is in the subject it is in, with a reduplication on what necessarily accompanies it. For example, Socrates insofar as he is risible is a man. For risibility necessarily accompanies *man*, and both *risible* and *man* are truly in Socrates. For the truth of a reduplicative, when the reduplication is made by means of an accompanying, the four exponents stated above are required and are enough—that is, the three categoricals and the one conditional stated earlier.

(950) But when the reduplication is made by means of a cause, then besides the four stated exponents one other exponent is required, namely a causal hypothetical or a categorical equipollent to a causal. For example, 'An isosceles insofar as it is a triangle has three angles equal to two right angles' is true according as the reduplication is made by means of a cause. For the truth of this as such there are required the four exponents stated above: (i) that an isosceles have three angles, (ii) that an isosceles be a triangle, (iii) that every triangle have three angles, etc., and (iv) if an isosceles is a triangle, it has three angles, etc. And besides these four exponents there is required a fifth exponent proposition, namely a causal or an equipollent of one—that is, 'Because an isosceles is a triangle, therefore it has three angles, etc.', or else a categorical that amounts to this, such as '*Triangle* is the cause of an isosceles' having three angles, etc.'

(951) You have to know that a reduplicative word can reduplicate by means of any cause indifferently. For example, (i) 'Man insofar as he is made out of the elements, or out of matter, is corruptible' is true according as the reduplication is made by means of the matter. For man by reason of his matter is corruptible. (ii) 'Socrates insofar as he is man is rational' is true according as the reduplication is made by means of the form, because Socrates' intellectual soul is the cause on account of which Socrates is rational. (iii) 'Fire insofar as it is hot is calefactive' is true according as the reduplication is made by means of the efficient cause. For heat is the effective cause of calefaction. And in the same way, reduplication can be made by means of the final cause.

(952) (p. 179) From the above statements, it is plain that every reduplicative

implies its preajcent,<sup>305</sup> whether the reduplicative is made by means of an accompanying or by means of a cause. For it follows: 'Socrates insofar as he is risible is a man; therefore, Socrates is a man'. Likewise it follows: 'Socrates insofar as he is a man is rational; therefore, Socrates is rational.

(953) Thus it is plain, therefore, how many and which things are required for the truth of a reduplicative when both the reduplication-sign and also the main verb are affirmed.

(954) You have to know that a proposition in which a reduplication-sign occurs can be distinguished insofar as such a reduplication-sign can be taken positively or privatively. If it is taken positively, it is a further ambiguous expression, insofar as such a reduplicative word can be taken specifically or reduplicatively. If it is taken reduplicatively, it has to be distinguished further, insofar as the reduplication can be made by means of an accompanying or by means of a cause. †If the reduplication is made by means of a cause, it is a further ambiguous expression, insofar as the reduplication can be made by means of a material or formal cause, and so on. The expression is true in one sense and false in another sense.

(955) You have to know that a reduplication is not made by means of an accompanying unless some things *necessarily* accompany one another. For assuming that every man and man alone runs, 'Socrates insofar as he is running is a man' is false in every sense. For 'running' and 'man' do not accompany one another necessarily but contingently.

#### *Sophisms*

(956)† From the above statements sophisms like this can be solved: 'Some things insofar as they agree differ', and 'Some things insofar as they differ agree'. For such expressions are ambiguous by the fact that 'insofar' can be taken negatively or positively. If negatively, then they are false. If positively, they have to be distinguished further by the fact that 'insofar' can be taken reduplicatively or specifically. If it is taken specifically, they are false. If it is taken reduplicatively, they have to be distinguished further by the fact that the reduplication can be made by means of an accompanying or by reason of a cause. If the reduplication is made by means of a cause, then they are false because agreement is not the cause of difference or conversely.

(957) But if the reduplication is made by means of an accompanying, then they are true. For agreement and difference necessarily accompany one another. For all things that agree differ. For the same thing does not agree with

305. The 'preajcent' of a reduplicative proposition is what remains when the reduplicative expression is deleted. See nn. 255 and 290, above.

itself, since agreement is a unity founded on a multitude. Likewise, all things that differ agree. For difference adds agreement onto diversity. For different things, (p. 180) according to the Philosopher [*Metaphysics* X.8 1057<sup>b</sup>35–37], are those that, being the same as something, have a diversity among themselves. Therefore, the propositions ‘Some things insofar as they agree differ’ and ‘Some things insofar as they differ agree’ are true according as the reduplication is made by means of an accompanying.

(958) Now that we have seen these things, we must see how many and which things are required for the truth of a reduplicative when the reduplicative is affirmed and the main verb is denied, or when the reduplication is denied and the verb is affirmed, or when they are both denied, or when that on which the reduplication falls is denied.

REDUPLICATIVES IN WHICH BOTH THE REDUPLICATION  
AND THAT ON WHICH THE REDUPLICATION FALLS  
ARE AFFIRMED AND THE MAIN VERB IS DENIED

(959) You have to know when the reduplication is affirmed and also what the reduplication falls on is affirmed, and the main verb is denied, then for the truth of such a reduplicative, according as the reduplication is made by means of an accompanying, four exponents are required: three categorical propositions and one conditional hypothetical. For it is required that (a) what the reduplication falls on be in the subject, and that (b) the predicate be removed from the subject, and also that (c) the predicate be removed from what the reduplication falls on. And there is also required (d) a conditional in which it is denoted that from the affirmation of what the reduplication falls on of something, there follows the predicate’s being denied of the same thing.

(960) For example, for the truth of ‘Socrates insofar as he is a man is not an ass’ there are required the three categoricals (a) that Socrates is a man, (b) that Socrates is not an ass, and (c) that no man is an ass. There is also required the truth of the conditional ‘If something is a man, it is not an ass’.

(961) But if the reduplication in such a reduplicative is made by reason of a cause, then besides the four exponents just mentioned there is required a fifth exponent, in which it is denoted that the affirmation of what the reduplication falls on is the cause of the predicate’s being denied of the same thing.

(962) For example, with the terms as stated above, for the truth of ‘Socrates insofar as he is a man is not an ass’, besides the four exponents stated there is a required a fifth exponent: ‘That Socrates is a man is the cause whereby Socrates is not an ass’, or ‘Because Socrates is a man, therefore Socrates is not an ass’, or some proposition equipollent to that.

REDUPLICATIVES IN WHICH THE REDUPLICATION IS DENIED  
AND THE MAIN VERB IS AFFIRMED

(963) But when the reduplication is denied and the verb is affirmed, then for the truth of such a proposition it is enough that the contradictory (p. 181) of any exponent of the affirmative reduplicative be true. For it is a general rule that whenever many propositions expound one, so that they exhaust the whole understanding of it, the contradictory of any exponent is a cause of truth for the contradictory of the expounded proposition. For the things that are posited actually and copulatively by one of two opposites, their opposites are posited potentially and under a disjunction by the other one. Thus, for the truth of 'Socrates not insofar as he is a man is an ass' it is enough that any of the following be true: 'Socrates is not a man', 'Socrates is not an ass', 'Every man is an ass', and 'Not if something is a man it is an ass'. If 'insofar' reduplicates by reason of a cause, then the proposition 'That Socrates is a man is not the cause whereby Socrates is an ass' is a fifth cause of truth.

(964) Now the reason on account of which each contradictory of an exponent of some proposition is a cause of truth for the contradictory of the expounded proposition is because every proposition that has exponents implies each of those exponents; and whenever any inference is good, the contradictory of the antecedent is inferred from the opposite of the consequent; therefore, the contradictory of any exponent implies the contradictory of the expounded proposition. Since, therefore, nothing but the true follows from the true, it follows that for the truth of the contradictory of an expounded proposition the contradictory of any exponent is sufficient.

REDUPLICATIVES IN WHICH THAT ON WHICH THE  
REDUPLICATION FALLS IS DENIED AND BOTH THE  
REDUPLICATION AND THE MAIN VERB ARE AFFIRMED

(965) But if what the reduplication falls on is denied and the reduplication is affirmed, and also the main verb, then for the truth of such a reduplicative many exponents are required. For if 'insofar' reduplicates by reason of a necessary accompanying, then four exponents are required: (a) one on which the predicate is attributed to the main subject in the way in which it is made the subject, (b) another in which what the reduplication falls on is attributed to the subject in the way in which the reduplication falls on it, (c) a third in which the predicate is attributed universally to what the reduplication falls on in the way in which the reduplication falls on it, and (d) a fourth in which it is denoted that there is an inference between what the reduplication falls on and the predicate.

(966) For example, for the truth of '*a* insofar as it is not a *b* is a *c*,' there are required these four propositions that expound it: (a) '*a* is a *c*', (b) '*a* is not a *b*', (c) 'Everything that is not a *b* is a *c*', and (d) 'If something is not a *b*, it is a *c*'.

(967) But if 'insofar' reduplicates by means of a cause, then besides these four exponents (p. 182) there is required a fifth exponent proposition: 'That *a* is not a *b* is the cause whereby *a* is a *c*'.

REDUPLICATIVES IN WHICH BOTH THAT ON WHICH THE  
REDUPLICATION FALLS AND THE MAIN VERB ARE DENIED

(968) From these statements it can be made plain how a reduplicative is to be expounded in which both what the reduplication falls on and the main verb are denied. For '*a* insofar as it is not a *b* is not a *c*', when 'insofar' reduplicates by means of an accompanying, has the four exponents: (a) '*a* is not a *c*', (b) '*a* is not a *b*', (c) 'Everything that is not a *b* is not a *c*', and (d) 'If something is not a *b*, it is not a *c*'. If 'insofar' reduplicates by means of a cause, then it has a fifth exponent proposition: 'That *a* is not a *b* is the cause whereby *a* is not a *c*'.

*How Contradiction Is to Be Taken With Reduplicatives*

(969) The next thing to see is how contradiction is to be taken with reduplicatives. You have to know that if the reduplication is affirmed in one of two contradictories, the reduplication must be denied in its contradictory. The reason for this is that in a reduplicative the reduplication is the formal and main part, just as the mode is in modals and just as the verb 'is' is in assertoric propositions. Therefore, just as in modals the same mode does not stay affirmed in both contradictories, and in assertoric propositions the verb 'is', which is the main composition, does not stay affirmed in both contradictories, but rather what is affirmed in one must be denied in the other, so it is in reduplicatives that a contradiction in reduplicatives is considered with respect to the fact that the reduplication is affirmed in one of the contradictories and denied in the other.

(970) It is also plain from this that if the reduplication is affirmed in both contradictories, the contradictories would be false together. For both of 'Socrates insofar as he is white is a man' and 'Socrates insofar as he is white is not a man' are false, because Socrates' being white does not imply Socrates' being a man, and it does not imply his *not* being a man.

(971) Yet I say that not only the reduplication should be denied in the one of two contradictories. Rather the reduplication affirmed in one of the contradictories should be primarily and principally denied in the other, and con-

sequently the main verb denied, just as in modals the mode affirmed in one of the contradictories is principally denied in the other, and consequently the verb. Nevertheless, from the denial of a reduplicative the denial of the verb does not follow absolutely, but with such a determination. For it does not follow: 'Socrates not insofar as he is white runs; therefore, Socrates does not run', just as it does not follow: 'Socrates does not necessarily run; therefore, Socrates does not run'.

(972) (p. 183) From the above statements it is plain that division by contradiction does not hold with an affirmed reduplication. For it does not follow: 'A white thing insofar as it is an animal is a substance; therefore, a white thing insofar as it is an animal is a man, or insofar as it is an animal is not a man'. For the antecedent is true and the consequent false. For although being a man and not being a man are contradictories, nevertheless the propositions 'A white thing insofar as it is an animal is a man' and 'A white thing insofar as it is an animal is not a man' are not contradictories, since the same formal part is affirmed in both. Rather the contradictory of the proposition 'A white thing insofar as it is an animal is a man' is the proposition 'Not a white thing insofar as it is an animal is a man', taking 'not' according as it is taken merely negatively, or 'No white thing insofar as it is an animal is a man', referring the negation to the reduplication.

(973) This is Avicenna's meaning in his *Metaphysics V*, chapter 1.<sup>306</sup> He says, 'Of horsehood according as it is horsehood it should not be granted that it is one or that it is not one'. Thus it is to be granted neither that horsehood insofar as it is horsehood is one in number nor that horsehood insofar as it is horsehood is not one in number. Nevertheless, 'Horsehood not insofar as it is horsehood is one in number' is true.

#### FIRST DOUBT

(974) But here there are two doubts. The first is that 'Every man insofar as he is an animal is not an ass' and 'Every man is not an ass insofar as he is an animal' seem to signify the same. For according to the Philosopher, *Prior Analytics I* [38 49<sup>a</sup>11-12], for forming syllogisms in the first figure out of reduplicatives, the reduplication has to occur on the major extreme. Therefore, if the proposition 'Every man insofar as he is an animal is not an ass' ought to be the major in the first figure, the reduplication has to be added to the major extremity, like this: 'Every man is not an ass insofar as he is an animal'; and the reduplication is denied in this; therefore, in 'Every man insofar as he is

<sup>306</sup> Avicenna, *Philosophia prima* V.1, Van Riet, ed., lines 32-42 (pp. 228-229) [= 1508 ed., fol. 86<sup>va</sup>]. Burley is quoting loosely.

an animal is not an ass' the reduplication is denied. Indeed, there is nothing to distinguish between affirmation and negation in a reduplication where the main verb is denied.

(975) In fact, wherever the main verb is denied, the reduplication is denied. Otherwise it would not be the same thing to say (p. 184) 'Every man insofar as he is an animal is not an ass' and to say 'Every man is not an ass insofar as he is an animal'. The Philosopher says the opposite of this in *Prior Analytics I*.<sup>307</sup>

#### SECOND DOUBT

(976) The second doubt is: If it were enough in order to give contradictories with reduplicatives that the reduplication were affirmed in the one proposition and denied in the other, then the propositions 'An animal insofar as it is a man is risible' and 'An animal not insofar as it is a man is risible' would contradict one another. Yet both of these are true. For 'An animal insofar as it is a man is risible' is true, because it follows from the true 'Socrates insofar as he is a man is risible'. Likewise 'An animal not insofar as it is a man is risible' is true, because it follows from the true 'An ass not insofar as it is a man is risible'. So contradictories would be true together, which is impossible.

#### REPLY TO THE FIRST DOUBT

(977) To the first doubt [(974)], it has to be said that the expression 'Every man is not an ass insofar as he is an animal' has to be distinguished by the fact that the negation 'not' can deny the verb 'is' alone, so that the negation stops there and is not referred to the reduplication, or by the fact that it can deny the whole—that is, the verb together with the reduplication. In the first way, the reduplication remains affirmed. In this sense the propositions 'Every man insofar as he is an animal is not an ass' and 'Every man is not an ass insofar as he is an animal' signify the same. In the second way they do not signify the same, because in the one the reduplication is affirmed and in the other it is denied.

#### REPLY TO THE SECOND DOUBT

(978) To the second doubt [(976)], I say that in order to give contradictories with reduplicatives it is required that the reduplication be affirmed in one part of the contradiction and denied in the other. But this is not enough. Instead more is required, namely that if the subject is a common term, the subject have

307. The reference is uncertain.

opposite ways of suppositing in the contradictory propositions, so that if it stands particularly in the one part of the contradiction, it stands universally in the other part, and conversely. On account of this, 'An animal insofar as it is a man is risible' and 'An animal not insofar as it is a man is risible' do not contradict one another. Rather 'An animal insofar as it is a man is risible' and 'No animal insofar as it is a man is risible' do contradict one another, according as the negation in 'No animal, etc.' is referred to the reduplication (p. 185) and the distribution is referred to the subject. This is how a proposition like 'Every animal not insofar as it is a man is risible' is understood, and this is false.

### *How Terms Supposit in Reduplicatives*

(979) As for the suppositions of terms in reduplicatives, you have to know that the subject in a reduplicative supposits the same as it supposits in its pre-jacent. For the subject has the same supposition in 'An animal insofar as it is a man is risible' and in 'An animal is risible'. On the other hand, what the reduplication falls on supposits confusedly and distributively if it is a common term taken without a quantifier. For one can descend under it to anything through itself inferior to it, whether the reduplication is made by means of an accompanying or by means of a cause. This is plain. For whatever necessarily accompanies a superior necessarily accompanies the inferior. Likewise, of whatever a superior is the cause, any inferior is in some way the cause of the same thing in the same genus of cause. Therefore, it correctly follows: 'Socrates insofar as he is an animal is sensible; therefore, Socrates insofar as he is a man is sensible'. This is the Philosopher's meaning in *Prior Analytics* II.<sup>308</sup> He says that if justice is the good insofar as it is good, then justice is every good. That is, if the good insofar as it is good is justice, every good is justice.

(980) Thus the reduplication-sign taken reduplicatively posits universality, as is commonly said.<sup>309</sup> That is, reduplication posits the predicate to be universally in the way it is predicated in what the reduplication falls on. For example, if affirmatively then affirmatively, if negatively then negatively. So it is plain how the subject and also what the reduplication falls on supposit in a reduplicative.

(981) It remains to see how the predicate supposits in a reduplicative. You have to know that the predicate in an affirmative reduplicative has the mode of merely confused supposition. For it is implied by anything that is through itself inferior to it and does not imply its inferiors, either copulatively or dis-

308. The reference is uncertain.

309. I have not identified who says this.



junctively. For it follows: 'Socrates insofar as he is risible is a man; therefore, Socrates insofar as he is risible is an animal'. So it is too in all others cases: always in affirmative reduplicatives there is a good inference on the side of the predicate from what is through itself inferior to what is through itself superior. But in reduplicatives the inference does not hold on the side of the predicate from a superior to an inferior, either copulatively or disjunctively. For it does not follow: 'Socrates insofar as he is an animate sensible substance is an animal; therefore, Socrates insofar as he is an animate sensible substance is a man'. It also does not follow that Socrates insofar as he is an animate sensible substance (p. 186) is an ass. Neither does it follow: 'Socrates insofar as he is an animate sensible substance is an animal; therefore, Socrates insofar as he is an animate sensible substance is a man, or insofar as he is an animate sensible substance is an ass, or insofar as he is an animate sensible substance is a goat', and so on. For the antecedent is true and the consequent false.

(982) Therefore, I say that in an affirmative reduplicative the predicate has merely confused supposition, because one cannot descend under it copulatively or disjunctively (even though one can descend 'disjointly'<sup>310</sup> to its inferiors) and it is inferred from anything through itself inferior.

### *On Reduplicative Syllogisms*

(983) As for the way to form syllogisms out of reduplicatives, you have to know, according to the Philosopher, *Prior Analytics* I [38 49<sup>a</sup>24–25], that reduplication is confined to the side of the predicate.

#### REDUPLICATIVE SYLLOGISMS IN THE FIRST FIGURE

(984) Therefore, in the first figure, from a reduplicative major and a non-reduplicative minor there follows a reduplicative conclusion. For it follows: 'Every man insofar as he is an animal is sensible; every risible is a man; therefore, every risible insofar as it is an animal is sensible'. For the reduplication occurring in the major is confined to the side of the major extremity. And since the major extremity enters into the conclusion, the reduplication will enter into the conclusion. Thus, the understanding of the major is 'Every man is sensible insofar as he is an animal'. Now it correctly follows by 'being said of

310. That is, one can descend to a 'disjoint term'. For example, 'Socrates insofar as he is an animate sensible substance is an animal; therefore, Socrates insofar as he is an animate sensible substance is a man or an ass or a goat, etc.'.

every': 'Every man is sensible insofar as he is an animal; every risible is a man; therefore, every risible is sensible insofar as it is an animal'.

(985) But if the minor is reduplicative and the major is not reduplicative, a reduplicative conclusion does not follow. But a nonreduplicative conclusion does correctly follow. Thus, it does not follow: 'Every sensible substance is white; every man insofar as he is an animal is a sensible substance; therefore, every man insofar as he is an animal is white'. Yet a nonreduplicative conclusion does correctly follow, namely that every man is white.

(986) But if both premises in the first figure are reduplicative, a reduplicative conclusion correctly follows, but not by virtue of the reduplication occurring in the minor. For when that reduplication is taken away, the conclusion follows nonetheless, because, as was said [(984)], from a reduplicative major and a nonreduplicative minor a reduplicative conclusion correctly follows in the first figure.

(987) Now it is plain that from two reduplicative premises a reduplicative conclusion follows in the first figure. For from the reduplicative minor (p. 187) there follows its preajcent, which is not reduplicative; and from that together with the reduplicative major a reduplicative conclusion follows, as was said [(984)]; and whatever follows from a consequent together with something added, the same thing follows from the antecedent with the same thing added [(265)]; therefore, from a reduplicative major and a reduplicative minor a reduplicative conclusion follows, since from the consequent of the reduplicative minor, namely the preajcent of the reduplicative, together with the same major there follows a reduplicative conclusion, and whatever follows from a consequent together with something added, etc. [(265)].

(988) For example, the syllogism 'Every animal insofar as it is an animal is sensible; every man insofar as he is a man is an animal; therefore, every man insofar as he is an animal is sensible' is a good one. For it follows: 'Every man insofar as he is a man is an animal; therefore, every man is an animal'. But now it follows: 'Every animal insofar as it is an animal is sensible; every man is an animal; therefore, every man insofar as he is an animal is sensible'. And therefore, it follows: 'Every animal insofar as it is an animal is sensible; every man insofar as he is a man is an animal; therefore, every man insofar as he is an animal is sensible'. For whatever follows from a consequent together with something added follows from the antecedent with the same thing added.

#### REDUPLICATIVE SYLLOGISMS IN THE SECOND FIGURE

(989) In the second figure, however, it has to be considered whether the reduplication is affirmed or denied in the premises, or in one of the premises.

If the reduplication is affirmed in one of the premises and the other premise is taken without reduplication, whether the major or the minor, a conclusion never follows in which the reduplication is affirmed.

(990) For if the reduplication is affirmed in the major and the minor is non-reduplicative, a reduplicative conclusion does not follow. For example, the syllogism 'Every man insofar as he is an animal is animate; no white thing is animate; therefore, every white thing insofar as it is an animal is not a man' is not valid. Nevertheless, the conclusion does correctly follow without the reduplication: 'No white thing is a man'. For from the preajacent of the major, which is a consequent of the major, together with the same minor the same conclusion follows.

(991) But if the major is nonreduplicative and the minor reduplicative, a reduplicative conclusion does not follow in which the reduplication is affirmed. For the syllogism 'No white thing is sensible; every man insofar as he is an animal is sensible; therefore, every man insofar as he is an animal is not white' is not valid. For the premises are true and the conclusion false. Nevertheless, the conclusion does correctly follow without a reduplication: 'No man is white'. For from the preajacent of the minor, which is a consequent of the minor, together with the major the same conclusion follows.

(992) (p. 188) Now if one of the premises is a negative nonreduplicative and in the other premise the reduplication is affirmed, if the major is the negative nonreduplicative and the minor the affirmative reduplicative, a conclusion in which the reduplication is denied correctly follows. For example, it follows: 'No *b* is an *a*; every *c* insofar as it is a *c* is an *a*; therefore, no *c* insofar as it is a *c* is a *b*'. Proof: For from the same major together with a consequent of the same minor the same conclusion follows. For it follows: 'No *b* is an *a*; every *c* is an *a*; therefore, no *c* insofar as it is a *c* is a *b*'. Now 'Every *c* is an *a*' is a consequent of 'Every *c* insofar as it is a *c* is an *a*'; and whatever follows from a consequent together with something added, etc. [(265)].

(993) Now it is proved that 'No *b* is an *a*; every *c* is an *a*; therefore, no *c* insofar as it is a *c* is a *b*' follows: For from these premises there follows the conclusion 'No *c* is a *b*'. Now it follows: 'No *c* is a *b*; therefore, no *c* insofar as it is a *c* is a *b*'. For the opposite follows from the opposite; and whatever is antecedent to an antecedent, the same thing is antecedent to the consequent [(262)]; and therefore, from the same premises the conclusion 'No *c* insofar as it is a *c* is a *b*' follows, according as the negation in it is referred to the reduplication.

(994) Now if the reduplication is affirmed in both premises, or the reduplication is denied in both, the syllogism is not valid in this figure. For from affirmatives in the second figure nothing follows. And nothing follows from negatives in any figure.

(995) But if the reduplication is denied in one premise and the reduplica-

tion is affirmed in the other, if the reduplication falls on the same thing in both premises, then a conclusion follows in which the reduplication is denied. But if the reduplication falls on different things in the major and in the minor, no conclusion follows formally, because the middle is varied. For the reduplication is confined to the side of the predicate [(983)].

(996) Here is an example of the first kind: From the premises 'No cleric insofar as he is a cleric differs from a logician' and 'Every grammarian insofar as he is a cleric differs from a logician' the conclusion 'No grammarian insofar as he is a cleric is a cleric' correctly follows. The conclusion 'No grammarian is a cleric' follows too, because from the major together with the opposite of either conclusion there follows the opposite of the minor, as is plain from the first figure.

(997) Yet if the reduplication falls on different things in the major and in the minor, no conclusion follows syllogistically. For the middle is varied in that case. For the reduplication is confined to the side of the predicate, and so to the side with the middle term in the second figure. Therefore, if the reduplication falls on different things (p. 189) in the major and in the minor, no conclusion follows, because the middle is varied.

(998) For example, from the premises 'No cleric insofar as he is a cleric differs from a logician' and 'Every grammarian insofar as he is a grammarian differs from a logician' no conclusion follows syllogistically. For it does not follow that no grammarian is a cleric, and it also does not follow that no grammarian insofar as he is a grammarian is a cleric. Neither too does it follow that no grammarian insofar as [he is] a cleric is a cleric. For always the premises are true and the conclusion false.

(999) Likewise, if the major is affirmative and the minor negative, and the reduplication falls on different things in the major and the minor, no conclusion follows. For example, from the premises 'Every motion insofar as it is a motion can be speeded up to infinity' and 'No motion of the first mobile insofar as it is of the first mobile can be speeded up to infinity'—from these premises it does not follow that no motion of the first mobile is a motion, and it also does not follow that no motion of the first mobile insofar as it is a motion of the first mobile is a motion. For the premises are true and the conclusion false.

(1000) Now it is plain that in the second figure from one reduplicative premise in which the reduplication is denied and from the another reduplicative in which the reduplication is affirmed, or even from another nonreduplicative, there follows a conclusion in which the reduplication is denied. For in the first figure there is a good syllogism with both premises being reduplicative; therefore, from the opposite of the conclusion together with the major there is inferred the opposite of the minor. But taking the opposite of the conclusion together with the major of a syllogism in the first figure there will

be a syllogism in the second figure implying the opposite of the proposition that was the minor in the first figure. For the same thing is the predicate in both premises. Therefore, in the second figure there is a good syllogism from two reduplicative premises, in one of which the reduplication is denied and in the other affirmed with respect to a conclusion in which the reduplication is denied.

(1001) Likewise, because in the first figure there is a good syllogism from a reduplicative major and a nonreduplicative minor with respect to a reduplicative conclusion, and also with respect to a nonreduplicative conclusion, therefore from the opposite of the conclusion together with the major there is a good syllogism in the second figure, one that implies the opposite of the minor. And therefore, from the one reduplicative premise, namely from the one that was the major in the first figure, and from the other reduplicative or nonreduplicative premise, namely from the one that is the contradictory of the conclusion, there is a good syllogism implying the opposite of the minor, which was a nonreduplicative proposition.

#### REDUPLICATIVE SYLLOGISMS IN THE THIRD FIGURE

(1002) (p. 190) Now in the third figure from two affirmative reduplicatives there follows a reduplicative conclusion with the reduplication falling on the same thing in the premises and in the conclusion. For example, it follows: 'Every man insofar as he is an animal is sensible; every man insofar as he is an animal is a substance; therefore, some substance insofar as it is an animal is sensible'. The reason for this is that from the preajacent of the minor together with the same major the same conclusion follows. For it follows: 'Every man insofar as he is an animal is sensible; every man is a substance; therefore, some substance insofar as it is an animal is sensible'. Proof: When the minor is converted there will be a good syllogism in the first figure, as is plain from the above statements.

(1003) But if one of the premises is reduplicative and the other nonreduplicative, if the major is a universal affirmative reduplicative and the minor nonreduplicative, a reduplicative conclusion follows. For from the major and the converted minor the same conclusion follows in the first figure, as was seen [(1002)]. But if the minor is a reduplicative affirmative and the major a nonreduplicative particular, a reduplicative conclusion does not follow. But a nonreduplicative conclusion does correctly follow.

(1004) For example, it does not follow: 'Something grammatical<sup>311</sup> is a man; everything grammatical insofar as it is an animal is sensible; therefore, some-

311. That is, something that knows grammar.

thing sensible insofar as it is an animal is a man'. Nevertheless the conclusion 'Something sensible is a man' does correctly follow, because from the pre-jacent of the minor together with the same major the same conclusion follows.

(1005) For this figure, you have to know that if there is a doubt about whether some syllogism is valid, it has to be seen whether from the opposite of the conclusion together with the minor there is a good syllogism in the first figure. If so, the syllogism is a good one. If not, it is not good. Now it has been seen which reduplicative syllogisms are good in the first figure and which are not valid. Therefore, through the first figure it can be made plain which reduplicative syllogisms are valid or are not valid in the third figure. For the first figure is the measure of all the other figures.

(1006) In the same way, you have to know about the second figure that if there is a doubt about whether some syllogism is valid or not, you must see whether from the opposite of the conclusion together with the major the opposite of the minor follows or not. If so, then the syllogism is a good one. If not, the syllogism is not valid. But now it is plain from the statements above how one is to form syllogisms from reduplicatives in the first figure. From this it can be made plain how one is to form syllogisms from reduplicatives in the other figures. For if in a syllogism in the second figure the opposite of the conclusion is taken together with the major, there will be a syllogism in the first figure, as is plain.

## Chapter 4: On Propositions in Which the Verbs 'Begins' and 'Stops' Occur

(1007) (p. 191) Next are the words 'begins' and 'stops', which are called syncategorematic [words], because syncategorematic words are understood in their exposition, or alternatively, because the signification in them is varied by what they are joined to. For according as they are joined to successive or permanent things, they are to be expounded in different ways, so that there is truth in successive and permanent matters according to different expositions.<sup>312</sup>

(1008) Permanent things are those the being of which exists together according to all their parts, like a stone, a piece of wood. Successive things are those the being of which does not exist together according to all their parts. Rather their being consists in a succession of parts, so that it is incompatible

<sup>312</sup>. On Burley's theory of the exposition of 'starts' and 'stops', see Spade, "How to Start and Stop."

with them to have all their parts together. A day, a year, and time and motion universally are like this.

(1009) It is to be noted, according to the Philosopher, *Physics* VIII,<sup>313</sup> that with permanent things one can assign a first but not a last—that is, with permanent things one can assign a first instant in which the permanent things have being, such as a first instant in which Socrates or whiteness has being. But there is no assigning a last instant in which Socrates has being, but instead a first in which he has nonbeing.

(1010) But according to the Philosopher, *Physics* VI,<sup>314</sup> this is not so with successive things. For there is no assigning a first being or a last being. For there is no assigning a first instant in which it is true to say that motion exists, because everything that is moved was moved and will be moved. Nevertheless, with successives one *can* assign a first nonbeing and a last nonbeing. In general, for whatever things there is no assigning a first being, for the same things one can assign a last nonbeing, and for whatever things there is no assigning a last being, for the same things one can assign a first nonbeing.

(1011) Further, you must know that ‘begins’ and ‘stops’ signify beginnings and stoppings, which are mutations in being or nonbeing. For ‘begins’ signifies a mutation that is the beginning of a thing’s being, whereas ‘stops’ signifies a mutation that is the end of a thing or of the nonbeing of a thing. So they follow one another mutually. For what begins to be stops not being and conversely. For beginning to be and stopping not being are in the same indivisible instant. For in the same instant in which Socrates begins to be white, he stops not being white, and (p. 192) conversely.

(1012) ‘Begins’ and ‘stops’ signify the beginning and end, or the first and last. And for certain things there is a first being and not a first nonbeing, and conversely for certain things there is a first nonbeing and not a first being. And with certain things there is a last being and not a first nonbeing, as is plain for indivisible successives, like an instant and being changed. Therefore, I say that the verbs ‘begins’ and ‘stops’ can have a double exposition. For they can be expounded by positing the present and denying the past, or by denying the present and positing the future.

(1013) For instance, ‘Socrates begins to be white’ can be expounded in two ways. In one way, like this: ‘Socrates is white and, without anything in between, he was not white’. Or it can be expounded like this: ‘Socrates is not white and, without anything in between, he will be white’.

(1014) In the same way, I say about ‘stops’ that it can be expounded in two

313. *Physics* VIII.8 contains a discussion of *successive* things. On permanent things, see instead *Physics* VI.5 236<sup>a</sup>7–15.

314. *Ibid.*

ways. In one way by a denial of the present and a positing of the past. For example, 'Socrates stops being white'—that is, 'Socrates is not white and, without anything in between, he was white'. In the other way, by the positing of the present and the denial of the future. For example, 'Socrates stops being white'—that is, 'Socrates is white, and without anything in between, he will not be white'.

### *A Sophism*

(1015) Through this the solution to the sophism 'What begins to be stops being' is plain.

(1016) It is proved as follows: This instant stops being, because it exists and will never exist later; therefore, what begins to be stops being.

(1017) It is disproved as follows: Beginning and stopping are opposites; and opposites are not in the same thing together.

(1018) Solution: The sophism-proposition is ambiguous, insofar as 'begins' and 'stops' can be expounded by a positing of the present or by a denial of the present. If both are expounded by a positing of the present, the sophism-proposition is true. For this instant exists and, without anything in between, it did not exist, and this instant exists and, without anything in between, it will not exist.

(1019) But if both are expounded by a denial of the present, the sophism-proposition is false. For one cannot find something that does not exist and, without anything in between, did exist and, without anything in between, will exist.

(1020) But if one of these is expounded by a positing of the present and the other by a denial of the present, in that case the sophism-proposition is certainly false, because it posits that the same thing exists and does not exist.

### *Other Verbs That Signify the Beginning or End of Being or Nonbeing*

(1021) In the same way, I say that verbs that signify the beginning or end of being or nonbeing, such as 'to be generated' and 'to be corrupted' are, can (p. 193) have a double exposition. So I grant 'This instant is generated when it exists' and 'This instant is corrupted when it exists', expounding both by positing the present. As such, they are not opposites. Thus, 'The same thing is generated and corrupted together' should be granted, expounding 'to be generated' and 'to be corrupted' both through positing the present.



### *Which Expositions Yield True Propositions?*

(1022) You also have to understand that propositions with the verb ‘begins’ are made true for permanent things and successive things according to different expositions. For one can assign a first being with permanent things, not with successive ones. And ‘to begin’ expresses the beginning of being.

(1023) But because ‘to stop’ expresses a change to nonbeing, and successive things and permanent ones do not differ as far as their end is concerned (because for both of them it is nonbeing, and for both permanent things and successive ones one can assign a first nonbeing and not a last being), therefore ‘stops’ can be expounded for successive things and for permanent ones alike in such a way that for both successive things and permanent ones the truth follows the same exposition. ‘Stops’ should be expounded for both successive and permanent things, insofar as the propositions are true, by a denial of the present and a positing of the past. For example, ‘Socrates stops running’—that is, ‘Socrates does not run and, without anything in between, he ran’. And ‘Socrates stops being white’, insofar as it is true, or insofar as it *can* be true, is expounded as follows: ‘Socrates is not white and, without anything in between, he was white’.

(1024) But ‘begins’ should be expounded differently for permanent things and successive ones, insofar as the propositions are true for permanent things by a positing of the present and a denial of the past. For example, ‘Socrates begins to be white’—that is, ‘Socrates is white and, without anything in between, he was not white. But for successive things it should be expounded by a denial of the present and a positing of the future. For example, ‘Socrates begins to run’—that is, ‘Socrates does not run and, without anything in between, he will run’.

(1025) The reason for this is because with permanent things one can assign a first instant of a thing’s being, but not for successive things. And where there is no assigning a first being, one can assign a last nonbeing. Therefore, for successive things one can assign a last nonbeing.

(1026) But for things that endure for an instant alone, such as an instant and a being changed, ‘begins’ and ‘stops’ should be expounded by a positing of the present and a denial of the future. I say this insofar as the propositions are literally true.

(1027) With all things, ‘begins’ and ‘stops’ have a double exposition, one by a denial of the present and the other by a positing of the present. Nevertheless, as for making the propositions true, they have one exposition.<sup>315</sup> For ‘stops’ in a proposition is expounded the same way both for successive things and for

315. That is, only one under which the proposition is true.

(p. 194) permanent ones, namely by the denial of the present and the positing of the past, whereas for things that have being for an instant alone, 'stops' is expounded by the positing of the present. But 'begins' is expounded for successive things otherwise than for permanent ones. For with permanent things it is expounded by positing the present and denying the past, with successive things by a denial of the present and a positing of the future.

### *Rule 1*

(1028) Note as a rule that an inference holds on the side of the predicate with the verbs 'begins' and 'stops' from what is through itself inferior to what is through itself superior, arranged in a categorial line. For it follows: 'Socrates begins to be a man; therefore, Socrates begins to be an animal'. Likewise, 'Socrates stops being a man; therefore, Socrates stops being an animal'.

(1029) Yet an inference does not hold on the side of the predicate with these verbs from an *accidental* inferior to a superior. For it does not follow: 'Socrates begins to be white; therefore, Socrates begins to be colored'.

(1030) The reason for this is because with substantial or essential forms there cannot be a transmutation according to species, with the form of the genus remaining. But with accidental forms there can. For with the form of an accidental genus remaining in some subject—as, for example, in Socrates—there can be a transmutation according to the species of the genus. For example, with the form of color remaining continuously in Socrates there can be a transmutation in Socrates according to the species of color.

(1031) Nevertheless, an inference does correctly hold from an inferior to a superior with the verbs 'begins' and 'stops' *following*. For it follows: 'Socrates stops running; therefore, a man stops running'.

### *Rule 2*

(1032) Again, it must be noted that the verbs 'begins' and 'stops' make one understand the present time as well as the past or future, as is plain in their exposition. Yet they mainly make one understand the present time. And because a common term with respect to a present verb has supposition for present things, and with respect to a verb about the past it supposits for past things, and with respect to a verb about the future for future things, therefore the rule is given that a common term joined to the verbs 'begins' and 'stops' has a twin supposition, one for present things first and principally, and the other

as a consequent for past or for future things, as needed by the exposition of the verb.

(1033) For example, let it be posited that Socrates is now first white, and was black before. 'Socrates begins to have a color' is false. Yet if the term 'color' supposited only for the color that exists, the proposition will be true, because 'Socrates begins to have whiteness' is true.

### *Rule 3*

(1034) (p. 195) Again, you have to know that a common term following the verbs 'begins' and 'stops' supposits for present, past, or future things merely confusedly, or disjointly, and not distributively. Now it was stated above what kind merely confused supposition is [(85)–(98)].

### A SOPHISM

(1035) I say, therefore, that a common term following the verbs 'begins' and 'stops' has merely confused supposition for present, past, or future things. Through this the solution to the sophism 'Socrates stops being the whitest of men' is plain, assuming that Socrates is the whitest of men who now exist, and that while he lives he is always the whitest of those who now exist, and that Plato all at once is born whiter than Socrates.

(1036) It is proved as follows: Socrates is the whitest of men and, without anything in between, he will not be the whitest of men; therefore, he stops being the whitest of men.

(1037) It is disproved as follows: Socrates stops being the whitest of men; therefore, he stops being the whitest either of men who exist or of men who do not exist. The consequent is false for both parts; therefore, the antecedent is too.

### SOLUTION TO THE SOPHISM

(1038) Solution: I say the sophism-proposition is true. To the disproof, I say it is a fallacy of figure of speech. For in the antecedent the term 'of men' supposits merely confusedly and expresses a 'kind of thing', and in the consequent it supposits determinately or disjunctively and expresses a 'this something'. So a 'kind of thing' is turned into a 'this something'.

### Rule 4

(1039) Again, it is a rule that whenever some adverbial determination occurs together with the verbs 'begins' and 'stops', the locution is ambiguous insofar as the determination can determine the verb or something else.

#### A SOPHISM

(1040) Through this the sophism 'God stops existing now' is solved.

(1041) It is proved as follows: God exists now; and he does not exist now any longer;<sup>316</sup> therefore, God stops existing now.

(1042) It is disproved as follows: Whoever stops existing now will not exist any longer; God stops existing now; therefore, he will not exist any longer. The conclusion is false; and the major is not; therefore, the minor is false.

#### SOLUTION TO THE SOPHISM

(1043) (p. 196) Solution: The sophism-proposition is ambiguous according to amphiboly, insofar as the determination 'now' can determine the verb 'stops' or the verb 'exists'. If it determines 'stops', then the proposition is false, and the sense is: 'God stops existing now—that is, God exists now, and he will never exist afterwards'. If it determines 'to exist', then the proposition is true, and the sense is: 'God stops existing now—that is, God exists now and he will never afterwards exist now'. The proof and the disproof proceed in their own ways.

#### ANOTHER SOPHISM

(1044) Here is a similar one: Let Socrates be in the last instant of his life (if one could give such an instant, which is however impossible). And let the sophism be 'Socrates stops existing, not stopping existing'.<sup>317</sup>

(1045) It is proved as follows: Socrates exists, not stopping existing; and never after this will he exist, not stopping existing; therefore, Socrates stops existing, not stopping existing.

(1046) It is disproved as follows: If Socrates stops existing, not stopping existing, therefore either he stops existing (a) *while* he does not stop existing, or (b) *if* he does not stop existing, or (c) *because* he does not stop existing. The

316. That is, 'after now'.

317. The gerundial expression 'not stopping existing' can be translated several different ways, as (1046)–(1047) indicate. The proposition is just as cumbersome in Latin as it is in English.

consequent is false; therefore, the antecedent is too. The inference is plain, because the gerund is expounded by 'if' and 'while' and 'because', just like the ablative case posited absolutely.

#### SOLUTION TO THE SOPHISM

(1047) Solution: The sophism-proposition is ambiguous, insofar as the determination 'not stopping existing' can determine either the verb 'stops' or the verb 'exist'. If it determines the verb 'stops', then the proposition is false, because opposites are posited together with respect to the same thing, namely stopping and the privation of stopping. The disproof goes like that. If it determines the verb 'exist', then the sophism-proposition is true, and the sense is 'Being stopping existing is now in Socrates and never afterwards will it be in Socrates'. Thus, although Socrates does not stop being simply, nevertheless he stops having a being like this, namely without stopping.

#### *Rule 5*

(1048) Again, it is a rule: As often as verbs like this occur in some expression, or together with some other syncategorema, the locution is ambiguous insofar as verbs like this can be included by the other syncategorema occurring there or else can include it.

#### A SOPHISM

(1049) Through this the sophism 'Socrates stops knowing whatever he knows' is solved. Let Socrates know three statements and stop knowing one of them.

(1050) (p. 197) It is proved as follows: Socrates knows whatever he knows; and, without anything in between, he will not know whatever he knows; therefore, Socrates stops knowing whatever he knows.

(1051) It is disproved as follows: If Socrates stops knowing whatever he knows, and Socrates knows three statements, therefore Socrates stops knowing three statements, which is false.

#### SOLUTION TO THE SOPHISM

(1052) Solution: The sophism-proposition is ambiguous according to amphiboly, insofar as 'stops' can (a) include the quantifier 'whatever'. And in that case 'whatever' is construed from in front. In that case the proposition is

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true, and then the distribution conveyed by the quantifier 'whatever' is held immobilely through the preceding negation included in the verb 'stops'. The proof proceeds in this way. But if (b) the quantifier 'whatever' precedes the verb 'stops', in that case the proposition is false and the sense is 'Whatever Socrates knows Socrates stops knowing'. And that is false, because only one of the things he knows does Socrates stop knowing.

*Syllogisms Made up of Such Propositions*

(1053) You have to know that one is to form syllogisms here in the same way as with simple assertoric categoricals.

The End of the Treatise *On the Purity of the Art of Logic* by Master Walter Burley



# Appendix: Tables of Parallel Passages

The two tables that follow list paragraph numbers for parallel passages in the two versions of *On the Purity of the Art of Logic*. Table 1 is arranged according to the order of the *Shorter Treatise*, in column 1. Table 2 is arranged according to the order in the *Longer Treatise*, in column 3. I have not listed passages that are virtually identical in the two versions and that have not been translated twice. In accordance with the critical edition, I have translated such passages in the *Longer Treatise* and included only a cross-reference in the *Shorter Treatise*.

Table 1		Table 2	
<i>Shorter Treatise</i>	<i>Longer Treatise</i>	<i>Longer Treatise</i>	<i>Shorter Treatise</i>
3	253	239–241	111
4–9	258–263	253	3
10	308–309	258–263	4–9
12	310	264–267	21–24
13	609	279–280	40
15	609	281–284	42–44
17–18	297–298	297–298	17–18
19–20	300	300	19–20
21–24	264–267	308–309	10
28–30	360–362	310	12
35	369–370	326–329	45–48
36–38	373–377	360–362	28–30
39	395	369–370	35
40	279–280	373–377	36–38
42–44	281–284	395	39
45–48	326–329	518	268
111	239–241	525	255–257
129	633	526	262–263
184	577	527–528	258–260
185–186	575	529	261
187–188	580–581	530	265
255–260	525, 527–528	546–548	283–285
261	529	550	286
262–265	526, 530	551	280
268	518	575	185–186
279–279	583–590	577	184
280	551	580–581	187–188
283–285	546–548	583–590	270–279
286	550	591–592	297–298
297–298	591–592	593	300
300	593	595	301
301	595	609	13, 15
319	942	633	129
320	954	942	319
323–326	956	954	320
		956	323–326





# Select Annotated Bibliography

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This bibliography contains a selection of items in English wholly or partly on Burley, plus full details on all other items cited above, whether in English or not. For both primary and secondary literature, the most important resource for locating works on Burley in English and other languages between 1968 and 1988 (together with some earlier items) is Wood, "Studies on Walter Burley 1968–1988." For the period 1989–1997, see Krieger, "Studies on Walter Burley 1989–1997."

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# Index of Persons

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To avoid having to decide whether a name is a place-name or a surname, medieval authors are listed by Anglicized *given* names. Thus Walter Burley is found under “W,” not under “B” or “G” (for “Gualterus”). Other names are alphabetized in the usual manner.

- Adam, 53–54, 199–200, 217, 219  
Aristotle, xx, 88, 89, 151, 152, 160, 246; *Cat.*, 87, 88, 190, 227; *Gen. and Cor.*, 239; *On Interp.*, 12, 15, 20, 25, 40, 48, 88, 92, 139, 142, 159, 160, 196, 204, 205, 218; *On Interp.* divided into two books, 12; *Metaph.*, 20, 51, 92, 229, 236, 272; *Phys.*, 74, 164, 268, 284; *Post. Anal.*, 86, 125, 277; *Pr. Anal.*, 12, 44, 46, 47, 50, 51, 65, 138, 140, 142, 160, 163, 169, 236, 241, 275, 276, 278; *Soph. Ref.*, 24, 25, 42, 80, 91, 106, 143, 196, 215, 229; *Soph. Ref.* divided into two books, 196; *Top.*, 268  
Averroes, 152, 177; *Comm. on On Soul*, 160; *Comm. on Metaph.*, 88; *Comm. on Phys.*, 118, 165  
Avicenna: did not make a mistake in logic, 160; *Metaph.*, 160, 275  
Bocheński, I. M., 46  
Boehner, P., xxii, xxiii, xxiv, 88, 234; edition of *Purity of Art of Logic*, xxiii  
Boethius, 88, 177, 181; *Comm. on Cat.*, 88; *On Hypoth. Syll.*, 57, 178, 179, 185, 203; *On Diff. Top.*, 162, 163; *Second Comm. on On Interp.*, 40, 42, 43, 65, 88; trans. of *On Interp.*, 139  
Boh, I., xxv  
Boyle, L. E., xxiii  
Brown, S. F., xxi, xxii, 6, 80  
Commentator. *See* Averroes  
Crawford, F. S., 160  
De Rijk, L. M., 60, 87  
Emden, A. B., xix  
Giles of Rome, 57, 203  
Grignaschi, M., xx  
Hertz, M., 87  
Hume, D., 33  
Jean Buridan, xxi  
John Duns Scotus, xix  
John who is now present, 88  
Kretzmann, N., xix, xxv, 39  
Kunze, P., xxv  
Martin, C., xix  
Maurer, A., 143  
Meiser, C., 40, 42, 65, 139  
Minio-Paluello, L., 138, 140  
Noah, 53–54, 67–68, 199–200, 217, 219  
Obertello, L., 57, 179, 185, 203  
Ottman, J., xx  
Paul (Apostle), 130  
Peter Aureol, 204  
Peter Lombard, xx  
Peter of Spain: *Synecat.*, 60; *Tract.*, 87  
Plato: theory of Ideas, 88  
Porphyry, xx  
Priscian, 87, 111  
Richard de Bury, xx  
Robert Grosseteste: *Comm. on Post. Anal.*, 268  
Schabel, P., 204  
Spade, P. V., xxi, 86, 92, 101, 196, 263  
Stump, E., xxv, 39, 196  
Sylla, E. D., xix  
Uña Juárez, A., xx  
Van Riet, S., 160  
Walter Burley: date of birth, xix; date of death, xx; dates of *Purity of Art of Logic*, xxii–xxiii; *De supp.*, xx, xxi, xxii, 6, 80,

Walter Burley (*continued*)

92; edition of *Purity of Art of Logic*, xxiii; influence, xxi; life, xix; *Lives of Philosophers* attributed to, xx; on instantaneous change, xxi; on Liar Paradox, xxi; on *obligatio*, xxi; on semantics of relative pronouns, xxi; realism, xxi; relation between versions of *Purity of Art of Logic*, xx, xxii; significance of title of *Purity of*

*Art of Logic*, xxiii; variant forms of name, xix; writings, xix, xx, 79, 80

Weisheipl, J. A., xx

William of Ockham, xix, xxi, xxii, xxiii, 89, 90; *Summa log.*, xxii, 87, 88, 89, 95, 96, 97, 132; use of Burley's *De supp.*, xxii

William of Sherwood: *Intro. to Logic*, 87, 91, 131; *Treat. on Syncat. Words*, 211

Wood, R., xx

# Index of Propositions, Rules, and Sophisms

---

- A falsehood is not in the proposition 'You are an ass', 38  
A horse is promised to you, 94, 96  
A man runs and he argues, 112  
A multitude cannot grow to infinity, 117  
A thing of each kind runs, 72  
A truth is not in the proposition 'God exists', 38  
Adam and Noah existed, 53–54, 199–200  
Affirmative always implies negative, 22  
Affirmative follows from negative together with establishing of subject, 18  
Affirmative proposition never follows from purely negative, 18–22  
All day some man is here indoors, 107  
All the apostles are twelve, 66  
Animal is a trisyllable and it is not a dissyllable, 111, 112  
Antecedent with something added implies consequent with same thing added, 7, 148  
Any contradiction's one part is true, 126  
Any negative implies affirmative, 19  
Any negative implies disjunction of which negative is one part, 19  
Any negative proposition implies 'Some proposition is true', 19  
Any proposition asserts itself to be true, 108  
Any singular of some universal proposition is true, 124–125  
Anything follows from impossible, 61, 146  
Anything whatever is such that one of pair of contradictories is said of it, 20  
  
Because something is larger, therefore it appears smaller, 214  
Being and to be are entirely the same, 143  
Better than God there is not a man; therefore, better than God there is a nonman, 20, 21  
By a mouth you do not talk, 38  
By an eye you do not see, 38  
  
Caesar is dead; therefore, Caesar is, 143  
Caesar is intelligible; therefore, Caesar is, 143  
Cannot be syncategorema merely syncategorematically on side of predicate unless part of predicate, 47  
Cato's is in possessive case, 81  
Color is primary object of sight, 94, 96–97  
Composite of contraries is primarily corruptible, 100  
Contingent does not follow from necessary, 4, 147, 205  
Contradiction given by adding negation to formal thing, 13  
  
Disjunction does not allow what it disjoins to exist together, 57  
  
Each one of each kind about each such one knows him to be such as he himself is, 73  
Each proposition asserts itself to be true, 19  
Each spoken declaration besides one is true, 262–263  
Either man runs, 110  
Every animal is rational or irrational, 59  
Every animal was in Noah's ark, 67–68  
Every color is visible, 98  
Every disjunction between contradictories is necessary, 58  
Every (each) proposition implies itself together with consequent, 7, 148  
Every exclusive implies its preadjacent, 228  
Every good or non-good is to be chosen, 127  
Every is syncategorema taken syncategorematically, 85, 86  
Every man besides Socrates is excepted, 261–262  
Every man besides Socrates runs, 107  
Every man having an ass sees it, 115  
Every man is an animal and every risible is it, 113  
Every man is an individual, 127–128  
Every man is every man, 65–66

- Every man is one man alone, 67  
 Every man is risible, 98  
 Every man sees every man besides himself, 260–261  
 Every man sees every man besides Socrates, 258–259  
 Every man who is white runs, 68–69  
 Every man, if he is Socrates, differs from Plato, 124, 126–127  
 Every proposition including opposites implies its opposite, 62, 156–157, 162  
 Every proposition is true, 167, 170  
 Every proposition or its contradictory is true, 55–56, 127, 209, 210  
 Every proposition true in part and false in part can be made true through exception, 257  
 Every species is under a genus, 102  
 Everything composed of contraries is corruptible, 98  
 Everything good or not good is to be chosen, 55, 56, 209  
 Everything having matter is corruptible, 98  
 Everything included in something follows from it, 165  
 Everything opposite to something, no matter how opposite, includes contradictory of it, 150  
 Everything that is, when it is, necessarily is, 48, 218  
 Exceptive word should be actually contained in supposition of term from which exception is made, 256
- For nominatives, affirmative exclusive implies universal with terms transposed, and conversely, 220–222, 225, 226, 230, 240–241  
 For truth of disjunctive truth of one part is sufficient, 57  
 Formal thing affirmed in one contradictory denied in other, 12  
 From negatives nothing follows, 179  
 From Socrates' running alone a man's running follows, 166, 169, 170, 230  
 From Socrates' running alone Socrates' running follows, 231  
 From Socrates' running or not running a man's running follows, 166, 168, 169  
 From true nothing follows but the true, 164
- Having neither eye, you can see, 69–70  
 He is deprived of sight, 95  
 He who sees every man is an animal, 104  
 However many times you were in Paris, that many times you were a man, 74
- I say that you are an ass; therefore, I say the truth, 7, 9  
 I would like to be stuck in the mud with a hundred pounds; therefore, I would like to be stuck in the mud, 11, 175  
 If an ass flies, an ass has wings, 165  
 If antecedent is true, consequent is true, 149  
 If antecedents are compatible, consequents are compatible, 149  
 If consequents are incompatible, antecedents are incompatible, 149  
 If every proposition is true, not every proposition is true, 62  
 If no time exists, some time exists, 5, 156  
 If nothing runs, something runs, 223–224  
 If only Father exists, not only Father exists, 227–228  
 If preajcent is true, exceptive is false, 261, 262  
 If Socrates of necessity is mortal, Socrates of necessity is immortal, 49  
 If some proposition is true, every proposition is true, 36–37  
 If something does not follow from consequent, does not follow from antecedent, 180  
 If you are everywhere, you are not everywhere, 63  
 If you go to Rome, you are existing at Rome, 131  
 If you know you are a stone, you do not know you are a stone, 63  
 Impossible can be true, 52  
 Impossible does not follow from contingent in simple inference, 3, 147  
 Impossible does not follow from possible, 199  
 In affirmative diminutive, predicate not taken away from anything, 260  
 In affirmative exceptive, predicate denied of excepted part, 259, 260  
 In 'as of now' inference, antecedent cannot be true as of now without consequent, 147  
 In conditional with indefinite/particular antecedent, subject suppositis confusedly, distributively, immobily with respect to consequent, 6  
 In conditional with universal antecedent-

- ent, subject of antecedent suppositis  
immobily with respect to consequent, 6
- In contradictories, terms should be  
same, 47
- In every good non-syllogistic inference,  
opposite of antecedent follows from  
contradictory of consequent, 11
- In every good simple inference, antecedent  
cannot be true without consequent, 3,  
147, 152
- In order for copulative to be true, required  
that both parts be true; for copulative to  
be false, suffices that one part be false, 55
- In order for negation and quantifier to  
make equipollence, have to be referred  
to same thing, 36–38
- Inference does not hold from inferior to  
superior with distribution, 16
- Inference does not hold from inferior to  
superior with negation put in front, 15
- Inference does not hold when more posited  
by consequent than by antecedent, 18
- Inference from proposition with several  
causes of truth to one of them does not  
hold, 18
- Inference good from inferior to superior  
particularly/indefinitely with negation  
put afterwards, 15
- Inference holds from distributed superior  
to inferior with/without distribution, 16;  
three conditions on rule, 17–18
- Infinite term should be said of being, 41
- Infinite verb can stay infinite in expres-  
sion, 42
- Infinite verb occurring in expression does  
not differ from purely negated verb,  
42, 43
- Infinities are finite, 75
- Infinitizing negation must destroy nature  
of what it is added to and leave behind  
another nature, 40
- Man is a monosyllable, 81, 91, 92
- Man is a noun, 81
- Man is a species, 87, 88, 91, 92, 93
- Man is predicated of several things, 98
- Man is primarily risible, 95, 97, 100
- Man is worthiest creature among creatures,  
92–93, 94, 95–96
- Minor in third figure should be affirma-  
tive, 250
- Modal proposition cannot be modalized by  
mode of anything, 46
- Mode is predicated in modal propositions,  
44–47
- Necessaries alone necessarily are true,  
232–233
- Necessary follows from anything, 61
- Negation governs what follows, not what  
precedes, 15, 38–39, 110
- Negation negates more than affirmation  
affirms, 14
- Negation of inferior follows from negation  
of superior, 14
- Negation posits nothing and affirmative  
does posit something, 18
- Negation primarily negates same thing as  
affirmation affirms, 15
- No conclusion from affirmatives in second  
figure, 249
- No man exists if some man exists, 34
- No man lectures at Paris unless he is an ass,  
264–265
- No truer predication than that in which  
same thing is predicated of itself, 65
- No truer way to give contradiction than to  
put negation in front, 201
- Non-common is common, 128
- Not something you are and you are an ass,  
31–39
- Nothing and a chimera are brothers, 32
- Nothing follows from particulars, 169
- Nothing follows syllogistically from nega-  
tives/particulars, 26, 242, 250, 251, 253
- Nothing is nothing, 35–36
- Nothing is true unless in this instant,  
265–266
- Of anything, one of pair of contradictories  
is affirmed, 21, 35
- Of sight he is deprived, 95
- One of these is a man and both of them are  
he, 129–130
- One of these is true and other of these is  
true, 116
- One of two contradictories is said of any-  
thing, 20, 21, 22, 41
- Only a house is white, 234
- Only a man runs, 197
- Only a man's being an ass is impos-  
sible, 232
- Only a white man runs, 237
- Only an animal is a man, 220, 221, 225–226
- Only every man runs, 236



- Only God's being God is necessary, 230–231
- Only one exists, 228–229
- Only Socrates is white, 237
- Only Socrates or Plato is a white man, 239–240
- Only Socrates' being a man is true, 230
- Only the Father exists, 158
- Only the origin exists, 157, 158, 160, 161, 162, 163
- Only the true and the false are contradictions, 239
- Only the true and the false are opposed, 238–239
- Only three men run, 236
- Opposite of antecedent follows from contradictory of consequent, 150, 153, 157, 167, 168, 182, 221, 241
- Opposite of consequent, incompatible with antecedent, 149
- Pepper is sold here and in Rome, 103
- Permissible to put antecedent in place of relative, 112
- Possible proposition does not imply its opposite, 63
- Predicate appellates its form, 131, 137
- Proposition not exclusive unless exclusion made with respect to main composition, 223
- Purely negative proposition does not imply affirmative with contrary/privative predicate with respect to same subject, without establishing of subject, 19
- Purely negative proposition implies affirmative with contradictory predicate, 19–22
- Reduplication-sign taken reduplicatively posits universality, 277
- Relatives posit one another, and destroyed destroy one another, 227
- Same thing cannot be properly disjoined with itself, 207
- Socrates alone is white or black, 233
- Socrates is a dead man; therefore, he is a man, 25
- Socrates is a dead man; therefore, he is dead, 25
- Socrates is a good blacksmith; therefore, he is a blacksmith, 24
- Socrates is a good blacksmith; therefore, he is good, 23, 24
- Socrates is an individual, 101
- Socrates is good and is a blacksmith; therefore, he is a good blacksmith, 24
- Socrates is not white wood; therefore, Socrates is nonwhite wood, 20, 21
- Socrates is saying the truth if Plato alone is speaking, 63
- Socrates is white with respect to his teeth, 25
- Socrates or Plato runs and Cicero disputes, 195–196
- Socrates runs alone, 8
- Socrates sees only every man who does not see himself, 236
- Some cause is not a man, 39
- Some proposition is true, 167, 170; follows from every negative proposition, 19
- Some things, insofar as they agree, differ, 64–65
- Something is primarily corruptible, 95, 97
- Subject of affirmative exclusive supposes merely confusedly and predicate confusedly and distributively, 222, 225
- Substance is a most general genus, 93
- Substance is defined, 93
- Substance is second substance, 93
- Substance is species of substance, 93
- Supposition is simple when a term supposes for its significate, 87
- Syncategorema that follows has no power over preceding term, 105
- Ten besides five are five, 259–260
- Than every magnitude one can give a lesser magnitude, 117
- That every mule is sterile is known by me; therefore, that this mule is sterile is known by me, 10
- That everything true exists and that God exists are different, 54
- That no man sits is necessary, 33
- The Antichrist will exist tomorrow, 205
- The composite of contraries is primarily corruptible, 100
- The ox is the animal most useful for the plow, 95
- The white can be black, 51, 132–133
- The wolf is in the story, 235
- This herb grows here and in my garden, 101, 102
- This is a being; therefore, this is, 144

- This laundress is a wife; this laundress is had by you; therefore, a wife is had by you, 24
- Thrice you drank wine, 105
- To be risible is primarily predicated of man, 98
- To the extent that someone is uglier, to that extent he is handsomer, 5
- To the extent that something is larger, to that extent it appears smaller, 5, 214, 215
- To the extent you are thirstier, to that extent you are less thirsty, 5, 214, 215
- Tomorrow there either is or is not a sea battle, 204
- Twice you ate a loaf of bread, 105–106
- Two and three are five, 54, 199, 200
- Two negations make one affirmation, 35–36
- What by both of them is stated is true, 123–124
- What does not follow from antecedent does not follow from consequent, 180, 189, 190
- What follows from antecedent follows from consequent, 4, 6, 10
- What has matter is primarily corruptible, 100
- What is antecedent to consequent is antecedent to antecedent, 4
- What is not antecedent to antecedent is not antecedent to consequent, 180
- What is not antecedent to consequent is not antecedent to antecedent, 180, 184
- What is said by superabundance belong to one thing alone, 97
- Whatever affirmation affirms denial denies, 201, 202
- Whatever follows from antecedent and consequent follows from antecedent by itself, 6, 7, 148
- Whatever follows from antecedent follows from consequent, 148, 154, 155, 170, 186, 187
- Whatever follows from consequent follows from antecedent, 4, 6, 147, 148, 153, 154, 155, 156, 157, 162, 163, 166, 169, 176, 180, 187, 189, 227
- Whatever follows from consequent with something added follows from antecedent with same thing added, 7, 148, 174–175, 243
- Whatever follows from opposite of antecedent follows from opposite of consequent, 151, 187, 188
- Whatever is antecedent to antecedent is antecedent to consequent, 4, 147, 155, 162, 176, 180, 182, 184, 252, 263
- Whatever is antecedent to consequent is antecedent to antecedent, 148, 181
- Whatever is antecedent to opposite of consequent is antecedent to opposite of antecedent, 151, 182, 183
- Whatever is cause of cause in some genus of cause and according to some manner of causing is cause of caused in same genus and according to same manner, 213
- Whatever is compatible with antecedent is compatible with consequent, 148, 149, 194
- Whatever is incompatible with consequent is incompatible with antecedent, 148, 149, 168
- Whatever is or is not, is, 127
- When a negation and a distribution are together in some one word, the one is relevant to nothing the other is not relevant to, 38
- When antecedent is posited, consequent posited too, 191
- When as many things are excepted as supposed, exceptive is not true, 260–261
- When consequent is destroyed, antecedent is destroyed, 191
- When inference is good with terms undistributed, also good conversely with terms distributed, 16
- When more things are excepted than supposed, exceptive not true, 260–261
- When possible is posited as existing, nothing impossible happens, 51, 236
- Whenever consequent follows from antecedent, distributed antecedent follows from distributed consequent, 16
- Whenever copulative sign occurs between two terms with respect to one extreme, locution is ambiguous insofar as sign can couple either terms or propositions, 54
- Whenever distribution and relative clause occur in locution with respect to same, locution is ambiguous insofar as quantifier can include relative clause or conversely, 68
- Whenever ‘or’ occurs between two terms, locution ambiguous insofar as word can disjoin terms or propositions, 55

- Whenever some finite terms are related in order, so that one is superior and other inferior, order will be contrary when infinitizing negation is added, 41
- Whenever term is taken in consequent for something else than in antecedent, antecedent does not imply consequent, 23
- Whenever there is argument from term suppositing merely confusedly to term suppositing determinately with respect to same multitude, fallacy of figure of speech, 106, 119
- Whenever two universal negative quantifiers occur in locution, first is equipollent to its contrary, second to its contradictory, 35
- Whenever 'whether' occurs in expression, disjoins two contradictory opposites, 60
- White cannot supposit, 84, 85-86
- White Socrates is a being by accident, 82, 102
- White Socrates is a man, 102
- White Socrates is a substance, 82
- Whole Socrates is less than Socrates, 70-71
- Wholly false proposition cannot be made true through exception, 257
- With no one running, you are an ass, 37-38
- With singular propositions, putting negation in front or later makes no difference, 201
- You are an ass, 7, 8, 14
- You have a laundress and she is a wife; therefore, you have a wife, 24
- You know you are a stone; therefore, you do not know you are a stone, 156-157
- You not only are an ass, 224

# Index of Topics

---

- Ablative absolute, 37, 70, 290  
Accent, fallacy of, 42  
Accident, 28, 71–74; concrete, 71; fallacy of, 4, 156, 214, 215; impossible for same to be in numerically diverse things, 116; predicate denominating, 143; predication according to, 25; said in conjunction, 28; signify in manner of, 28  
Act: association in, 255; exercised/signified, 25–26, 97–99, 165, 231; of proposition, 51, 52; of saying, 9; relevant to mode, 9;  
Addition: mode as, 142; what Arist. means by, 142  
*Adjacens, secundum/tertium*, 139–141  
Adverb: numerical, 105, 107; of time, 216, 217, 218  
Affirm ‘as a consequent’, 202  
Aggregate: of singular men, 66; of Socrates and his whiteness, 82; of subject and accident, 89. *See also* Term, aggregate  
Agreement: amount/kind of, 161, 162; and difference are opposites, 64; every inference holds by reason of some, 158, 160; in being, 161, 162; in following, 161, 162; none between contradictories, 158, 160  
‘All’: taken collectively, 66  
Ambiguity: according to composition and division, 10, 36, 50, 51, 52, 54, 56, 58, 59, 63, 68, 103, 126, 200, 209, 218, 229; senses of, 51, 134, 137, 138. *See also* Amphiboly; Equivocation  
Amphiboly, 232; distinction according to, 195, 201, 235; from different construction, 229; second mode of, 235  
Ampliation, 133, 136, 137  
‘An’ (= whether), how to translate, 59  
Analogy: equivocation by, 81, 91  
Antecedent: cause of consequent, 14; includes consequent, 146; truth of one sufficient for truth of consequent, 57  
—syllogistic antecedent: has no opposite, 11, 150; is multiple unconjoined proposition, 11  
Appellates its form: predicate, 131, 137  
Appellation, 79, 80, 131–138, 139; belongs to predicate, 79, 80; def. of, 131; different from signification, 131; property of predicate relative to subject/inferior, 131  
—different senses of ‘appellation’: 133; being common, 131, 133; predication, 133  
Appellative name, 87, 131  
Ark, Noah’s, 67–68  
Art: demonstrative, 3; of training students, 3; sophistical, 3  
Ascent, from singulars, xxi; to superior, 154  
Assertoric: syllogism, 141. *See also* Proposition, assertoric  
Association: in act, 255; privation of, 255  
Attribute: commensurately universal, 86; first subject of, 86  
Avignon: papal court at, xix  
  
Beginning and stopping, 219, 289–291  
Being: actual, 139, 142, 143, 144; actually existing, 144; adequate object of intellect, 144; agreement in, 161; as most transcendental, 144; common to every intelligible, 144; determinate, 142; diminished, 143; in its causes, 144; in itself, 144; in understanding, 144; insofar as being, subject of metaphysics, 64; intentional, 143; of existence, 139, 142; of mind, 51; outside soul, 96; possible, 144; simply, 142, 143; such, 142; taken in three ways, 144–145  
—being corruptible: not primarily applicable to universal, 99; primarily applicable to universal for singulars, 99  
—being said of every or of none (*dici de omni vel de nullo*), 46, 134, 135, 142, 279  
‘Besides’, 255–263; excepts from affirmative/negative multitude, 264; four senses of, 255; same as ‘with’, 255; same as ‘without’, 255; taken as expressing privation of association, 255; taken associatively, 255, 258; taken diminutively, 255, 259; taken exceptively, 255, 258, 259; taken privatively, 255  
Biblioteca Apostolica Vaticana, xxiii  
Body. *See* Mobile body  
Burley-in-Wharfedale (Yorkshire), xix

- Case: ablative, absolute, 37, 70, 290; nominative, 125, 126; oblique, 125, 126, 170, 171, 221, 230
- Catagoremata, 27
- Category: Aristotelian, 22, 93
- Cause, 29, 64, 213, 214, 215; being in, 144; efficient, 214; final, 214; first, 239; genus of, 213; linked with logical possibility, 144; of consequent, antecedent is, 14; of truth, 14, 18, 19, 134, 137, 197, 200, 203, 204, 212, 223, 224, 256
- Change: instantaneous, xxi
- Cleric: who knows Latin, 9
- Collectively: 'all' taken, 66; 'every man' taken, 66
- Common: entity, 87, 88; nature, 95, 97; predication, 128; thing, 98, 100
- Compatible, def. of, 149
- Complement: propositional, 9
- Component: 'is' predicated as second/third, 139–141
- Composite: extreme, 21; predicate, 22; subject, 22; term, 21, 22
- composite sense. *See* Composition, sense of
- Composition: determination of, 50, 65, 142; dictum occurring before main, 170; incomplex, 30; main (of predicate with subject), 44; mode of, 141; negation of, 31; nonformal, 44; of predicate with subject, 44, 125; on side of predicate, 21; on side of subject, 21; privation with respect to, 30, 43; sense of, 10, 37, 50, 51, 52, 54, 55, 56, 58, 59, 63, 68, 69, 103, 123, 126, 127, 168–171, 200, 209, 210, 218
- composition and division. *See* Ambiguity; Distinction
- material/formal composition, 33, 36, 37, 44, 46; explained, 36
- Conclusion: direct, 26, 184, 185, 188, 189, 190, 247, 248, 250, 254; indirect, 184, 185, 188, 189, 190, 247, 248, 250
- Condition: 'whatever' expounded by, 71. *See also* Proposition, conditional; Distribution; Sign, of conditional
- Conditioned predicate, 63
- Confuse. *See* Power; Supposition, confused; Supposition, merely confused
- confuse mediately following term, 105; confusedly and distributively, 104; merely confusedly, 104, 105, 106
- Conjoined/divided: predicate, 24–25, 103
- Conjunction: copulative, 52–55; signifies union of two things with respect to third, 53
- Consequent: affirm 'as a consequent', 202; antecedent cause of, 4; antecedent includes, 146; truth of one antecedent sufficient for truth of, 57. *See also* Fallacy, of consequent
- Consignification, 122; def. of, 27; of verb, 80
- Constantia*. *See* Establishing (*constantia*)
- Construction: amphiboly from different, 229
- Contingency: of complexes, 43; of incomplexes, 43; of propositions, 43; senses of, 49–50
- Contingent: both ways, 49, 50; does not follow from necessary, 4, 147, 205; future, 57–58, 204–205; in common, 49; infinite, 50; special, 50
- contingent by natural aptitude, 50; in fewer cases, 50; in more cases, 50
- Contradiction: God can do anything that does not include, 159
- Contradictory: complex, 41; incomplex, 41. *See also* Proposition, causal; Proposition, conditional; Proposition, copulative; Proposition, disjunctive; Proposition, exceptive; Proposition, hypothetical; Proposition, reduplicative; Proposition, temporal
- Conversion, 173; of syllogism, 172
- Copula, 12, 36, 46, 139, 141
- Copulation, 29, 53, 54, 79, 139–145; belongs to copula, 79; def. of, 139
- Copulative. *See* Conjunction; Proposition, copulative; Sign
- Corruptible: primary, 95, 97, 98, 99–100. *See also* Being corruptible
- Corruption (= death), 22
- Counterinstance, 259; to whole, 255
- Coupling: mark of, 13; of denial, 201–202; of disjoining, 195; of propositions, 54; of terms, 54
- Definition: by genus and difference, 93; nominal, 89, 90
- Denial of coupling, 201–202
- Denote to supposit, 110
- Dependence: causal, 86; grammatical, 86, 109, 110; terminate relative word's, 109, 110
- Descent: in conditionals in contrary manner to descent in categoricals, 154; to antecedent, 153; under antecedent, 6

- descent to singulars, xxi, 6, 10, 102, 103, 104, 107, 108, 114, 127, 153, 154, 171, 258, 259; absolute, 107; copulative, 103, 104; disjunctive, 103, 104; not by virtue of distribution, 108; under disjunction, 102; under distributed term, 171; under excepted part, 259; under subject of dictum, 171; under two terms at once, 114; with respect to excepted part, 258; with respect to predicate, 258
- Determinate: being, 142; truth, 57. *See also* Supposition, determinate
- Determination: of composition, 50, 65, 142; of predicate, 65; of subject, 65, 142; separating, 144
- determination and determinable, 31, 144; three kinds of, 25
- Dici de omni vel de nullo.* *See* Being said of every or of none
- Dictum, 9, 10, 100; as object by reason of dictum, 9; as object by reason of thing, 9; as object by reason of utterance, 9; as subject, 10; def. of, 9; occurring before main composition, 170; subject of, 171
- Difference: and genus, 93; or otherness of inferior/superior, 15. *See also* Agreement, and difference are opposites
- Disjoining of coupling, 195
- Disjoint: extreme, 55, 61; predicate, 61, 211, 233; subject, 58, 169
- Disjunction: exercise, 59; of exclusion, 233; promise under, 96. *See also* Proposition, disjunctive; Sign
- convey disjunction: absolutely, 55; with choice, 29, 59
- Disjunctive. *See* Proposition, disjunctive
- Disposition: adding causality to inference, 29; adding disjunction to inference, 29; adding negation to inference, 29; adding something to inference, 29; after manner of composition, 29; after manner of privation, 29; conveying copulation, 29; conveying disjunction, 29; expressing inference only, 29; of subject, conveying exclusion, 28, 30; of subject, predicate or composition, 27–29, 47; putting together incomplexes, 29; signified adverbially, 29; signified verbally, 29
- disposition putting together complexes, 29; absolutely, 29; according to order, 29
- Distinction: according to composition and division, 54, 55, 56, 168–171; according to equivocation, 8, 50
- distinction according to amphiboly, 195, 201; second mode of, 235
- Distributable, 69, 70, 75, 107, 110
- Distribution, 6, 10, 15, 16, 17, 18, 26, 28, 34, 37, 38, 54, 56, 67–68, 69, 70, 72, 74, 75, 84, 98, 107, 108, 119, 121, 122, 123, 124, 125, 127, 134, 153, 154, 167, 171, 172, 173, 209, 210, 235, 239; absolute, 28, 29, 71, 72; does not have power of confusing relative of identity, 112; included by relative clause, 71; includes relative clause, 71; of accident, 28, 71–74; of time under an interruption, 74; over integral parts, 70; over more than two, 69; over only two, 69; over parts according to number, 67, 68; over parts according to species, 67, 68; over substance, 71, 72; over supposita one by one, 29; over supposita taken together, 29; under a condition, 28, 72; with respect to exception, 107
- distribution of substance, 28, 73; over integral parts, 28; over subjective parts, 28
- distribution over accidents: according to number, 71; according to species, 71
- Distributively: ‘all’ taken, 67; ‘every man’ taken, 66
- Divided: predicate. *See* Predicate
- divided sense. *See* Division, sense of
- Division: sense of, 10, 36, 50, 51, 52, 54, 55, 56, 58, 59, 63, 69, 103, 123, 126, 132, 209, 210, 218; topic from, 39, 59
- Durham: diocese, xx
- ‘Either’: distributes over two, 110
- Eminence, 122–123
- Enthymeme, 145, 150, 152–165, 164
- Equipollent: of opposite of copulative proposition, 13; of opposite of disjunctive proposition, 13
- Equivocation, 66, 71; by analogy, 81, 91; by transumption, 91; fallacy of, 140; modes of, 80, 91, 92, 138. *See also* Distinction
- Establish an understanding, 139
- Establishing (*constantia*): of subject, 18, 19; of term, def. of, 18
- Eternity, 106, 118, 121–122
- ‘Except’: taken exceptively, 254, 263
- Exception: is extraction of part from whole with respect to third thing, 255; requirements for, 256
- Exceptive. *See* Proposition, exceptive
- Exclusion, 28, 30, 67; by reason of whole composite term/of one part, 237; disjunc-

Exclusion (*continued*)

tion of, 233; general/special, 233–234, 235; including disjunction, 233; including necessity, 232, 233; of disjunction, 233; on behalf of matter/form, 234; with respect to adjective/substantive/composite, 237–238; with respect to formal composition, 229, 230, 231, 232; with respect to material composition, 229, 230, 231, 232; with respect to part of dictum, 229, 230, 231, 232; with respect to whole (coupled/disjoined) term/to first part, 238–240; with respect to whole dictum, 229, 230, 231, 232

Exclusive. *See* Proposition, exclusive

Exercise: disjunction, 59, 210; interrogation, 59, 210. *See also* Act, exercised/signified

Existence: being of, 139, 142; claim, 139

Exposition, 71, 108, 194, 197, 289–291

Extreme: composite, 21; def. of, 80; disjoint, 55, 61; part of does not have supposition, 100, 114, 115, 130–131

Extrinsic: rule, 146. *See also* Topic

Fall away: utterances from significates, 90

Fallacy: in a certain respect and simply, 143, 144, 228, 262; of accent, 42; of accident, 4, 156, 214, 215; of consequent, 4, 6, 10, 16, 18, 19, 33, 35, 39, 49, 68, 69, 73, 74, 125, 143, 145, 147, 148, 180, 197, 223, 224, 226, 266; of equivocation, 140; of figure of speech, 39, 72, 73, 74, 106, 119, 120, 121, 122, 124; of four terms, 126; of missing the point, 53

False: in part, 257; never follows from true, 147; senses of, 145

Figure: rhetorical, 130. *See also* Fallacy, of figure of speech; Syllogism

Finite: and determinate signification, 27; predicate, 19, 20, 21, 22, 23; term, 20, 21

Form: exclusion on behalf of, 234; in matter, 159; predicate appellates its, 131, 137; reduplication by reason of, 65, 270; under own, 257

Formal: and main thing, 12; thing, 12, 13.

*See also* Composition, material/formal; Inference

Found or proposed thing, 60, 211

Future contingents, 57–58, 204–205

Generation of man, 118, 121–122

Genus: and difference, 93; most general, 93; of cause, 213

Ideas: Platonic, 88

Identity: togetherness of, 57, 203

'If': not occurring at beginning of locution, 63

Imposition, 88

Impossible: anything follows from, 61; less true than anything else, 146; proposition including and implying contradictory opposites is, 58

Impropriety: prevents inference, 207; verbal, 207

Include: contradictories, 160; opposites, 58, 156–157, 158, 159

Incompatibility: formal based on terms, 123

Individual: adds perfection to species, 94, 95; nature, 101

Indivisible: magnitude, 117, 119–120

Induction, 33, 59, 66, 67, 68, 74, 260

Inference: accidental, def. of, 146; as of now, 3, 146; enthymematic, 145, 150, 152–165; every, holds by reason of some agreement, 158; formal, 17, 108, 171, 173; from first to last, 4–5, 19, 36, 49, 57, 63, 64, 109, 155–156, 157, 158, 163, 176, 177, 203, 206, 215, 223, 224, 225, 226, 227; from 'whether' occurring once to 'whether' occurring twice, 60; holding accidentally by reason of terms, 173; holding because of matter, 173; holding by reason of incomplex terms, 17, 172, 173; holding by reason of whole complex, 17; holding by reason of whole structure, 172, 173; holding formally by reason of terms, 173; holding materially, 173; holds by reason of some agreement, 160; intermediate, 4; natural, def. of, 146; nonsyllogistic, 11, 150, 174; simple/composite, 146

—inference from inferior to superior. *See* Inferior/superior

—simple inference: 3, 146, 196; def. of, 3, 146; division of, 146; senses of, 146

—syllogistic inference. *See* Syllogism

Inferior, def. of, 14

Inferior/superior, 15, 33, 41, 81, 82, 83, 84, 102, 108, 125, 128, 130, 131, 132, 133, 154, 155, 173, 207, 211, 222, 225, 239; affirmation of, 15; difference or otherness of, 15; negation of, 14, 15; with exceptives, 261; with 'whether', 60; with/without distribution, 15, 16, 73, 154, 226, 266

Infinite: multitude, 117, 120–121; name, 40; participle, 42; predicate, 19, 20, 21, 23;

- taken categorically/syncategorematically, 74, 75; term, 20, 21, 22
- Infinetizing: four conditions for, 40; negation, 22, 40-43
- Inherence, 128
- Instant: 118, 121; motion in, 118. *See also* Change, instantaneous
- Instantiation, 120, 127
- Institution: speaker's, 235
- Intellect: being is adequate object of, 144
- Intention: as species, 87; first/second, name of, 101
- Intentional being, 143
- Interrogation: exercise, 59
- Interruption: distribution of time under, 74; of substance, 74; of time with respect to accident, 74
- 'Is': as categorema, 139, 140; as mode, 140; as syncategorema, 139, 140; copula in every proposition, 141; predicated as second/third component (*secundum/tertium adjacens*), 139-141; signifies certain composition that cannot be understood without parts, 139; taken absolutely, 45
- Juxtaposition: opposition by, 25, 46
- Kind of thing/this something, 39, 72, 106, 119, 120, 121, 122, 124
- Knowable: prior to knowledge, 190
- Knowledge: quality of soul, 72
- Layman who does not know Latin, 9
- Logicians: old, 92
- Magnitude: indivisible, 117, 119-120
- Mark: of coupling, 13
- Matter, 98, 100, 270; exclusion on behalf of, 234; form in, 159; reduplication by reason of, 64, 65, 270
- Maxim, 163
- maxim, difference of, 162, 163; not every has name, 163
- Maximal proposition. *See* Proposition, maximal
- Metaphysics: being insofar as being is subject of, 64
- Middle: proposition in hypothetical syllogism, 177; term of syllogism, 4, 56; variation in, 4, 56, 156, 214, 215; whole proposition as, 4
- Mobile body: subject of natural science, 64
- Modality, 3-4, 9, 43-52; *de dicto/de re*, 123; two kinds, as thing/as mode, 43-44; two kinds, of complexes/of incomplexes, 43-52
- Mode: act relevant to, 9; as addition, 142; as predicate, 10; determination of composition, 142; 'is' as, 140; is main and formal thing, 12; modal, 50; negation added to, 12; not predicated in modal propositions, 141-142
- Multiple unconjoined proposition, 11
- Multitude: infinite, 117, 120-121
- Name: appellative, 87, 131; common, same as appellative, 131; every name signifies something, 131; privative, 40; proper, 87; transcendental, cannot be infinitized, 41
- infinite name, 40; differs from privative, 40
- Nature: common, 82, 97; freak of, 50; individual, 101; law of, 50
- Necessary: contingent does not follow from, 4, 147, 205; follows from anything, 61
- Necessity: at a time, 218; including exclusion, 232, 233; of complexes, 43; of consequent, 48; of incomplexes, 43; of inference, 48; of part of temporal proposition, 48; of propositions, 43; of terms, 43; of whole temporal proposition, 48; respective, 48; simple, 218
- absolute necessity, 48-49; simple, 48, 49; temporal, 48, 49
- Negation: added to main verb, 12; added to mode, 12; as a consequent, 15; denies mark of coupling, 13; does not have power of confusing relative of identity, 112; exercised, 109; infinitizing, 22, 40-43; merely negating, 108; negates following term confusedly and distributively, 109; negates more than affirmation affirms, 14; negating, has power of confusing immediately/mediately following term confusedly and distributively, 108; of composition, 31; of inferior/superior, 14, 15; primary, 15; secondary, 15; with respect to composition, 29; word conveying, 15. *See also* 'Not'
- Negatives: nothing follows from, 179
- Noah's ark, 67-68
- Nominalism, xxi
- Nominative. *See* Case
- Non-being: actual, 143, 144; predicate including, 143



- 'Not': taken infinitively, 30; taken merely negatively, 30, 31–39
- 'Nothing': can be taken categorematically or syncategorematically, 32
- Nugation, 46
- Number: distribution over parts according to, 67, 68; principle of, 229; singular/plural, 41, 42, 54
- Numerical: adverb, 105; names taken categorematically/syncategorematically, 75
- Object: adequate, of intellect, 144  
—object of sight: contentive, 96–97; motive, 96–97; primary, 94, 96, 97
- Objectively being in understanding, 144
- Obligatio*, xxi, 196
- One: continuous, 229; converted with being, 229; principle of number in genus quantity, 229; simply, 11; transcendental, 229
- Opposite: contradictory/contrary, 11; none of antecedent of syllogism, 11; of antecedent does not follow from opposite of consequent in syllogistic inference, 11
- Opposites: include. *See* Include, opposites
- Opposition by juxtaposition, 25, 46
- Oratio obliqua*, 9
- Oxford University: Merton College, xix
- Paradox: Liar, xxi
- Paris, University of, xix, xxi
- Part: integral, 70, 255; less than whole, 117; quantitative, 255, 259; subjective, 255, 256, 259, 261, 263
- Participle: converted with verb, 42; infinite, 42; tensed, 136–137
- Particularization, 28
- Passion: of soul, 88
- Perfection: individual adds to species, 94, 95; infinite, of God, 122–123
- Person: in Trinity, 102; sense of term, 101
- Plural term: no contradictory of, 42
- Pluralization, 164
- Possibility: logical linked with causality, 144
- Pound (currency), 10
- Power: of ampliating, 137; of confusing, 104, 105, 109, 112, 113, 124; of distributing confusedly and distributively, 108–110
- Predicate: active, 141; appellates its form, 131, 137; appellation belongs to, 79, 80; composite, 22; conditioned, 63; conjoined/divided, 24–25, 103; denominating accident, 143; determinately including non-being, 143; determination of, 65; diminishing, 143; disjoint, 61, 211, 233; divided, one naturally apt to determine other, 24; finite, 19, 20, 21, 22, 23; in whatever contained under subject, 124, 127–128, 129; indifferent to actual being/non-being, 143; infinite, 19, 20, 21, 23; passive, 141; predicating, 141; presupposing being simply, 143; separating, 143, 144; signifying act or form in act, 143; simple, 22; supposition of in tensed/modal proposition, 137–138; transcendental, 143; two senses of, 141; which/by which, 141
- Predication: accidental, 25, 81, 82, 90, 102; as second/third component, 139–141; primary, 97, 98, 99; same as appellation, 133
- Prejacent: of exceptive, 259, 260, 261, 262, 263
- Present things: def. of, 133
- Primarily: positively or privatively/negatively, 99–100; referred to composition, 100
- 'Primarily (true)': as predicate, 100
- Primary: in positive/negative sense, 97
- Principle: first, in science, 175; of number, 229
- Priority/posteriority in time, 216, 217, 218
- Privation: disposition after manner of, 29; of association, 255; with respect to composition, 30, 43
- Privative name, 40
- Promising: determinate/indeterminate, 96; under disjunction, 96
- Pronoun: demonstrative, indicating two, 69, 70; reciprocal relative, 261; reflexive, 111; relative, xxi, 174
- Proposed: things found or, 60, 211
- Proposition: about beginning/stopping, 219, 289–291; about future contingent, 57–58, 204–205; about present that does not depend on future, 204, 205; act of, 51, 52; assertoric, 12, 43, 44, 45, 46, 47, 50, 51, 52, 133, 138, 141–142, 159, 241, 274, 291; asserts itself to be true, 108; atomic, xxii, 11; categorical, xxii, 79–145, 159, 209; diminutive, 259, 260; middle, in hypothetical syllogism, 177; modal, 12, 29, 159; molecular, xxii, 12; multiple unjoined, 11; one simply/by conjunction, 11, 151, 196; particular, 6, 103, 107, 123, 128, 129, 154; real, 80, 99; resolution of, 123;

- truncated, 214, 215; univocal, 137; wholly false, 257; with coupled extreme, 200; with disjoint predicate, 233; with disjoint subject, 169; with temporal extreme, 218
- causal proposition, 194, 211–215, 212, 216; antecedent of, def., 212; contradictory of, 212; def. of, 211; impossibility of, 212; necessity of, 212; possibility of, 212; syllogisms formed from, 213–215
  - conditional proposition, xxii, 12, 13, 48, 126, 145, 180, 194, 217, 218; composite, 165; contradictory of, 13, 159
  - copulative proposition, 12, 103, 129, 194, 195, 197, 203; contradictory of, 13, 197, 200; def. of, 198; impossibility of, 198; possibility of, 198; syllogisms formed from, 197, 202–203; truth conditions for, 198, 199–200; what is opposite equipollent to, 13
  - disjunctive proposition, 8, 9, 10, 12, 13, 55, 129, 194, 203–211; contradictory of, 13, 203, 206; def. of, 203; each part of is antecedent to, 57; for necessity of, necessity of one part not required, 58; formed with ‘or’, 206, 207–210; formed with ‘whether’, 206, 210–211; if both parts true, whole true, 57; impossibility of, 206; is consequent of both parts, 57; is falsehood of one part required for truth of, 57; is truth of one part required for truth of, 57; necessity of, 205; possibility of, 206; syllogisms formed from, 203, 206, 209–210; truth conditions for, 203–205; what is opposite equipollent to, 13
  - exceptive proposition, 194, 219, 254–267; contradictory of, 256; exposition of, 256; negative, 108; preajcent of, 259, 260, 261, 262, 263; syllogisms formed from, 266–267
  - exclusive proposition, 169, 194, 219–254; equipollent to copulative made from exponents, 223; has two exponents, 220, 224; preajcent of, 228; def. of, 228;
  - exclusive proposition, syllogisms formed from, 240–254, 267; first figure, 241–245; second figure, 245–248; third figure, 249–254
  - hypothetical proposition, xxii, 289–291; contradictory of, 197; def. of, xxii, 146, 194; five main species of, 194; implicit, 194, 289–291; species of, 145, 146, 194–195; whether one proposition, 196
  - hypothetical proposition, explicit, 194.
- See also* Proposition, conditional; Proposition, copulative; Proposition, disjunctive; Proposition, temporal
- hypothetical proposition, simple/composite, 195; how to assign species of composite, 195
  - indefinite proposition, 6, 103, 121, 154; def. of, 103; equivalent to particular, 103
  - maximal proposition, 162, 163, 191, 207; def. of, 162; every good inference holds through, 162
  - reduplicative proposition, 12, 160, 194, 219; contradictory of, 14, 160. *See also* Reduplication
  - singular proposition, 10. *See also* Ascent; Descent, to singulars; Singular
  - temporal proposition, 48, 194, 216–219; contradictory of, 218–219; def. of, 216; impossibility of, 218; necessity of, 218; possibility of, 218; syllogisms formed from, 219; truth conditions for, 216
  - tensed or modal proposition, 132–138; supposition of predicate in, 137–138
  - universal proposition, 6, 10, 129, 171; affirmative, 110, 124, 129, 153, 170; negative, conversion of, 241
- Propositional complement, 9
- Quale quid/hoc aliquid.* *See* Kind of thing/this something
- ‘*Qualiscumque*’ (= each kind of): how to translate, 72
- ‘*Qualislibet*’ (= each kind of): how to translate, 72
- Quality, 72; affirmation/negation, 43; of soul, knowledge or science as, 72
- Quantifier, 103, 105, 239; determination of subject, 142; existential/particular, 28, 103, 123, 128, 142, 256; ‘no’, 34; universal, 10, 26, 54, 104, 110, 120, 121, 125, 142, 170, 171, 202
- distributive quantifier, 107, 171, 172; of accidents, 71–74; of substance, 71, 72
  - universal affirmative quantifier, 110; conveying negation, 104; has power of confusing immediately following term confusedly and distributively, 108
  - universal negative quantifier, 35, 105; has power of confusing immediately/mediately following term confusedly and distributively, 108
- Quantity: continuous, 74; discrete, 74; genus, 229; of proposition, 50, 171

- Reduplication, 12, 14; by reason of form, 65, 270; by reason of matter, 64, 65, 270; of efficient cause, 64; of final cause, 64; of formal cause, 64; of major/minor/middle extremity, 65; of material cause, 64. *See also* Proposition, reduplicative; Sign
- Relative. *See* Term, relative
- Resolution: of proposition, 123
- Risibility, 95
- Rudibility, 171
- Science, 117; as quality of soul, 72  
—natural science, 117; mobile body subject of, 64
- Scope, 15; extends to right, not left, 15, 20, 95
- Secundum/tertium adjacens*, 139–141
- Secundum quid et simpliciter*. *See* Fallacy, in a certain respect and simply
- Seine River, 91
- Self-reference, 263
- Sense: in which proposition is made, 97, 98, 235; proposition makes, 98, 235; universal is object of, 97  
—composite sense. *See* Composition  
—divided sense. *See* Division  
—sense of composition. *See* Composition  
—sense of division. *See* Division  
—senses of an ambiguity. *See* Ambiguity
- Sense-impression, 97
- Sherwood forest, xx
- Sight: primary object of, 94, 96, 97
- Sign: causal, 213; of conditional, 12, 159, 160, 179, 180, 184, 185, 186, 189; of copulative, 12, 31; of disjunction, 12; of reduplication, 160
- Significate, first, 86, 89, 94; species/individuals under, 86
- Signification: different from appellation, 131; establishing an understanding, 139; formal, 132; improper, 235; primary, 89, 90, 91; secondary, 89, 91; theory of, 79, 87–90; whole, 86  
—finite signification, 40; and determinate, 27  
—first signification, 86, 87–88, 89; and adequate, 86, 93, 94
- Simple: term, 21, 22
- Singular: ascent from, xxi; not properly defined, 93; nothing outside soul except, 97; of a proposition, 84. *See also* Descent, to singulars
- Singulation, 114
- Socrateity, 101
- Sophistical art, 3
- Species: community of, 87; distribution over parts according to, 67, 68; impressed, 97; individual adds perfection to, 94, 95; mature, 122; most specific, 168, 174; sensible, 97
- Speech, figure of. *See* Fallacy
- Stopping. *See* Beginning/stopping
- Subcontraries, 39, 183, 209
- Subject: composite, 22; determination of, 65, 142; disjoint, 58, 169; grammatical, 125; logical, 125, 126; of distribution, 125; of metaphysics is being insofar as being, 64; of proposition/of locution, 125
- Subordination, 88
- Substance: first, 89; second, 87, 89; whatever is signified in manner of, 28
- Subsumption: in perfect syllogism, 125, 126, 127
- Superabundance, 97
- Superior: ascent to, 154. *See also* Inferior/superior
- Superlative, 97
- Supposition: absolute, 107, 114; aptitudinal/actual, 260; belongs to consignificates of verb, 80; belongs to predicate, 80; belongs to subject, 79, 80; belongs to verb, 80; broad/proper sense of, 79–80; copulative/disjunctive, 102; def. of, 80; disjunctive, 39, 105; immobile, 6, 107–108, 114, 153; of predicate in tensed/modal proposition, 137–138; primary, 91; property of subject relative to predicate, 80, 131; property of term relative to other term in proposition, 80; property of whole extreme, not part, 100, 114; relative, 111–117; respective, 107, 114; secondary, 91; terms in contradictories have opposite modes of, 115; theory of, xxi, xxii, 3, 6, 14, 39, 72, 79–131  
—common supposition, 101; division of, 102–103  
—compared simple supposition, 92–93; general, 93; special, 86  
—confused and distributive supposition, 6, 39, 72, 103, 107–110, 114, 124–128, 154, 222, 225; absolute, 114; division of, 107  
—confused supposition, 102, 122; division of, 103  
—determinate supposition, 39, 91, 104, 105, 106, 110, 119, 120, 121, 122, 124; def. of, 102–103

- discrete supposition, 101; def. of, 101
- formal supposition, 81; division of, 81, 82
- material supposition, 23, 79, 81, 82–86, 90, 91, 92, 94, 95, 101, 111, 112, 113, 128; def. of, 81; division of, 82
- merely confused supposition, 103–107, 113, 114, 118, 119, 120, 121, 122, 123, 124, 155, 222, 225; absolutely so called, 114; def. of, 103–104
- mobile supposition, 107, 108, 114, 153; and absolute, 107–111
- particular supposition, 112, 115, 125, 263; singled, 114
- personal, 14, 22, 23, 79, 81, 82, 84, 88, 89, 90, 91, 92, 94, 95, 96, 97, 98, 99, 100, 101–130; def. of, 81, 82, 102; division of, 101, 102; does not have to be for singular(s), 102; why so called, 101
- proper supposition, def. of, 80; division of, 81
- simple supposition, 23, 79, 82, 86–100, 101, 102, 106, 113, 128; absolute, 92–93, 95, 96; def. of, 82, 86; division of, 92–93
- singled confused and distributive supposition, 114–115; intermediary between merely confused and confused and distributive, 114
- Suppositum: senses of term, 6, 81, 111, 125
- Syllogism, 26, 173; antecedent has no opposite, 11, 150, 174; assertoric, 141; conversion, 172; evident by itself, 193; formed from causal propositions, 213–215; formed from copulatives, 197, 202–203; formed from disjunctives, 203, 206, 209–210; formed from exceptives, 266–267; formed from hypothetical propositions, 145, 175–194; formed from temporal propositions, 219; middle term, 56; mixed, 140, 152; perfect, 125, 126, 135, 141, 179, 193; rule-governed, 46, 47; rules applicable to any figure of, 26; three relations in, 134–136; truncated, 152; with mixed tenses, 135–136
- categorical syllogism, 177; middle term of, 4; not possible with exceptives/exclusives, 263; second figure, 181; third figure, 186
- hypothetical syllogism, 152; conditional, 145; first figure, 192; first form, 191, 192; first form is perfect and evident of itself, 193; middle proposition in, 177; second figure, 192; second form, 191, 192, 193; second form is nonevident, 193; third figure, 193
- hypothetical syllogism with one conditional, one categorical premise, 190–194; moods of, 192–194
- syllogism, first figure, 141, 175; formed from disjunctives, 210; hypothetical moods, 177; major in, virtually contains whole syllogism, 134; never valid with one premise about past and other about future, 135; rules for, 26, 33; with two conditional premises, 176–180. *See also other subentries under Syllogism*
- syllogism, second figure, 148, 175; hypothetical moods, 181; rules for, 26; with two conditional premises, 180–185. *See also other subentries under Syllogism*
- syllogism, third figure, 175; hypothetical moods, 187–190; rules for, 26; with two conditional premises, 185–190. *See also other subentries under Syllogism*
- syllogism about past or future, 134–136; first figure, 134–136; second figure, 134; third figure, 134
- syllogism formed from exclusives, 240–254, 267; first figure, 241–245; second figure, 245–248; third figure, 249–254
- syllogism of prior form, *See Syllogism, hypothetical, first form*
- uniform syllogism: about past/future, 134, 135
- useful syllogism, 181, 182, 184, 187; sense of expression, 140
- Syncategorema: does not have power of confusing term in another proposition, 105; material, 196; on side of predicate is part of predicate, 65; taken syncategorematically, 223. *See also Syncategoremata*
- formal syncategorema, 195; def. of, 196
- Syncategoremata, 3, 26, 27–75; are consignificative, 27; as parts of extreme, 104; cannot be infinitized, 40; conveying multitude, 104, 105, 106, 107, 121; kinds of, 27–29; not taken syncategorematically, 104; one including other, 33–34; remaining syncategorematic, 104; taken merely syncategorematically, 65; that do not include negation, 104. *See also Syncategorema*
- syncategoremata determining composition, 30, 52; conveying one thing, 61; conveying order, 61

- Syncategoremata (*continued*)  
 —syncategoremata expressing inference, reduplicatively, 64; specifically, 64
- Term: absolute, 124; analogical, 91; common, appellates inferiors, 131; conjunctive/disjunctive, 80; coupled/disjoined, 238–240; def. of, 80; equivocal, 131; finite, 21; general, having species and individuals under it, 93; immediately following, 104, 106, 108, 109–110; in plural has no contradictory, 42; infinite, 20, 21, 22; mediately adjoined, 113; middle, 4, 56; noncomplex, 79; oblique, 125, 126, 170, 171, 221, 230; simple, 21, 22, 40, 43, 80; special, 193, 267; taken adjectivally/substantively, 84, 85, 86
- aggregate term, 40, 81, 82, 90; of adjective and proper name, 82; of adjectives, 40, 80; of adjectives and substantive, 40, 80; of nominative and oblique case, 125; singular, 90, 102
- composite term, 21, 22; singular, 209. *See also* Term, aggregate
- compound term, 82; singular, 86. *See also* Term, aggregate
- concrete term, 82; accidental, 82; singular, 86, 90
- distributable term, 17, 107. *See also* Distributable
- incomplex term, 172; with respect to whole complex expression, 17
- mediately following term, 104, 105, 106, 108, 109; def. of, 104; in sense in which proposition is understood, 107
- non-reflexive relative term, 111–113; can refer to part of extreme in same categorical, 115; does not refer to something in same categorical, 112, 115
- reflexive relative term, 111, 113–114; can refer to term in same or in other categorical, 113; part of extreme, 113
- relative term, 111–117, 124, 129–130; antecedent of, 111–114, 115, 116; contradictory of proposition with, 115; def. of, 111; including exercised negation has power of confusedly and distributively confusing common term immediately following and terminating dependence, 109–110; of accident, 111, 116–117; of diversity, 111, 115–116; of identity, 111–115; of substance, 111–116; variation of, 130
- singular: aggregated, 90, 102; cannot be confused, 224; composite, 102; compound, 86; concrete, 86, 90
- transcendental, 22, 143, 191, 192, 193, 266, 267; def. of, 22
- Terminate: dependence, 109, 110
- Tertium adjacens*, 139–141
- Thing: formal, 12, 13; found/proposed, 60, 211
- Time: adequate, 216; consigned by verb, 122. *See also* Distribution; Interrogation
- Together: in time, 216–217, 218; of identity, 57, 203; of truth, 57, 204
- Topic, 158; extrinsic, 146, 162; following from consequent, 163; from an antecedent, 191; from destruction of consequent, 191; from division, 39, 59, 207, 208, 209; from inclusion of opposites, 163; from the less, 62, 146; intrinsic, 146, 162
- dialectical or logical topic, 158, 162–163; divided into difference of a maxim/maximal proposition, 162; every inference is based on, 158, 162
- Topical reasoning, 39. *See also* Topic
- Transcendental: being as most, 144; name, 41; ‘one’, 229; predicate, 143. *See also* Term, transcendental
- Translation Clearing House, xxv
- Transumption, 80, 91
- Trinity: doctrine of, 102, 158, 227
- True: false never follows from, 147; in part, 257; primarily, 98, 99, 100; senses of, 145
- Truth: determinate, 57; three senses of, 204–205
- truth, togetherness of, 57, 204
- Understanding: being in, 144; determinate and distinct, 88; establish, 139
- Unity: real not numerical, 96
- Universal: being corruptible (not) primarily applicable to, 99; cannot exist by itself, 96; has being outside soul, 96; is in many and said of many, 92–93; is object of sense, 97; thing, 94
- Universals: problem of, xxi
- ‘Unless’, 263–266; composed of ‘not’ and ‘if’, 264; differs from/same as ‘besides’, 264; excepts from negative multitude/term alone, 264; taken exceptively, 254, 264, 265, 266; taken inferentially, 264, 265, 266
- Usage: in speech, 80, 130, 235, 238
- ‘*Utterque*’ (= both): how to translate, 69
- Utterance. *See* ‘Vox’

- Variation: in middle, 4, 56, 156, 214, 215  
 Velocity: infinite, 118, 122  
 Verb: adjectival, 23, 26, 141; converted with participle, 42; coupling predicate with subject, 12; give suppositum to, 125; infinite, 42-43; main, 12; non-ampliative, 133, 136; purely negated, 42, 43; substantival, 23, 141  
 'Vox' (= utterance): difficulty in translating, 9  
 'When': taken conditionally/merely temporarily, 217  
 'Whether': occurring once disjoins opposites, 210, 211; occurring twice disjoins things found/proposed, 60, 211. *See also* 'An' (= whether)  
 Whiteness: subject of, 89  
 Whole: integral, 234, 237, 255; quantitative, 255, 259; taken categorically/ syncategorematically, 70, 71, 121; universal, 255, 259  
 Wish: antecedent/consequent, 11  
 'With': same as 'besides', 255  
 'Without': same as 'besides', 255  
 Wood: white/nonwhite, 20, 22, 40, 41  
 World: eternity of, 106  
 York: diocese, xix  
 Yorkshire, xix