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93

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Boethius' *De syllogismis hypotheticis*: Eleventh-Century Emendations of the Text

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0 Introduction

The earliest study so far known of Boethius' *De syllogismis hypotheticis* is Abbo of Fleury's treatise *De syllogismis hypotheticis*, dated to the late tenth century.¹ The Boethian work was next taken up and studied by proto-vocalists in the late eleventh century.² In the very beginning of the twelfth century, Peter Abelard first brought the book to Paris, where the work had not been studied yet.³ Abelard wrote the earliest full commentary on the

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¹ Mss. Paris, BnF, lat. 6638, ff. 1ra–4rb, Leiden, University Library, BPL 130B, ff. 17r–30r, Orléans, BM, 277 (233), pp. 74b–77b. Editions in Abbo of Fleury 1966; 1997.

² The following texts are by proto-vocalists: commentary SH6, Ms. Pommersfelden, Schlossbibliothek, 16/2764 ff. 2r–v + 4r–v; SH8, Ms. München, Bayerische Staatsbibliothek, clm 14779 ff. 39r–41v; tMP2, a treatise called *De mediis propositionibus*, Ms. München, Bayerische Staatsbibliothek, clm 14735 ff. 1r–2r; *Introductiones Lemovicenses*, Ms. Paris, BnF, lat. 544, ff. 110r–114r (hypothetical syllogisms discussed at ff. 112v–114r); *Introductiones Emmeranae*, Ms. München, Bayerische Staatsbibliothek, clm 14735 ff. 21r–22v (at f. 22r–v); and Gerland of Besançon's *Dialectica*, pp. 127–90.

³ The *Introductiones*, which I edited and attributed to William of Champeaux and dated to the late eleventh century, viz. before the arrival of Peter Abelard to Paris, do discuss inferential forms like hypothetical syllogisms, but in a completely different way from Boethius. See Iwakuma 1993 for my edition (see also my note “To Vienna II 3–4 and Escorial O 9.1–10” at pp. 53–54); and Iwakuma 2003 for my attribution to William and the dating.

book, and further studied the topic in his *Dialectica*.¹ Realists tried to give their own interpretation of the book until the mid-twelfth century,² but ceased to discuss hypothetical syllogisms in the second half of the century, and the logic books of the following centuries do not even mention hypothetical syllogisms, concentrating only on categorical ones. The Boethian book was then almost forgotten until the earliest printed text was published in the late fifteenth century.³

This is my view, in brief, on the history of the medieval studies of Boethius' *De syllogismis hypotheticis*. In this present paper, however, I refrain from discussing this view in detail. Instead, I shall discuss the manuscript tradition of the text itself. All the earliest manuscripts so far extant come from the late tenth and early eleventh century, around the same date as Abbo of Fleury's monograph. These manuscripts share

¹ Commentary SH2, Ms. München, Bayerische Staatsbibliothek, clm 14779, ff. 67v–86v; Peter Abelard, *Dialectica*, pp. 498–532. Cf. also the text by a *nominalis*: William of Lucca, *Summa dialectice artis*, pp. 205–49.

² SH3 in Mss. München, Bayerische Staatsbibliothek, clm 14458, ff. 59r–82r, Orléans, BM, 266 (222), pp. 78b–118a, Sankt Gallen, Stiftsbibliothek, 134, pp. 96^{bis}a–133a, München, Bayerische Staatsbibliothek, clm 14779 ff. 66r–67r + 86v (in my view, it was written by a student of William of Champeaux just after William retired from teaching, and later revised by other students of William); SH4 (a commentary by a student of Jocelin of Soissons) in Ms. Orléans, BM, 266 (222) pp. 264a–276a; SH1 (a commentary by *Albricani*) in Ms. Berlin, Staatsbibliothek, lat. fol. 634, ff. 76rb–80vb; SH5, Ms. Paris, Bibl. Arsenal, 910, ff. 142va–143ra; SH7, Ms. Sankt Gallen, Stiftsbibliothek, 833 pp. 25–30. Treatises: *De mediis propositionibus*, tMP1, Ms. München, Bayerische Staatsbibliothek, clm 14458, f. 82v (attached to SH3); tMP2, *De dissimilitudine terminorum*, Ms. Orléans, BM, 266 (222), pp. 291a–293b (references to Jocelin of Soissons, Peter Abelard, Walter of Mortagne, and Ulger of Angers); *Introductiones Montanae maiores*, pp. 228–97; *Introductiones Montanae minores*, pp. 67–71; *Introductiones Emmeranae*, München, Bayerische Staatsbibliothek, clm 14736, ff. 21r–22v, at f. 22r–v; *Introductiones*, Paris, BnF, n.a.l. 3239 ff. 1ra–19vb, at f. 18rb–19vb; and *Ars Bernensis*, Ms. Bern, Burgerbibliothek, 618 ff. 51r–64v, at ff. 64v–74v.

³ I know the following four early printed books for Boethius' works, including the *De hyp. syl.: Opera* (Venice: per Ioannem de Forlivio et Gregorium fratres 1491–92, 1497–99, 1540), *Dialectica* (Venice: apud Juntas, 1543, 1547), *Opera omnia* (Basel: apud Henricum Petrus, 1545, 1546, 1570, 1549), *Dialectica* (Venice: apud J. Gryphium 1575, 1580, 1585).

several serious *corruptelae*, which suggests that the earliest manuscripts are descended from a common, now lost, archetype. When medieval people like Abbo of Fleury and his circle first began to study the Boethian work in the late tenth century, they noticed the corrupt passages, and various emendations were proposed throughout the eleventh century and later. These facts are not evident in the editions currently in circulation, which are based on only a few of the extant manuscripts.¹ In the present paper, I shall present the corrupted parts in the archetype, and various emendations proposed in the eleventh century or later.

0.1 Abbreviations

After some introductory discussion, Boethius discusses several types of hypothetical syllogisms. I use the following abbreviations to refer to them in this paper: “CC” means that the first premise consists of two categorical propositions (CCmp for *modus ponens*, CCmt for *modus tollens*), “CH” means that it consists of a categorical and a hypothetical, “HC” vice versa; “Mi,” “Mii,” and “Miii” refer to those whose first premise is the first figure of *mediae propositiones*, and the second, and the third, respectively; “HH” means that the first premise consists of two hypotheticals, and “D” that it consists of a disjunctive proposition. These various types are discussed, after the introductory discussions in *Liber I* and *II*, as outlined in Table 1 (please note that some of Boethius’ inferences may sound wrong to modern ears).

¹ Boethius 1847; Boethius 1969.

<i>Liber II</i>		<i>Examples of the first mode of each syllogism</i>
CC	$(CCmp) X \rightarrow Y; X \vdash Y$	si est a est b; atqui est a; est igitur b (CC1mp)
	or $(CCmt) X \rightarrow Y; \neg Y \vdash \neg X$	si est a est b; atqui non est b; non est igitur a (CC1mt)
CH	$X \rightarrow (Y \rightarrow Z); X \vdash Y \rightarrow Z$	si est a, cum est b est c; est a; cum igitur est b est c (CH1)
	or $X \rightarrow (Y \rightarrow Z); Y \rightarrow \neg Z \vdash \neg X$	si est a, cum est b est c; si est b non est c; non est igitur a
HC	$(X \rightarrow Y) \rightarrow Z; X \rightarrow Y \vdash Z$	si, cum est a est b, est c; si est a est b; est igitur c (HC1)
	or $(X \rightarrow Y) \rightarrow Z; \neg Z \vdash X \rightarrow \neg Y$	si, cum est a est b, est c; non est c; si igitur est a non est b
Mi	$(X \rightarrow Y) \wedge (Y \rightarrow Z); X \vdash Z$	si est a est b, si est b est c; est a; est igitur c (Mi1)
	or $(X \rightarrow Y) \wedge (Y \rightarrow Z); \neg Z \vdash \neg X$	si est a est b, si est b est c; non est c; non est igitur a
<i>Liber III</i>		
Mii	$(X \rightarrow Y) \wedge (\neg X \rightarrow Z); \neg Y \vdash Z$	si est a est b, si non est a est c; non est b; est igitur c (Mii1)
	or $(X \rightarrow Y) \wedge (\neg X \rightarrow Z); \neg Z \vdash Y$	si est a est b, si non est a est c; non est c; est igitur b
Miii	$(Y \rightarrow X) \wedge (Z \rightarrow \neg X); Z \vdash \neg Y$	si est b est a, si est c non est a; est c; non est igitur b (Miii1)
	or $(Y \rightarrow X) \wedge (Z \rightarrow \neg X); Y \vdash \neg Z$	si est b est a, si est c non est a; est b; non est igitur c
HH	$(X \rightarrow Y) \rightarrow (Z \rightarrow W); X \rightarrow Y \vdash Z \rightarrow W$	si cum est a est b, cum est c est d; si est a est b; igitur si est c est d (HH1)
D	$X \vee Y; X \vdash \neg Y$	a aut b; a; non est igitur b (D1)
	or $X \vee Y; Y \vdash \neg X$	a aut b; b; non est igitur a

Table 1. The various hypothetical syllogisms discussed by Boethius

In *De Syllogismis Hypotheticis*, Boethius' variables (a, b, etc.) stand for terms. Even though he is not always consistent in this, Boethius builds his syllogistic inferences as composed of sentences such as “if [something] is (not) a, it is (not) b,” where the same subject is implicit in the antecedent and consequent.¹ For the sake of simplicity, I use A, B, ... as propositional variables in my formalisation (so that A stands for Boethius' formulation *est a*).²

Boethius distinguishes several modes by putting either A or its negation $\neg A$ for X, etc. For example, for CC, Boethius distinguishes four modes: CC1 $A \rightarrow B$ (or *si a est, b est*), CC2 $A \rightarrow \neg B$ (or *si a est, b non est*), CC3 $\neg A \rightarrow B$, CC4 $\neg A \rightarrow \neg B$; in the same way, Boethius distinguishes eight modes of CH, HC, Mi, Mii, and Miii, sixteen modes of HH, and four modes of D.

From the viewpoint of modern propositional logic, however, there is no need for such distinctions of modes—nor for the distinction of CC, CH, HC, and HH, since the same two inferences, CCmp (*modus ponens*) and CCmt (*modus tollens*), hold for CH, HC, and HH, too. However, Boethius does make such distinctions.

It is strange, too, that Boethius gives the inference of CH corresponding to CCmt as $X \rightarrow (Y \rightarrow Z)$; $Y \rightarrow \neg Z \vdash \neg X$ (*si est a, cum est b est c; si est b, non est c; igitur non est a*), as the second premise should be $\neg(Y \rightarrow Z)$ from the viewpoint of modern logic. Similarly for HC, where $X \rightarrow \neg Y$ is used instead of $\neg(X \rightarrow Y)$. As for HH, Boethius does not refer to the inferences corresponding to CCmt.

¹ Cf. Martin 2004, esp. p. 161.

² It is questionable whether Boethius ever conceived of hypothetical syllogisms in propositional terms, i.e. as composed of propositional content which could be combined into more complex propositions. According to some classic interpretations (cf. Martin, 2004, pp. 163–64), *DHS* shows no notion of propositionality in this sense. In this article, I still propose a propositional interpretation of certain Boethian inferential schemata, because this kind of formalisation is now more palatable and easier to follow for contemporary readers. This propositional formalisation is accompanied in many cases by Boethius' own formulas in Latin.

In addition, Boethius strangely asserts that only for CC2 ($A \rightarrow \neg B$) two more inferences hold when A and B are *immediata* (meaning that $\neg A \vdash B$ and $\neg B \vdash A$ hold in addition to $A \vdash \neg B$ (= CC2mp) and $B \vdash \neg A$ (= CC2mt), for example with $A = \textit{est rationale}$ and $B = \textit{est irrationale}$). This Boethian assertion is strange, since when A and B are *immediata*, four inferences hold not only in CC2 but also in CC1, CC3, and CC4. Similar strange assertions are made for CH5, CH7, HC3, HC7, HH5, HH7, HH13, HH15, and D1, and perhaps also for Mi5, Mi6, and Mi7 (for the last three dubious cases, see § 2.11 below). I have failed to find any reasons why Boethius asserts that in only those cases two more inferences hold in addition to those corresponding to CCmp and CCmt.

Boethius' confusing treatment of the logical issues concerned made medieval readers, and Abelard in particular, investigate them anew.

0.2 Extant Manuscripts

The following is a list of all the extant manuscripts of the Boethian work to my knowledge,¹ together with the *sigla* that I use below to refer to them.

Around 1000 AD

$Mx(M^l)^2$ München, Bayerische Staatsbibliothek, clm 6370, saec. X, ff. 29v–46r
 (II f. 33v–, III f. 39v–);
 AL 1147, CB IIs 8, Thörnqvist (M1)³

¹ AL (no. 437) mentions Orléans, BM, 277 as containing SH on pp. 74–77, which is in fact Abbo of Fleury's *De syl. hyp.* In his 1969 edition, Obertello (at p. 165) mentions other Mss.: Cassel, Fuld. Philol. Quarto 3, München, Bayerische Staatsbibliothek, clm 14272 and clm 14779, Paris, BNF, nouv. acq. lat. 1456, Montecassino, Bibl. dell'abbazia, 191, and Venezia, Bibl. Marciana, Z.L. 235 (1639). The first four Mss., however, do not contain Boethius' *De syl. hyp.*

² Mx is the *siglum* I use to refer to the manuscript (M^l is the siglum used by Obertello). Similarly for others.

³ AL = Lacombe 1939–55; ALs = Minio-Paluello 1961; CB = Gibson et al. 1995–2010; Thörnqvist = Boethius 2008a and 2008b (in 2008b, pp. xxiii–xxxiii Thörnqvist gives her description of each manuscript, with her *siglum* (e.g. M1); many of these manuscripts contain the *De syl. hyp.*, too).

- My* München, Bayerische Staatsbibliothek, clm 6372, saec. X, ff. 96v–103v (vol. I impf., until ... *omnino* 841A2, 840.35);
AL 2105, Thörnqvist (M2)
- Py* Paris, BnF, lat. 11127, saec. Xex, ff. 145v–170v (II 153r–, III f. 161v–);
emendations by several hands (*Py**, *Py***, etc.) different from but
contemporary with that copying the main text (*Py*), glosses;
AL 618, Thörnqvist (Pd)
- Or* Orléans, BM, 265, saec. X/XI, pp. 107–113
(vol. I p. 107–113 (acephalous, from *-litatis definitio* ... 836A14,
222.15), vol. II p. 113–114 (impf., until ... *hypothe-* 845B1, 258.64));
AL 435
- Pz(F)* Paris, BnF, n.a.l. 1611, saec. X/XI, ff. 37r–51r (II f. 41v–, III f. 45v–),
from Fleury, emendations by *Pz**;
AL 2080, Thörnqvist (Pa)
- Kø* København, Royal Library, Thott. 166, 2°, saec. X/XI, ff. 36r–82r (II f.
49r–, III f. 65r–), emendations by *Kø**;
CB II d 7
- Va* Valenciennes, BM, 406, saec. X/XI (Magee) or X1/2 (Bischoff), ff.
124v–149r (II 131v–, III 139v–), emendations by *Va**;
AL 2085, Thörnqvist (Va)
- Vl* Vat., BAV, lat. 8591, saec. XI in, ff. 150v–201r (II 164v–, III 181v–),
glosses;
AL 1897, CB III 565, Thörnqvist (V4)

The Eleventh Century

- Mz(M²)* München, Bayerische Staatsbibliothek, clm 14272, saec. XI 1/4, ff.
137r–146r (II f. 140r–, III f. 143r–), glosses;
Thörnqvist (M3)
- Sg(S)* Sankt Gallen, Stiftbibliothek, 830, saec. XI 1/3, pp. 444–488 (II p. 457–
, III p. 473–), emendations by *Sg**;
AL 1165, CB IIs 61, Thörnqvist (S)
- Wx* Wien, Österreichische Nationalbibliothek, VPL 2269, saec. XI, f. 100vc–
105vb (II f. 102rc–, III f. 104ra–);
AL 2–23, CB IIa 76, Thörnqvist (W2)
- Be(B)* Bern, Burgerbibliothek, 300, saec. XI, ff. 50v–56v + 9r–16v + 57r–60r
(II f. 55v–, III f. 13v–), emendations by *Be**, glosses;
AL 2120, CB IIs 21, Thörnqvist (Be)

- Br* Bruxelles, KBR, 5439–43, saec. XI, ff. 78va–92rb (II f. 82ra–, III 87rb–), emendations by *Br** (ff. 88–89 are copied by a different contemporary hand);
ALs 171, CB IIb 14, Thörnqvist (Br)
- Ld* Leiden, University Library, BPL 84, saec. XI, ff. 17r–44v (II 24r–, III f. 34r–), glosses;
AL 2026, CB II: The Netherlands 10, Thörnqvist (Le)
- Vo* Vat., BAV, Ott. lat. 1406, saec. XIlex, ff. 125r–163r (II f. 135v–, III f. 148v–);
AL 2184, CB III 434
- Px* Paris, BnF, lat. 6400E, saec. XI/XII, ff. 57r–76v (II f. 162r–, III f. 69r–);
ALs 581

The Twelfth Century

- Ll* London, Lambeth Palace Libr., 339, saec. XII 1/2, ff. 140r–172v (II f. 149v–, III 160v–);
AL 287, CB II 46
- Ch(C)* Chartres, BM, 498, saec. XII (ca. 1140), ff. 37rb–53v (II f. 41va–, III 46va–);
AL 475, Thörnqvist (Ch)
- Dr* Darmstadt, Universitätsbibliothek, 2282, saec. XII (Paris, ca. 1140), ff. 34r–49r (II f. 38v–, III f. 43v–);
AL 848
- Pd* Padova, Bibl. Antoniana, Scaff. XXII 553, saec. XII med., ff. 131r–170v (II f. 142v–, III f. 156v–), emendations by *Pd**;
AL 1511, CB III 260
- Fx* Firenze, Bibl. Medicea Laurenziana, San Marco 125, saec. XII, ff. 57v–79v (II f. 64r–, III 72r–), glosses;
AL 1386, CB III 118
- Fy* Firenze, Bibl. Medicea Laurenziana, San Marco 166, saec. XII 2/2, ff. 65r–85v (II 71r–, III f. 78r–), emendations by *Fy**, glosses;
AL 1388, CB III 121, Thörnqvist (F2)
- Kl* Klosterneuburg, Stiftsbibliothek, 1098, saec. XII, ff. 92vb–114vb (II f. 99ra–, III f. 106va–);
ALs 51, CB IIa 23

- Pg* Paris, BnF, lat. 6400G, saec. XII, ff. 109v–111v (I impf., until ... *in negatione* 834B15, 214.6);
Thörnqvist (Pc)
- Pw* Paris, BnF, lat. 12959, saec. XII, ff. 53r–78v (II f. 60v–, III f. 69r–)¹
- Wy* Wien, Österreichische Nationalbibliothek, VPL 2498, saec. XII, ff. 33v–48v; (II 38v–, III 45r–48v impf., until ... *niger est cum sit* – 869B1, 360.19);
AL 2024, CB IIa 76, Thörnqvist (W2)
- Er* Erlangen, Universitätsbibliothek, 191, saec. XIIex, ff. 110r–130r (II f. 115v–, III f. 122v–);
AL 909, Thörnqvist (E1)

The Thirteenth Century

- Vx* Venezia, Biblioteca Marciana, lat. Z. 273 (=1574), saec. XII/XIII, ff. 85v–110v (II f. 92v–, III f. 101r–);
AL 1645, CB III 380
- Pa* Paris, Bibl. de l’Arsenal, 811, saec. XIIIin, ff. 97r–114v
(II f. 103v–, III f. 110r–114v impf., until ... *aut est B fiunt* 874C10, 382.72);
AL 512
- Bs* Basel, Universitätsbibliothek, F IV 16, saec. XIII1/2 (ff. 74r–80r saec. XIV), ff. 58v–80r (II f. 65r–, III 71r–), glosses;
AL 1147, CB IIs 8
- Vb* Vat., BAV, Borg. lat. 131, saec. XIII, ff. 39r–66v (II 46v–, III 56r–);
AL 1897, CB III 565

¹ This Ms. (*olim* Saint Germain-des-Prés 611, saec. XII) contains on ff. 1r–24r *De differentiis topicis*; on ff. 24r–30r *De divisione*; on ff. 31r–52r *De syllogismis categoricis*; on ff. 52rb–53rb examples of categorical syllogisms: “Primus modus primae figurae: omne sensibile substantia est, omne animal sensibile est, omne animal substantia est. Secundus ...”; on ff. 53r–78v *De syllogismis hypotheticis*; on f. 78v “Esse genus summum substantia dicitur unum, ... Infima nec species genus ulla tempore fiet” and “Syllogismus est inevitabilis argumentatio, quae interrogatos hinc inde concludit et utroque cornu praemit”; on ff. 79ra–131v Geoffroy de Venôme’s *Super Psalmos*; and on f. 132r (a small piece of membr.) “Dum ibis per patrias ...” with neuma; f. 132v is blank.

The Fourteenth Century

- Lb* London, BL, Burney 275, saec. XIVⁱⁿ, ff. 265rb–278ra (II f. 268rb–, III f. 272vb–);
AL 298
- Ma* Milano, Bibl. Ambrosiana, Y.7.Sup., saec. XIV,
I ff. 148r–161v,
II ff. 162r–166v (where f. 164 is blank¹) + 175r–182v, + 167–169v; the *quartenion* (ff. 175–182) is wrongly bound, as it should have been bound before the next *quartenion* (ff. 167–174).
III f. 169v–174v + 183r–188r, where on f. 184v the scribe skips a long passage,² and adds the skipped passage incompletely at the end of the copy, on ff. 188r–v + 189r–191v;
AL 1458, CB III 211

The Fifteenth Century

- Vy* Venezia, Biblioteca Nazionale Marciana, lat. VI. 65 (2847), saec. XV (c. 1448), ff. 30v–69v (II 141v–, III 54v–), glosses;
CB III 366
- Wz* Wien, Österreichische Nationalbibliothek, VPL 3253, saec. XV, ff. 1r–32v (II f. 19v–, III f. 20v–), glosses;
CB IIa 95

By *sigla* with * (e.g. *Py**), I mean emendations in the manuscript (*Py*) made by a hand different from but contemporary with the hand copying the main text.

¹ F. 163v ends with ... *non est igitur B* (845C14, 260.17) and f. 165r begins with *onis(!) fiunt videtur in rebus ...* (846C13, 266.66), viz. a folio, on which *Id enim ... propositis enuntiationibus* (845C14, 260.17 – 846C3, 266.66) was copied, is lost; instead of the lost folio, the blank folio f. 164 is inserted.

² On f. 184v, after ... *non esse necesse sit* (867A11, 350.80, the end of the discussion of Miii8) the scribe skips to *Ex quibus omnibus ...* (874A7, 376.1, the discussion of HH) abruptly, with no remarks. On f. 188r the scribe begins to add the skipped part *Octavus modus est ...* (867A11, 352.1, the discussion of Miii8), but the addition ends on f. 191v, incompletely, with ... *praeter sanitatem esse potest* (871A12, 368.42), leaving ff. 192–194 blank.

In the quotations from these manuscripts I use the following abbreviations:

<i>i.m.</i>	<i>in margine</i>
<i>i.t.</i>	<i>in textu</i>
<i>a.c.</i>	<i>ante correctionem</i>
<i>p.c.</i>	<i>post correctionem</i>
`X'	<i>X supra lineam addidit scriba seu corrector</i>
[X]	<i>X expunxit scriba seu corrector</i>
[[X]]	<i>X delevit scriba seu corrector</i>
†	<i>corruptela</i>

1 Disordered Folios in the Archetype

The clearest corruption is that the lost exemplar must have contained disordered folios.

Many early manuscripts (*PzKøVaMzSgWx* + a twelfth century one, *Fy*) share the following three gaps in *Liber III*:

Gap I: *Pz*(46v)*Kø*(66v)*Va*(140v)*Mz*(143v)*Sg*(474)*Wx*(104rb)*Fy*(78v) jump from A1 to B2,

Gap II: *Pz*(48v)*Kø*(73r)*Va*(144r)*Mz*(144v)*Sg*(480)*Wx*(104vc)*Fy*(81v) from C1 to A2, and

Gap III: *Pz*(50r)*Kø*(79v)*Va*(147r)*Mz*(146r)*Sg*(485)*Wx*(105rc)*Fy*(84r) from B1 to C2,

where A1–A2, B1–B2 and C1–C2 are as follows in Migne and Obertello:

In the discussion of Mii3:

... at si non sit A erit C, si igitur sit B erit C. (**A1**) |860D14 (Migne), p. 326.5 (Obertello)| (**A2**) Quodsi non sit B, nihil est necessarium. Si enim ...

In the discussion of Miii8:

... Si enim non sit B non erit A, quodsi non sit A erit C (**B1**) |867A3, 352.3| (**B2**) Id enim consequabatur eam partem propositionis quae dicebat ...

In the discussion of HH16:

... Si cum non est A non est B, cum non sit C non est D* **(C1)** |874A4,
376.78| **(C2)** Atqui cum non est A non est B, cum igitur non sit C non est
D. ...

Note that the length of B2–C1 is almost the same as that of A2–B1. This strongly suggests that the lost exemplar must have had the disordered folios: in between a bifolio (or a *binion*) on which A1 and C2 are copied, two quires are switched around, the quire containing B2–C1, and that containing A2–B1, in that order.

People of the late tenth century first noticed the gaps. The following remarks are found in some of the earlier manuscripts (*PzKøVaSg*, and an unsatisfactory remark in the later *Fy*), in the margin, by hands different from but contemporary with the hands copying the Boethian text (no such remarks are found in *Mz* and *Wx*).

Pz (f. 46v)

i.t.: ... erit C. Si non sit igitur B (*signum1*) si non sit A erit C (=A1)

(Gap I) (B2=) Id enim ...

i.m.: (*signum1*) Quere hoc signum in secundo folio sequenti.

Et totum perlege usque ad hoc signum aliud (*signum2*).

Deinde huc legi ingredi ad primum scilicet signum.

Et percurre quae praeterieras usque ad idem ipsam
secundi folii signum quod est (*signum1*)

(f. 48v)

i.t.: ... non est D (=C1) '*signum1*' **(Gap II)** Erit C **(A2=)** Quodsi non
sit B ...

i.m.: (*signum1*) ab hoc signo transi legendo ad istud (*signum2*) ita:

(C1=) *Si cum non est A non est B. cum non sit C non est D. Atqui cum
non est A non est B. Cum igitur non sit C non est D.*

(f. 50r)

i.t.: ... Si enim non sit B non erit A Quod (=B1) (*signum2*) **(Gap III)**

(C2=) Atqui cum non est A ...

i.m. Ø

K∅ (f. 66v)

i.t.: ... Si [non] sit igitur [B. si non sit] A erit C. (=A1) (Gap I)(B2=) Id enim ...

i.m.: ∅

(f. 73r)

i.t.: ... non est D `signum d' (=C1) (Gap II) [erit C] (A2=) Quodsi non sit B ... (this part of the discussion of Miii8 is expunged by another hand, noticing that this part is out of place)

i.m.: -- hic deest -- in septi --ibo. ubi -- Quod -- mitur -- huius modo. (Because of the tight binding illegibile in the microfilm at my disposal).

(f. 79v)

i.t.: ... Si enim non sit B non erit A (=B1) `signum Π' (Gap III) Quod `signum ✕' ita assumitur. (C2=) Atqui cum ...

i.m.: Require (\overline{RQ} *K*∅) ad illud signum quod infra scriptum est quod hic deest

Va (f. 140v)

i.t.: ... At si non sit A erit C. [[Sit non]] si[[t]] igitur B [[Si non]] sit [[A]] erit c[[um]] `signum W' (=A1) (Gap I)(B2=) Id enim `signum N' consequatur ...

i.m.: ... M Require (\overline{REQ} *Va*) hoc signum in ante in .iiii. folio. ubi incipit. (A2=) Quodsi non sit B. nihil est necessarium. Vsque ad hoc signum N (B1=) Quodsi non sit A erit C. et repete hic. (B2=) Id enim consequatur eam partem propositionis N et his lectis usque ad idem superius signum W incipe ad hoc signum et perlege ultra hoc. (C2+=) Ex quibus omnibus .xl. conclusiones fiunt

(f. 144r)

i.t.: ... non est D (=C1) `signum ∫∫' [Atqui cum non sit D erit cum(!)]

(Gap II) `signum W' (A2=) Quodsi non sit B ...

i.m.: ∅

(f. 147r)

i.t.: ... Si enim non sit B non erit A + Quodsi non sit A erit C (*i.m. alia manu add.*) + (=B1) (Gap III)(C2=) [Atqui cum non est A non est B. Cum igitur non sit C (cum!) *Va*) non est D. Vel ita. Atqui cum non sit

cum est D. Cum igitur non sit A est B] (*[Atqui - B] is falsely expunged in Va*). Ex quibus omnibus ...

i.m.: *signum W*

Sg (p. 474)

i.t.: ... At si non sit A erit C. Si non sit igitur B, si non sit A erit C.
(=A1) `signum' (Gap I) (B2=) [Id enim ... Quod si B] (*[Id enim - B] is falsely expunged in Sg*) |Sg475| terminus affirmetur ...

i.m.: Hic deest verte tria folia et habebis (*manu B*)

(p. 480)

i.t.: ... non est D (=C1) (Gap II) [Erit C] `signum' (A2=) Quodsi non sit B ...

i.m.: Quaere hic, quia magna pars ut aestimo deest (*manu A*), Hic habes quod prius ante tria folia defuit (*manu B*)

(p. 485)

i.t.: ... Si enim non sit B non erit A (=B1) `signum ∇ ' (Gap III) (C2=)

Atqui cum ...

i.m.: hic habes quod ante duo folia desunt (*manu B*)

Fy (f. 78v)

i.t.: ... si igitur sit B A(!) erit C. (=A1) {(A2=) Quodsi non sit B nihil est necessarium}. {Si non sit A erit C} (Gap I) (B2=) Id enim ...

i.m.: \emptyset

(f. 81v)

i.t.: ... cum non sit C non est D (=C1) {(signum) B erit C} (Gap II) (A2=) Quodsi non sit B ...

i.m.: (signum) Atqui cum non est A non est B, cum igitur non est C non est D. (*cf. the reading of Va*)

(f. 84r)

i.t.: Si enim non sit B non erit A, quodsi non sit A erit C (=B1) {(B2=) Id enim consequeretur eam partem C(!)} (Gap III) (C2=) Atqui cum non est A ...

i.m.: \emptyset

The last phrase of A1 (*Si igitur sit B erit C*) is corrupt in all the manuscripts (with emendations by *Kø** and *Va**):

- Pz*: `Si' non sit igitur B (*signum1*) si non sit A erit C in *Gap I* (f. 46v) et
add. erit C before B2 (Id enim consequatur ...) in *Gap II* (f. 48v)
Kø: Si [non] sit igitur [B si non sit] A erit C in *Gap I* (f. 66v) et *add.*
[erit C] before B2 (Id enim consequatur ...) in *Gap II* (f. 73r)
Va: [[Sit non]] si[[t]] igitur B [[Si non]] sit [[A]] erit c[[um]]
Sg: Si non sit igitur B. si non sit A erit C et *i.m. alia manu add.*: Hic
deest verte tria folia et habebis *Sg*, et *add.* erit C before B2 (Id
enim consequatur ...) in *Gap II* (p. 480)
Mz (143v): Si non sit igitur B. si non sit A erit C
Wx (105rc): Si non sit igitur B. si non sit A erit C. Si non sit igitur B. si
non sit A erit C,
(*Fy* (78v): Si igitur sit B A erit C. Quodsi non sit B nichil est
necessarium)

These facts suggest that the lost archetype would have given a wrong reading here: *si non sit igitur B. Si non sit A erit C*, and that the phrase is correctly emended by *Kø** and *Va**.

The same phrase is corrupt, too, in some other early manuscripts, *Mx*, *Py*, and *Vl*, where the text is copied in the right order without the three gaps (the extant parts of the two other earliest manuscripts, *My* and *Or*, do not cover these passages).

Mx (f. 40r) omits the whole discussion of *Mii3*, in which the phrase appeared.

Py (f. 162v) reads: *si[t] igitur `sit' B [si non sit A] erit C*, corrected by another hand (*Py**)

Vl (f. 183r) reads *Si non sit igitur B*, omitting 'erit C'

Only *Py** gives the same emendation as *Kø*Va**. All the other later manuscripts follow the emended version, except for *Ma*, which omits the whole part containing this phrase. Thus:

Emendation:

*Py*Kø*Va*BeBrVoLdVoPxLlChDrPdFxFyKlPwWyErPaBsBsVbLbVy-
WzMigneObertello*

si¹ igitur² sit³ B⁴ erit C:

(1) si] sit *Ch* (2) igitur sit] sit igitur *Kø*Py*LdPxLlFxFyVbWz* (3) sit B] B sit
BrMigne (4) B + A *Fy*

This, then, suggests that the manuscripts without the gaps are not copies of another, better exemplar without gaps, but rely on the notes about the three gaps (in *PzKøVaSg*). It is clear in *Py*. Just as the manuscripts with the gaps, after A1 (part of the discussion of Mii3), *Py* (f. 162v) continues to B2 (*Id enim conseqebatur ...*, which is part of the discussion of Miii8, ending with *... necesse est esse vel non esse animatum* (867C3, p. 352.19)), and then continues back to the discussion of Mii4. In the margins of ff. 162v–163r, the emending hand (*Py**) gives a long emendation of the discussion of Miii8 into the correct continuation of the discussion of Mii3, and the discussion of Miii8 is copied again in the right place (f. 165v).

2 Erroneous Readings in the Lost Exemplar

The lost archetype must have contained many erroneous readings in addition to the three gaps so far discussed. The manuscripts show that emendations to each corruption were proposed throughout the eleventh century and later. I shall discuss all of the main cases where such emendations are proposed.¹ I shall begin with *Liber III*, which is full of erroneous readings.

¹ There are a lot of other smaller corruptions, too, in which for example a word of the archetype is emended into another more suitable word. But I shall not take up such smaller emendations here.

2.1 Quotation 1 (Miii2)

The discussion of Miii2 ($(B \rightarrow A) \wedge (\neg C \rightarrow \neg A)$) runs as follows in many of the earlier manuscripts:

Quotation 1, Miii2; Py(a.c.)PzKø(a.c.)VaVlMzSgWx (in Fy Quotation 1 is added after the emended version quoted below)

*(Step 1) *¹Ex secunda vero propositione hic modus est colligendi*
si non² est B, est A; si³ est C, non est A ($(\neg B \rightarrow A) \wedge (C \rightarrow \neg A)$), dico
quia⁴*

*si non⁵ est B, *⁶non est C ($\neg B \vdash \neg C$). (This is Miii3, not Miii2).*

Nam, si non⁷ est B, est A ($\neg B \rightarrow A$); sed⁸, cum est A, non⁹ est C
($A \rightarrow \neg C$); cum igitur non est B, non est C¹⁰ ($\neg B \rightarrow \neg C$).*

*(Step 2) Quodsi B terminus affirmetur, nihil est necessarium. Nam, si
sit ^[V1188r] B, consequitur quidem ut non sit A; sed non consequitur ut sit
vel¹¹ non sit C; ut in terminis¹², si¹³ sit B animatum, A inanimatum, C¹⁴
animal. Si igitur enuntietur sic: *¹⁵si animatum est, non est inanimatum;
si non est inanimatum, non necesse est esse vel¹⁶ non esse animal*.*

*(Step 3) C¹⁷ vero terminus si affirmetur, fiet protinus syllogismus et erit
rata collectio¹⁸. Nam,*

si¹⁹ sit C²⁰, non est A ($C \rightarrow \neg A$),

si non sit A²¹, erit B ($\neg A \rightarrow B$),

si igitur sit C²², erit B ($C \rightarrow B$).

*(Step 4) At, si negetur C²³, nulla conclusio²⁴ est. Si enim non sit C²⁵,
non necesse est esse A; quocirca ne B quidem. Nam, si non est animal,
non necesse est esse vel non esse inanimatum²⁶; quo fit ut ne
animatum²⁷ quidem.*

(1) *Ex – colligendi* om. Fy (2) [non] Va (3) si + 'non' Va (4) quia + [[non]]
Kø (5) [non] Va (6) *non – B* om. Fy (7) [non] Va (8) sed] si Fy (9) [non] Va
(10) C] cum Va Fy (11) *vel non sit* om. Py (12) terminis] his terminis Sg,
terminis his ut KøFy (13) si KøSgFy] om. PyPzVaVlMzWx (14) C] cum Va
(15) *si – animal*] si animatum non est, est inanimatum; si est animal, non est
inanimatum; assumaturque esse animatum, sequitur quidem ut non sit
inanimatum, sed non necesse est ut sit animal Py (16) vel non esse om.
KøVaSgFy (17) C] cum Va (18) collectio] conclusio Sg (19) si + non Fy (20)
C] cum Va (21) A + non Fy (22) C] cum Va (23) C] cum Va (24) conclusio
est] est conclusio Kø (25) C] cum Va (26) inanimatum] 'in' animatum *alia
manu add. Pz, animatum Va (27) animatum] [[in]]animatum Pz*

Since this passage is found in almost all of the earliest manuscripts, it certainly comes from the archetype. In the beginning, it tells us it will discuss Miii2 $((B \rightarrow A) \wedge (\neg C \rightarrow \neg A))$, but, as a matter of fact, it discusses Miii3 $((\neg B \rightarrow A) \wedge (C \rightarrow \neg A))$! (Strangely enough, after this passage the genuine discussion of Miii3 follows, in different wordings; see Migne 865A5–B14, Obertello pp. 342.7–44.23).

Some early manuscripts notice this error. *Va* makes an awkward attempt to make the passage a discussion of Miii2 (see (2), (3), (5), (7), (9) in the apparatus above, but here *Va* stops giving further emendations). *Ma* (f. 41v) and *Ld* (37v) give up on copying the whole discussion of Miii2, leaving a blank space (*fenestra*), presumably not knowing how to emend this wrong passage. Lastly, *Kø** and *Py** give the correct emendation (in slightly different wordings from each other), and all the later manuscripts follow their emendation.

*Emendation: Py*Kø*BeBrLdVoPxLlChDrPdFxFyKlPwWxErVxPaBs-VbMaVyWzMigne(864C15–865A6)Obertello(340.58–342.73)*

(*Step 1*) Ex /864D/ secunda vero¹ propositione hic modus est² colligendi
 si est B, est A; si non est C, non est A $((B \rightarrow A) \wedge (\neg C \rightarrow \neg A))$,
 dico quia³ /342/
 si est⁴ B, erit⁵ C $(B \vdash C)$.

Nam, si est B, est A $(B \rightarrow A)$; sed⁶, cum est⁷ A, |Vy49r| est C $(A \rightarrow C)$ (*⁸ita enim⁹ convertitur¹⁰ talis propositio¹¹, *¹²quae ait: si non est C, non est A* $(\neg C \rightarrow \neg A)$); si¹³ igitur¹⁴ est¹⁵ B, est C $(B \rightarrow C)$.

(*Step 2*) Quodsi B terminus abnuatur¹⁶, *¹⁷nulla fit¹⁸ syllogismi¹⁹ necessitas*. Nam, si non est²⁰ B, non²¹ *²²necesse²³ est esse vel non esse²⁴ A; *²⁵quocirca ne²⁶ ad C quidem ulla²⁷ necessitas perveniet²⁸*; ut *²⁹in terminis patet. |Pd161r| Nam*, si³⁰ sit³¹ B animal, A animatum, C³² corporeum³³, et³⁴ proponatur

si est³⁵ animal, est animatum; si non est cor|Py165r|poreum³⁶, non est animatum,
 et³⁷ assumatur³⁸

atqui non est animal,

non³⁹ |Kl109rb| *⁴⁰necesse est esse vel non esse⁴¹ corporeum*.

(Step 3) C vero⁴² terminus si negetur⁴³, *⁴⁴erit necessitas syllogismi. Nam,⁴⁵ /865A/ si non est C, non est⁴⁶ A ($\neg C \rightarrow \neg A$); quodsi⁴⁷ non est⁴⁸ A, non est⁴⁹ B ($\neg A \rightarrow \neg B$) (*⁵⁰ita enim⁵¹ converti potest^{52*}); *⁵³si igitur non est C, non erit B ($\neg C \rightarrow \neg B$).

(Step 4) Si affirmetur, nulla est necessitas. Nam, si est⁵⁴ corporeum, non necesse est⁵⁵ esse⁵⁶ animatum vel non esse; quocirca ne⁵⁷ animal⁵⁸ quidem⁵⁹ *⁶⁰esse |*V*_{o153v}| vel non esse necesse est⁶¹. |*Er*_{125r}||*Wz*_{25r}|

(1) vero] *om. BeLdVoPxLIChPdKIPwErVxMaWzMigne* (2) est colligendi] est colligendi `vel -dus' *alia manu add. Py*, est colligendus *BeVoLIChPdKIPwErVxPaVbMaVyObertello* (3) quia] quidem *BeLdVoPdKIPwVxVyMigne*, quidem et *Ll*, quod *FyWy* (4) est B] B est *Dr* (5) erit] est *KøPxFxWyVxPaBsVbWz* (6) sed cum] quodsi *BeLdVoLIChDrFxFyKIPwWyErVxBsVbMaVyMigneObertello* (7) est A est C] A est C est *Pd* (8) *ita – A*] *om. KøPxPaWz* (9) enim *om. Vy* (10) convertitur talis] talis convertitur *Dr* (11) propositio + Qualis scilicet est 'si non est corporeum, non est animatum,' quae sic convertitur, ut 'si sit animatum, sit corporeum.' Propositio haec 'si est animal, est animatum,' ita convertitur, ut 'si non sit animatum, non sit animal.' *i.m. alia tertia manu add. Py* (12) *quae – A*] quae si (] quasi *Wy*) non esset C A (+ quoque *Fy*) non esse proposuit *FxFyWy*, *om. BeLdVoLIChDrPdKIPwErVxBsVbMaVyObertello* (13) si] cum *KøPxPdPaWz* (14) igitur *om. Kl* (15) est] sit *KøPxWz*, fit *Pa* (16) abnuatur] negetur *KøBeBrLdVoLIChDrFxFyKIPwWyErVxBsVbMaMigneObertello*, abnegetur *PdPa* (17) *nulla – necessitas*] nihil est necessarium *KøPxPaVyWz* (18) fit] est *BeLdVoLIChDrPdFxFyKIPwWyErVxVbMaObertello*, sit *Bs* (19) syllogismi necessitas] necessitas syllogismi *BeBrLdVoLIChDrFxFyKIPwWyErVxBsVbMaMigneObertello*, necessitas syllogismi et erit rata collectio *Pd* (20) est] sit *KøPxPaWz* (21) non *om. Vx* (22) *necesse – perveniet*] consequitur quidem (] quod *Pa*) ut non sit A. sed non (nec] *Pa*) consequitur ut sit vel non sit C *PdPa* (23) necesse est] consequitur *Kø* (24) esse] est *Ma*, esse est esse vel non esse *repet(!)*. *Vx* (25) *quocirca – perveniet*] quo fit ut ne B quidem *PxWz*, *om. KøVb* (26) ne] nec *BeLdVoLIChDrPdFyKIPwWyVxBsMaVy* (27) *ulla – perveniet*] necessitas ulla perveniet *ChPdKlErMaVy*, *om. Wz* (28) perveniet] pertinet *Dr* (29) *in – Nam*] in his terminis *PxPaWz*, *om. Kø* (30) si] si si *repet. Vx*, *om. Ma* (31) sit] est *Vy* (32) C *om. Ma* (33) corporeum] corporeum `vel vitale' *tertia manu add. Ld*, vitale *PxWz* (34) et proponatur] si igitur enuntietur sic *Kø*, et ponatur *LlWy*, et ponatur et *Fx* (35) est animal] animal est *KøFy* (36) corporeum] animal vitale *Px*, vitale *Wz* (37) et] et si *Ma*, *om. Er* (38) assumatur atqui non est] assumamus non esse *PxWz* (39) non *om. BrKl* (40) *necesse – corporeum*] consequitur ut sit vel non sit animatum *PxWz* (41) esse] est *Fy* (42) vero *om.*

ChVb (43) negetur] abnegetur *Pa* (44) *erit – syllogismi*] fiet protinus syllogismus. et erit rata collectio *PxPaVyWz* (45) Nam + uni *Vb* (46) est] erit *Pa* (47) quodsi] si *KøPxPaVyWz* (48) est] sit *KøVy*, fuerit *Pa*, *om. Wz* (49) est] erit *KøPxPaWz* (50) *ita – potest* *om. PxPaWz* (51) enim *om. Kø*] (52) potest + aliter: propositio quae dicit si est B est A *i.m. alia manu add. Bs* (53) *si – est*] Si enim sit C consequitur (cum sequitur *Wz*) quidem ut sit A, sed non consequitur ut sit vel non sit B. Nam si sit vitale sequitur quidem (*om. Vy*) ut sit animatum; sed non consequitur (sequitur *Wz*) ut sit vel non sit animal. *PxVyWz* (54) est *om. Wy* (55) est *om. Be* (56) esse animatum vel non esse] animatum esse vel non esse *KøLdVoChPdFxFyKlPwWyErVxVbMaMigne-Obertello*, esse vel non esse animatum *LlDrBs* (57) ne] nec *BeLdVoLlDrPdFxFyKlPwWyVxBsVbMaMigneObertello* (58) animal] anima *Wy* (59) quidem + vel *ChVb* (60) *esse – est* *om. Dr* (61) est + Nam si est animatum non necesse est esse vel non esse animal. Quo fit ut nec rationale quidem. *Pd*, + *Quotation 1 Fy*

2.2 Quotation 2 (Miii4)

As Quotation 1 above shows, the discussion of Miii (*media propositio*, the third figure: $(Y \rightarrow X) \wedge (Z \rightarrow \neg X)$) consists of four steps: when the *media propositio* holds as the first premise (*propositio*),

- (Step 1) if Y holds as the second premise (*assumptio*), $\neg Z$ follows as the conclusion $((Y \rightarrow X) \wedge (Z \rightarrow \neg X), Y \vdash \neg Z)$;
- (Step 2) but if $\neg Y$ holds, nothing follows, neither Z nor $\neg Z$ $((Y \rightarrow X) \wedge (Z \rightarrow \neg X), \neg Y \vdash \emptyset)$;
- (Step 3) if Z holds, $\neg Y$ follows $((Y \rightarrow X) \wedge (Z \rightarrow \neg X), Z \vdash \neg Y)$; but
- (Step 4) if $\neg Z$ holds, nothing follows, neither Y nor $\neg Y$ $((Y \rightarrow X) \wedge (Z \rightarrow \neg X), \neg Z \vdash \emptyset)$.

Now, Step 2 of the discussion of Miii4 $((\neg B \rightarrow A) \wedge (\neg C \rightarrow \neg A))$, $B \vdash \emptyset$ runs as follows:

Quotation 2, Miii4 $(\neg B \rightarrow A) \wedge (\neg C \rightarrow \neg A)$ Step 2; Migne 865C4–12, Obertello 344.5–346.10

At, si B terminus affirmetur, nullus est syllogismus. Sequitur namque¹ ut non sit A ($B \vdash \neg A$), sed non sequitur ut sit vel ^[Py165r] non sit C ($B \nmid C, B \nmid \neg C$), velut in his terminis. ^[346/] Nam, si sit B quidem ^[Vo154r] insensibile, A animal, C animatum, ^{error 2} et¹ proponatur: si² sit insensibile, non est animal ($B \vdash \neg A$), sed non necesse³ est esse vel non esse animatum ($B \nmid C, B \nmid \neg C$).

(i)¹ namque] enim *BeLIPwMigne, om. Kl* (1) et proponatur] et ponatur *FxWy, om. PxWz* (2) si + non est insensibile est animal; si non essdt animatum, non est anima; si *Migne* (3) necesse est] est necesse e(!) *Pa*

The part underlined ^{error 2} et proponatur ... in Quotation 2 is found in many earlier manuscripts (*MxPzKøVa(a.c.)VIMzSgWxLdPxLIChPa-Lb(?)WzObertello*); it must, then, have come from the archetype, and is followed by some later manuscripts and Obertello.

Py (by the hand copying the main text) and *Va** (by a hand different from that copying the main text) propose an emendation, which is followed by some later manuscripts.

*Emendation: PyVa*BeBrVoDrPdFxFyKIPwWyErVxBsVbMaVyMigne ... et¹ ^[Vb59r] proponatur, si non est² insensibile, est animal; si non est animatum³, non est animal⁴ ($(\neg B \rightarrow A) \wedge (\neg C \rightarrow \neg A)$); assumaturque⁵ esse insensibile⁶, ^{*7}sequitur quidem ut non sit* animal ($B \vdash \neg A$), sed non ^{*8}sequitur⁹ ut sit vel non sit* animatum ($B \nmid C, B \nmid \neg C$).*

(1) et || et pponatur(!) *Vb*, et ponatur *FxWy* (2) est] sit *Py(a.c.)PdFyVb* (3) animatum non] inanimatum *Vb* (4) animal + ^{va}et assumatur. Atqui est insensibile. Sequitur quidem ut non sit animal. Nam^{cat} *add. et exp. Bs* (5) assumaturque esse] si sit *BeVoDrMigne*, assumaturque *Wy* (6) insensibile] insensibilis *Vb* (7) sequitur quidem ut non sit] non est *BeFxFyKIWyPwErVx-BsVyMigne* (8) sequitur ut sit vel non sit] necesse est (est necesse *ChDrBs*) esse vel non esse *BeChDrPdFxFyKIPwWyErVxBsVyMigne*, sed non necesse est esse *Ma* (9) sequitur] consequitur *Br*

¹ In general, I report only the cases in which I follow readings different from *Migne* and/or from *Obertello*; for the part to be emended and the emendation, on the other hand, I report all the variant readings (the former are numbered as (i), (ii), (iii) ...; the latter as (1), (2), (3) ...). Similarly for the quotations below.

This emendation may not be indispensable, as the text means the same before and after the emendation ($B \vdash \neg A$); but it is necessary to make the discussion parallel to the discussion of other modes of Miii, explicitly showing that B is the second premise while the first premise is $(\neg B \rightarrow A) \wedge (\neg C \rightarrow \neg A)$, whereas the version before the emendation is written as if B (*est insensibile*) is the first premise.

Apropos, the other place underlined (*Sequitur namque ...*) in Quotation 2 is erroneous, too, although no medievals noticed it. For, from Miii4 $((\neg B \rightarrow A) \wedge (\neg C \rightarrow \neg A))$, $B \vdash \neg A$ does not generally follow; it incidentally follows only when we adopt the given example (A : *animal*, B : *insensibile*, C : *animatum*). The same type of error is also found in the second step of the discussion of Miii3 $((\neg B \rightarrow A) \wedge (C \rightarrow \neg A))$:

Miii3 $(\neg B \rightarrow A) \wedge (C \rightarrow \neg A)$ Step 2; all the Mss, Migne 865A12–B1, Obertello p. 344.78–82

Quod|Dr45v|si af|Be16r|firmetur esse B terminum, nulla est necessitas conclusionis. |Kø77v| Nam, si sit B, necesse est quidem non esse A ($B \rightarrow \neg A$), sed non necesse est esse C, |Fy83v| ut in his |Pw72v| terminis, si sit B animatum, /865B/ A inanimatum, C animal. Si quis igitur sic proponat |Pa112r|

si non est animatum, inanimatum est; si est animal, non est inanima|Ch48va|tum.

Si igitur ponamus esse animatum, sequitur quidem ut non sit inanimatum ($B \rightarrow \neg A$); sed non necesse est ut sit animal.

In the discussion of other modes of Miii $((Y \rightarrow X) \wedge (Z \rightarrow \neg X))$, Boethius always correctly notices that if $\neg Y$ holds, neither X nor Z follows (see, for example, Quotation 4 for Miii6; and, for Miii2, the emended version quoted in § 2.1). So the errors that are present might presumably go back to Boethius himself. They suggest that the intricacies of hypothetical syllogistic may have sometimes confused him as well as his medieval readers.

2.3 Quotation 3 (Miii4)

Step 3 of the discussion of Miii4 runs as follows:

Quotation 3, Miii4 $(\neg B \rightarrow A) \wedge (\neg C \rightarrow \neg A)$ Step 3 (continued from Quotation 2 above); Migne 865C12–D1, Obertello p. 346.10–13

C vero terminus si negetur, fiet protinus syllogismus. Nam, si non est C, non est A ($\neg C \vdash \neg A$); si non est A, erit B ($\neg A \vdash B$) (id enim consequitur {eam¹ propositionis² partem ($\neg B \rightarrow A$)}); si igitur non sit C, erit B ($\neg C \vdash B$).

(1) eam] cum(!) Va (2) propositionis partem] partem propositionis Br

{*Eam propositionis partem*} is the reading of many of the earlier manuscripts as well as of some later ones ($MxPy(a.c.)PzK\emptyset(a.c.)Va(a.c.)-VIMzSgWxBELdVoChPwVxVb$). It must, then, have been the reading of the archetype.

To show explicitly what the *ea propositionis pars* is, Py^* makes an addition, and some later manuscripts follow it.

Addition: $(Mx)Py^*K\emptyset(Va^*)BrPxLlDrPdFxKyKlWyErPaBsLbMaVyWz-$
MigneObertello

quae ait¹: si non est B², est A³.

(1) ait $Py^*VlBrLlFxWy$], est $K\emptysetFy$, dicit $PdKlErMaVyMigneObertello$, dixit $PxWz$, proposuit $DrPaBs$ (2) B + non Wy (3) A om. Wz

$Va(a.c.)$ wrongly reads *cum(!) propositionis partem*, and the emending hand (Va^*) makes the same addition in the margin, but in the wrong order: *Si non est B est A eam partem propositionis quae ait*. In this reading the *quae ait* does not make sense; consequently, dropping *quae ait*, Mx reads *Si non est B est A eam partem propositionis*.

2.4 Quotation 4 (Miii6)

Step 2 of the discussion of Miii6 $((B \rightarrow \neg A) \wedge (\neg C \rightarrow A))$ runs as follows:

Quotation 4, Miii6 $(B \rightarrow \neg A) \wedge (\neg C \rightarrow A)$ Step 2; *Migne 866B15–C7, Obertello 348.48*

Quodsi B terminus abnuatur, nihil necessarium fiet. /866C/ Nam, si non sit B, nec A nec C terminos vel ad esse vel adⁱ non esse sequitur ulla necessitas, ut in ter|Py165v|minis patet. Nam, |Be16v| si sit B mortuum, |L1166r| A animatum, C inanimatum, {^{add.} et¹ proponatur² |K1110ra| si mortuum³ est, non⁴ est animatum; si non⁵ est inanimatum, est animatum⁶};

si non sit mortuum, non necesse est esse vel non esse animatum; quocirca ne inanimatum quidem.

(i) ad non esse] 'ad' non esse *alia manu add.* PyPzVa, non ad esse VLiFy, non esse MzWxPxPdPwPaVy, non adesse *Migne* (1) et + si Ma (2) proponatur] ponatur Ll, ponatur. Si Kl (3) mortuum est] est mortuum VIch (4) non est animatum] non est inanimatum Fy, animatum non est Ma (5) non est inanimatum] non non(!) est inanimatum Be, inanimatum non est VoVxMigne (6) animatum] inanimatum Ch

Here, the underlined part {^{add.}} is not found in almost all of the earlier manuscripts (*MxPy(a.c.)PzKøVa(a.c.)Vl(a.c.)MzSgWxLdPx*), nor then in the archetype, nor in some later manuscripts (*PaBs(a.c.)VyWzLb*), nor in Obertello. *Py*Va*Vl** make the addition, which is followed by some later manuscripts (*BsBrVoLiChDrPdFxFyKIPwWyErVxBx*VbMa*) and Migne. The addition may again not be indispensable, but is necessary to make the discussion parallel to the discussions of other modes of Miii, as was the case in § 2.2 above.

2.5 Quotation 5 (Mii8)

The discussion of Mii $((X \rightarrow Y) \wedge (\neg X \rightarrow Z))$ consists of the following four steps: when $(X \rightarrow Y) \wedge (\neg X \rightarrow Z)$ is the first premise (*propositio*),

(Step 1) if $\neg Y$ is the second premise (*assumptio*), Z follows as a conclusion (*conclusio*) $(\neg Y \vdash Z)$; but

- (Step 2) if Y is the second premise, nothing follows, neither Z nor $\neg Z$
 $(Y \vdash \emptyset)$;
- (Step 3) if $\neg Z$ is the second premise, Y follows ($\neg Z \vdash Y$); but
- (Step 4) when Z is the second premise, nothing follows, neither Y nor
 $\neg Y (Z \vdash \emptyset)$.

Now, Step 4 of the discussion of Mii8 ($(\neg A \rightarrow \neg B) \wedge (A \rightarrow \neg C)$) runs as follows.

Quotation 5: Mii8 Step 4; Migne 863A15–B8, Obertello p. 334.51–57
 At, si C ter/863B/minimum neget assumptio, nihil est necessarium. Nam, si non est C, non necesse erit esse vel non esse A ($\neg C \nmid A$, $\neg C \nmid \neg A$); quo fit ut ne B quidem ($\neg C \nmid B$). Nam, si non est inanimatum, ^{|Vb58r|} fortasse quidem necesseⁱ sit esse animatum, sed non necesse est esseⁱⁱ animal. Invenientur autem termini utⁱⁱⁱ non^{iv} sit necesse esse A, velut si C^v ponamus nigrum, A album, ^{add.} et ponatur 'si non est album', non participat albedine; et, si est album, non est nigrum ($A' \rightarrow \neg C$). {Negato^{vi} enim^{vii} nigro non consequitur ut affirmetur album ($\neg C' \nmid A'$)}.

(i) necesse sit] sit necesse *Migne* (ii) esse animal] animal *Px*, animal esse *Migne* (iii) ut] ut 'quibus' *Va** *add.*, in quibus *P*BeBrVoLiChDrPdFyKlPwEr-VxPaBsVbMaMigne*, quibus *FxWy*, ut cum non sit C *Vy* (iv) non sit necesse] necesse non sit *Br*, necesse sit *Ch*, non necesse sit *Migne* (v) C ponamus] ponamus (proponamus *Dr*) C *ChDrFxWyMaMigne* (vi) Negato] negat[i]o *Py*, negatio *Migne* (vii) enim] autem *MxMa*, *om. Migne*

The addition {^{add.}} does not appear in all the earlier manuscripts, nor in some later ones (*MxPy(a.c.)PzKøVa(a.c.)VIMzSgWxLdPxPdKlEr(a.c.)-PaVbVyWzMigneObertello*), nor then in the archetype.

This addition is made in *Va**, and is followed by some later manuscripts:

$\{^{add.}\}: Va^*Py^{**}BrLlFxFyPwWyBsLbMa$).

et ponatur¹ ‘si non est album², non participat albedine³; et⁴, si est album, non est nigrum ($A \rightarrow \neg C$)

(1) ponatur] opponatur *Va*, ‘pro’ponatur *alia manu add. Vo*, proponatur *Ma* (2) album] albus *Wy* (3) albedine] albedinem *Vx* (4) et] sed *Ma, om. BeVoLlChDr-FxPwErVxBs*

This addition is not indispensable but simply explanatory, as is the addition in § 2.3 above. However, the next sentence, $\{Negato enim \dots\}$, is important and indispensable in this context. But the emending hand (Py^*) falsely proposes to put $\{^{add.}\}$ in place of $\{Negato enim \dots\}$, expunging the latter. This false emendation is followed by some later manuscripts ($Py^*BeVoChDrEr^*Vx$), although in Py itself, yet another hand (Py^{**}) adds $\{Negato enim \dots\}$ back after $\{^{add.}\}$, suggesting to go back to the Va^* emendation.

2.6 Quotation 6 (HH5)

As for HH ($(X \rightarrow Y) \rightarrow (Z \rightarrow W)$), the discussion in many cases consists of the following three steps:

- (Step 1^{X/Y}) X is not necessarily followed by Y ($\diamond \neg(X \rightarrow Y)$), and (Step 1^{Z/W}) similarly with Z and W ($\diamond \neg(Z \rightarrow W)$), but
- (Step 2^{X/Z}) X is followed by Z ($\square(X \rightarrow Z)$), and (Step 2^{Y/W}) similarly with Y and W ($\square(Y \rightarrow W)$), and
- (Step 3) HH then holds ($(X \rightarrow Y) \rightarrow (Z \rightarrow W)$);
- (Step E) after these three steps an example is given, showing that these three steps hold for those particular terms (Step E1–3).¹

¹ For example, the discussion of HH1 ($(A \rightarrow B) \rightarrow (C \rightarrow D)$) runs as follows (Migne 868D8–869A6, Obertello 358.2–12):

Prima igitur propositio talis esse debet, (*Step 1*) ut si sit A positum, B terminus non continuo subsequatur; itemque si C ponatur, non necesse sit D terminum consequi ($\diamond \neg(A \rightarrow B)$, $\diamond \neg(C \rightarrow D)$); (*Step 2*) sed posito quidem A termino Cⁱ terminum, posito

In the discussion of some modes of HH, some steps are omitted, as I shall show later (see §§ 2.7 and 4 below).

Now, the discussion of HH5 $((A \rightarrow \neg B) \rightarrow (C \rightarrow D))$ runs as follows:

Quotation 6, HH5, $(A \rightarrow \neg B) \rightarrow (C \rightarrow D)$; Migne 869C7–D4, Obertello 360.38–362.47

Quintae propositionis haec ^{|Pw75r|} membra sint, ut (*Step 1*) A cumⁱ B et C praeter D ^{|V1193v|} esse vel non esse possit $(\diamond \neg(A \rightarrow \neg B) \wedge \diamond \neg(\neg A \rightarrow \neg B), \diamond \neg(C \rightarrow D) \wedge \diamond \neg(\neg C \rightarrow D))$, (*Step 2*) sed A praeter C esse non possit $(\Box(A \rightarrow C))$, B atque D nunquam simul esse possint ita ut, si alterum non sit, alterum esse necesse sit $(\Box(\neg B \rightarrow D))$. (*Step 3*) Tunc enim eveniet ^{|Ma190v|} ut, si A posito B negetur, C posito D sequatur $((A \rightarrow \neg B) \rightarrow (C \rightarrow D))$, (*Step E*) ut si sit A quidem ^{|Py167r|} homo, B aeger, C animatum, D sanus. ^{|Mz144r|} (*Step E1*) Homo ^{|Vo157v|} quidem cumⁱⁱ aegritudine, ^{|K1111v|} animatum ^{|Wx104va|} vero praeter sanitatem etⁱⁱⁱ esse et non esse potest $(\diamond \neg(A \rightarrow \neg B) \wedge \diamond \neg(\neg A \rightarrow \neg B), \diamond \neg(C \rightarrow D) \wedge \diamond \neg(\neg C \rightarrow D))$. (*Step E2*) Sed, si ^{/869D/} homo sit, animatum esse ne^{/362/}cesse est $(\Box(A \rightarrow C))$; ^{{^{add.}et¹, si non sit aeger, sanum esse} necesse est $(\Box(\neg B \rightarrow D))$. (*Step E3*) Itaque fiet ut, ^{|L1168v|} si cum homo est non sit aeger, cum sit animatus sanus sit $((A \rightarrow \neg B) \rightarrow (C \rightarrow D))$. ^{|Kø69v|}

vero B terminum ^{|Kø68v|} D esse necesse sit $(\Box((A \rightarrow C), \Box(B \rightarrow D)))$. (*Step 3*) Tunc enim eveniet ut, si posito A fuerit B, necesse ^{|Pd164v|} sit C posito subsequi D $((A \rightarrow B) \rightarrow (C \rightarrow D))$, (*Step E*) ut si sint termini A homo, B medicus, C ani/^{869A/}matum, D artifex. (*Step E1*) Posito enim homine non necesse est ut medicus sit $(\diamond \neg(A \rightarrow B))$, et cum sit animatum non necesse est ut sitⁱⁱ artifex $(\diamond \neg(C \rightarrow D))$; (*Step E2*) at, si homo sit, necesse est ut sit animatum $(\Box(A \rightarrow C))$; et, si medicus sit, necesse est ut artifex sit $(\Box(B \rightarrow D))$. ^{|Vx106v|} (*Step E3*) Hoc itaque posito eveniet ut, si cum homo sit medicus est, cum sit animatum sit artifex $(\Box((A \rightarrow B) \rightarrow (C \rightarrow D)))$.

- (i) C terminum] terminum C termino (et supra -o alia manu add. -v(m)) C Py, terminum C p.c. et cum a.c. Va, terminum C BrVoPxVxMigne, termino C VbWz
(ii) sit artifex] artifex sit VxMigne

To express $X \rightarrow Y$ etc., various expressions are used, as is the case in Quotation 7 (HH15). I explain how I interpret such expressions in § 4.

(i) cum *correxī*] *praeter omnes Mss et MigneObertello*¹ (ii) cum *aegritudine*] *praeter aegritudinem omnes Mss et MigneObertello* (iii) et] *om. LIdrObertello* {^{add.}} (1) et] *ut Pa, om. Vb*

The part underlined (= {^{add.}}) in Step E2^{B/D} is added only in later manuscripts (*LdLIdrPd*ErPaVbLbMaVyWzMigne*), not in many other manuscripts, nor in Obertello's edition (*MxPyPzKøVaVIMzSgWxBE-BrVoPxChPd(a.c.)FxFyKIPwBsVxObertello*). It must have not existed either in the archetype, but is a necessary addition made by somebody in the eleventh century, from which *Ld* and *Px* were copied.

2.7 Quotation 7 (HH15)

The discussion of HH15 ($(\neg A \rightarrow \neg B) \rightarrow (\neg C \rightarrow D)$) omits Step 1 and Step E1.

Quotation 7, HH15, $(\neg A \rightarrow \neg B) \rightarrow (\neg C \rightarrow D)$; Migne 871B14–C10, Obertello 368.56–370.66

Quinta decima propositio hos terminos habere debet, (Step 2) {^{error} ut A quidem cum C, at vero B cum D esse non possit ($\square(A \rightarrow \neg C)$, $\square(B \rightarrow \neg D)$), B vero atque D talia |*Py168r*| sint ut |*Ch50vb*| altero eorum negato alterum eorum esse necesse sit ($\square(\neg B \leftrightarrow D)$). (Step 3) Ita namque fiet ut, si cum sit A denega|*Er128r*|tum B negetur, cum negabitur C affirmetur D ($(\neg A \rightarrow \neg B) \rightarrow (\neg C \rightarrow D)$), (Step E) ut, si sit A quidem irrationabile¹, B sanum, C inanimatum, D aegrum, (Step E2) {^{error} irrationabile quidem atque inanimatum ($\square(\neg A \rightarrow C)$)}, sanum etiam /370/ atque aegrum simul |*Br90va*| esse non possunt ($\square(B \rightarrow \neg D)$), |*Vx108r*| et, qui sanum |*Px74v*| negaverit, aegrum necesse est affirmet, itemque |*Bs77r*| e diverso ($\neg B \leftrightarrow D$). (Step E3) Est igitur |*Be58v*| ut, si negato ir|*Kø71v*|rationabili ne|*Kø71v*|getur sanum, negato inanimato aegrum ponatur ($(\neg A \rightarrow \neg B) \rightarrow (\neg C \rightarrow D)$).

(i) irrationabile *WxChPwBs*] `ir`rationa[bi]le *alia manu Py*, `ir`rationale *alia manu add. Va*, `{In}`rationale *alia manu Vl*, `ir`rational(e) *Pd*, irrationale *Be*,

¹ I have emended the reading *praeter*, found in all the Mss., with *cum*. For this emendation, see § 4.3 below (the *cum-praeter* error).

irrationale *BrVoLlDrFyKlErVxVbVyMigne*, rationale *PzKøSgLdPa*, rationabile
Px

The place underlined in Step 2 ^{error 1} is the reading of almost all of the earlier manuscripts as well as some later ones and Obertello, and so of the archetype, too.

*Error (1): MxPy(a.c.)PzKøVa(a.c.)VlMzSgWxLdPxPaLbPaLbVyWzVy-
WzObertello*

ut A quidem cum C¹, at vero² B cum D esse non³ possit ($\Box(A \rightarrow \neg C)$,
 $\Box(B \rightarrow \neg D)$),

(1) C] cum Va (2) vero B] B vero Mx (3) non possit] non *s.l. add. Pz*, non
possint Va, non possunt Lb

*Py** and *Va** propose the following emendation, which is followed by some later manuscripts and Migne.

*Emendation (1): Py*Va*BeBrVoLlChDrPdFxFyKlPwErVxBs(new)Vb-
Migne*

ut A quidem si¹ non sit, C² non esse ne/871C/cesse sit ($\Box(\neg A \rightarrow \neg C)$)

(1) si] cum Fx (2) C] B FyKl

Exactly the same type of error is repeated in Step E2 ^{error 2}; but here only *Py** emends it (the corrector *Va** fails to make this emendation), and the same later manuscripts that followed the earlier emendation follow this one:

Error (2): MxPy(a.c.)PzKøVaVlMzSgWxLdPxPaLbVyWz

Irrationabile¹ quidem² atque inanimatum (... simul esse non possunt)
($\Box(A \rightarrow \neg C)$)

(1) Irrationabile] 'Ir' Rationa[bi]le Py, 'In' Rationa[bi]le *alia manu Vl*,
irrationale *PdVyMigne*, Irrationale *Br*, rationabile *MxPzKøMzWxLdPxPa-
LbWz*, Rationa[bi]le *Va*, rationale *SgLl* (2) quidem] quid *Wz*

*Emendation (2): Py*BeBrVoLiChDrPdFxFyKlPwErVxBs(new)Vb-MigneObertello*
 Irrationabile¹ |Vb63v| quidem² si non sit, non est inanimatum
 ($\Box(\neg A \rightarrow \neg C)$)

(1) Irrationabile] `Ir`Rationale Py*, `In`Rationale *alia manu Vl**, Irrationale BeBr, irrationale VoMigne

We should note here that Emendation (1) is itself erroneous, since Emendation (1) is proposed instead of the whole of Error (1), viz. $\Box(A \rightarrow C)$ as well as $\Box(B \rightarrow D)$, but should have been proposed only for $\Box(A \rightarrow C)$, retaining $\Box(B \rightarrow D)$, as is the case in Step E2.

In addition, the other part underlined in Steps 2 and E2, viz. the part asserting $\neg B \leftrightarrow D$, is superfluous, since $\neg B \leftrightarrow D$ holds only incidentally in the case of the terms proposed in Step E; it is not generally the case with other terms.

2.8 Quotation 8 (CH4)

So far I have discussed corrupt readings and their medieval emendations found in *Liber III* of Boethius' *De syllogismis hypotheticis*. Next, I shall discuss those in *Liber II*, where only a few emendations are found.

The discussion of CH ($X \rightarrow (Y \rightarrow Z)$, $X \vdash Y \rightarrow Z$) consists of three steps:

- (Step 1) it is necessary that $X \rightarrow Y$,
- (Step 2) it is possible that $\neg(Y \rightarrow Z)$, and
- (Step 3) only when $X \rightarrow Y$ holds, $Y \rightarrow Z$ necessarily holds ($X \rightarrow Y \vdash Y \rightarrow Z$);
- (Step E) after these three steps, an example is given, showing that these steps hold for the terms chosen in the example (Step E1–3).

In the case of CH4 ($A \rightarrow (\neg B \rightarrow \neg C)$), Step 1 is $\Box(A \rightarrow \neg B)$, Step 2 is $\Diamond \neg(\neg B \rightarrow \neg C)$, and Step 3 is $A \rightarrow \neg B \vdash \neg B \rightarrow \neg C$. But Step E of the

discussion of CH4 runs as follows in many of the earlier manuscripts; and so, this must have been the reading of the archetype as well.

Quotation 8, CH4 Step E: MxPy(a.c.)Pz(a.c.)KøVa(a.c.)MzSgWxLd-WyVy

... ut (*Step E*) si sit A homo, B insensibile, C inanimatum. (*Step E1*) Insensibile enim non erit si fuerit homo; (*Step E2*) inanimatum vero potest¹ esse et non esse si non sit insensibile. (*Step E3*) Tunc tamen² inanimatum non esse necesse est |Vy47v| cum insensibile non sit, cum³ idcirco insen|Kø55v|sibile non est, quia homo esse⁴ praedictus est.

(1) potest esse] esse potest *Ld* (2) tamen] tantum *WyVy* (3) cum idcirco insensibile non est *om. Sg* (4) esse *om. Mz*

This reading is erroneous, because the relations which Steps E2 and E3 assert ($\diamond \neg(\neg B \rightarrow \neg C)$ and $A \rightarrow \neg B \vdash \neg B \rightarrow \neg C$) do not hold with B as *insensibile* and C as *inanimatum*, but conversely, with B as *inanimatum* and C as *insensibile*. Such an emendation is made by *Py*Pz*(Va*)* (and followed by many later manuscripts), replacing insensibile (underlined in Quotation 7 above) with *inanimatum* and inanimatum with *insensibile* (*Vl* sometimes fails to replace the words—cf. (3) and (5) in the *apparatus criticus* below; many manuscripts forget to replace the last *insensibile* with *inanimatum*, cf. (15) in the *ap. cr.* below).

Emendation:

*Py*Pz*Va*VlBeBrVoPxLlChDrPd¹FxFyKlPwErVxPaBsVbMaWz-Migne(850C3–8)Obertello(280.16–282.20)*

... ut (*Step E*) si¹ sit A homo, B² *inanimatum*³, C *insensibile*⁴. (*Step E1*) *Inanimatum*⁵ enim non erit⁶ si fuerit homo ($A \rightarrow \neg B$); (*Step E2*) *insensibile*⁷ vero⁸ potest esse et⁹ non esse si non sit *inanimatum*¹⁰

¹ In *Pd* the main hand copies this passage, but another hand expunges it by enclosing the passage with 'va-' and '-cat'.

$((\neg BAC) \wedge (\neg BA \neg C)) \text{ viz } \diamond(\neg B \rightarrow \neg C) \wedge \diamond(\neg B \rightarrow C)$ ¹. (Step E3) Tunc tamen¹¹ insensibile¹² non esse¹³ ne/282/cesse est ^{|V347v|} cum inanimatum non sit, cum¹⁴ idcirco inanimatum¹⁵ non est, quia homo esse praedictus¹⁶ est $(A \rightarrow B \vdash \neg B \rightarrow \neg C)$.

(1) si om. Vb (2) B ... C] C ... B Ma (3) inanimatum] insensibile VI, inanimatum ut Vb (4) insensibile] inanimatum VI (5) Inanimatum] insensibili Ma (6) erit] fuerit Vx (7) insensibile] inanimatum Ma (8) vero om. VIPdVbWz (9) et non esse om. Pa (10) inanimatum] animatum Vb (11) tamen] tantum VIBeVxBsVyMigne, vero tantum Dr (12) insensibile om. VoVx (13) esse + non KI (14) cum] non KI (15) inanimatum MigneObertello] animatum VI, insensibile ceteri omnes Mss (16) praedictus] praedictum Vb

2.9 Quotation 9 (CC1mp)

The discussion of CC1mp runs as follows in almost all of the earliest manuscripts as well as in many later ones, and, therefore, presumably in the archetype too.

Quotation 9, CC1mp; MxPy(a.c.)Pz(a.c.)KøVa(a.c.)BrLdPxMzSgWx-BeVoLlChDrFxFyPwErBsVy (Migne 845B11–C4 Obertello 260.1–7)
 Horum enim primus modus est hic veniensⁱ a prima propositione ‘si Aⁱⁱ est B est, atqui est ^{|Vx93v|} A, est igitur B’ $(A \rightarrow B, A \vdash B)$. ^{|Pw61v|} Cum enim ^{|W39v|} prima propositio eamⁱⁱⁱ conditionem proponat, ut si sit A, necesse sit consequi essentiam B termini^{iv} $(\vdash A \rightarrow B)$, id quod praecedebat^v assumit ac ^{/845C/} ponit dicitque ^{|Pa104v|} ‘at^{vi} est A’ $(\vdash A)$, consequitur igitur ut sit B $(\vdash B)$. {^{corr} Id¹ enim ex² consequentia primae³ propositionis⁴ † ponamus}, nullus efficitur syllogismus.

¹ Note here that I interpret *X potest esse et non esse si non sit Y* as $\diamond(X \wedge \neg Y) \wedge \diamond(\neg X \wedge \neg Y)$, and not as $\diamond(\neg Y \rightarrow X) \wedge \diamond(\neg Y \rightarrow \neg X)$. In the case that *X si Y* is used in the sense of “if Y, then X,” it should be interpreted as $Y \rightarrow X$; but *si* is used in the sense of *etiamsi* with a subjective verb, so it should be interpreted as a conjunctive. And of the two conjuncts, $\diamond(X \wedge \neg Y)$ and $\diamond(\neg X \wedge \neg Y)$, one is mainly asserted; the other is an additional comment. In the case of CH4, the conjunct $\diamond(\neg B \rightarrow \neg C)$ is the one that is mainly asserted. The same type of expression often appears in the discussions of CH, HC, and HH.

(i) veniens a prima] a prima veniens *Migne* (ii) A est B est] est A est B *PxCh-LLDrPdLeFxWyErPaBsVbLbMaMigne*, est A B est *Vo* (iii) eam] tantum *Migne* (iv) termini] terminum *Migne* (v) praecedebat] praecedit *Py*KIPwErVoChLL-DrMigneObertello*, procedit *BeKIVx*, praedicebat *Py(a.c.)PxWz* (vi) at] atqui *VaLeChFxPwErBsPaLbMaMigne*, atque *WyVb*
^{corr} (1) id enim *Mx(a.c.)Py(a.c.)Pz(a.c.)VaBrLdPxPdVxPaVyMigne*] Id enim [nisi] *Py*, si (s- *i.m. alia manu add.*) [enim] *p.c. prima et nisi* (ni- *i.m. alia tertia manu*) [enim] *p.c. secunda Pz*, Idem si *VlBeVoLlChDrFxErBs*, Idem B si *Fy*, Item si *Pw*, id enim si (si *i.m. alia manu add. Mx*), id enim si *KøVIMzSg-WxBeFyPwVy*, si enim *Obertello* (2) ex consequentia] vero (*seu non*) ubi (*seu nisi*) *Vb* (3) primae *om. Dr* (4) propositionis] positionis *KøMzSgWxLdVoPxDr-FyPwWyPaVbMaVyWz*

The last sentence, ^{corr}, is obviously corrupt and does not work well grammatically.

An awkward attempt to make it grammatical is found in earlier manuscripts (see (1) in the *ap. cr.* above), with another hand adding *si* or *nisi*; but this emendation does not work contentwise, since the emended sentence means that the two premises, $A \rightarrow B$ and A , do not make a syllogism, while Boethius has just asserted that they do make a good syllogism.

A better emendation is proposed in *Pz** by adding the following words in the place where I put † in Quotation 9 above, and this emendation is followed by *Vl* and *Obertello*.

*Emendation 1: Pz*VlObertello*
 id quod est secundum (= B) assumendo

With this addition, the last sentence means that the two premises, $A \rightarrow B$ and B , do not make a good syllogism. But this correction is not good enough, since while the last sentence begins with *Id enim ...*, the emended sentence does not give a reason for what is asserted by the previous sentence, namely that $A \rightarrow B$ and A do make a good syllogism.

A much better emendation is proposed in *Py** and *Va**, which have the following addition; this emendation is followed by a few later manuscripts:

*Emendation 2: Py*Va*BrVxVbMigne*
effectum est. At, si idⁱ quod sequitur (= B) assumendo

(i) id] id scripsit et delevit Py, om. VaBrVxVb

Other later manuscripts make another emendation, which has the same meaning as Emendation 2, but is differently worded.

Emendation 3: LdPxPdKlWyPaLbMaWz
ostenditur¹. Quodsi sequentem² partem primae³ propositionis (= B)

(1) ostenditur om. KlMa (2) sequentem] consequentem Kl (3) primae om.
PxPaLbWz

2.10 Quotations 10.1, 10.2 and 10.3 (Mi)

The discussion of inferences from Mi8 of the type $(X \rightarrow Y) \wedge (Y \rightarrow Z)$, $X \vdash Z$ ($(\neg A \rightarrow \neg B) \wedge (\neg B \rightarrow \neg C)$, $\neg A \vdash \neg C$) runs as follows.

Quotation 10.1, Mi8: Migne 857D13–858A3, Obertello pp. 310.39–312.1

Octavus veroⁱ modus est ^[Er122r] qui ita proponitur
si non est A non est B, et si ^{/858A/} non est B necesse est non esse C
 $((\neg A \rightarrow \neg B) \wedge (\neg B \rightarrow \neg C))$,
atqui non est A ($\neg A$),
non est igitur C ($\vdash \neg C$).

Quodsi C assumatur, ^{error}nec¹ in complexione nec in ^{/312/} terminis erit²
ulla necessitas}.

(i) vero] om. BePxChLIerPdKlErLbMaVyMigne (1) nec ... nec] neque ErVb,
(2) erit ulla] ulla erit MxVoPwErPa

The phrase underlined in {error} is found in almost all the earlier manuscripts, as well as in a lot of later ones (*MxPy(a.c.)PzKøVaVIMzSg-WxBrLdPxLlPdFxFyKlPwWyErPaLbMaVyWzObertello*), and so presum-

ably in the archetype, too. But the phrase is out of place, as I shall discuss below, and is emended only in *Py**; some later manuscripts follow the emendation:

*Emendation (1): Py*BeVoChDrVxBsVbMigne*
nulla¹ erit necessitas

(1) nulla] ulla *Vo*

A similar phrase appears in the discussion of *Mi8* of the type $(X \rightarrow Y) \wedge (Y \rightarrow Z), \neg Z \vdash \neg X ((\neg A \rightarrow \neg B) \wedge (\neg B \rightarrow \neg C), C \vdash A)$.

Quotation 10.2, Mi8 (C ⊢ A): Migne 860A1–5, Obertello p. 318.53–60

Octavus modus est qui hac propositione formatur

si *ⁱA non est nec B est*, et si B non est C non esse necesse est

$((\neg A \rightarrow \neg B) \wedge (\neg B \rightarrow \neg C))$,

atqui est C (C),

igitur A esse necesse est ($\vdash A$).

Quodsi A terminum sumpserimusⁱⁱ {^{error} nec per¹ complexionis naturam²
neque per terminorum proprietatem fiet ulla necessitas}

(i) A non est nec B est] non est A non est B *MxMigne* (ii) sumpserimus]
sumpseris *Migne* (1) per *om. MaVy* (2) naturam *om. Ma*

The underlined phrase is found in *MxPy(a.c.)PzKøVaVlMzSgWxBRLd-PxLLPdFyPaLbMaVyWz*, which is out of place, too, and emended in *Py**; later manuscripts follow the emendation:

*Emendation (2): Py*BeVoChDrFxKlPwWyErVxBsVbMigneObertelle*
non¹ fiet ulla necessitas

(1) non fiet ulla] fiet nulla *FxWy*, nulla fiet *Vb*

Such phrases are out of place, for there is no reason why such an expression (*nec in complexione nec in terminis*) would appear only in the discussion of *Mi8*, while no such expression appears in the discussions of

the other modes of Mi (Mi1–7), nor in any modes of the other figures, Mii and Miii.

A phrase mentioning the distinction between *complexio* and *termini* appears again after the discussion of all the eight modes (Mi1–8) in the form of $(X \rightarrow Y) \wedge (Y \rightarrow Z), X \vdash Z$.

Quotation 10.3, Mi: Migne 858A8–B8, Obertello p. 312.47–314.13

In prima igitur figura (*Mi*) ex tribus terminis fientⁱ hypotheticae sedecim complexiones, ita ut id, quod positum est in propositione, idemⁱⁱ in assumptione quoque ponatur. Octo quidemⁱⁱⁱ, si A terminus in propositione^{iv} ponatur; octo vero, si C. Quodsi A terminus ponendo assumatur, erunt octo necessarii syllogismi; si vero ^{|Wz19v|} C terminus ^{|Ld33v|} ponendo assumatur, {^{error 1} quinque equidem¹ complexiones, id est quae² primo, secundo, tertio, quarto, atque octavo respon^{|Kø63v|}dent³ modo, nullius necessitatis⁴ esse deprehenduntur; tres vero⁵ complexiones, quae quinto, sexto, septimoque⁶ modo accommodantur⁷, per complexionis quidem naturam⁸ nullam necessitatis constantiam⁹ servant, per¹⁰ terminorum vero proprietatem necessarium colligunt¹¹ syllogismum, ^{|Pd155v|} ut sint omnes¹² octo¹³ vel undecim syllogismi}. Eodem quoque modo syllogismorum comple^{|858B|}xionumque ordo constabit, si id ^{|Ma168v|} in assumptione, quod in propositione positum fuerat, auferatur. Fient quippe sedecim complexiones, quarum octo quidem, ubi id quod sequitur auferatur^v, integra ^{|Vy54r|} necessitate perdurant; ^{|V1180v|} octo vero, in quibus id quod praecedit aufertur, necessitatem non^{vi} eadem ratione conservant. {^{error 2} Sed hae quidem complexiones, quae primo, secundo ac¹ tertio, quarto² atque ^{|314|} octavo modo³ accommodantur, nihil⁴ colligunt nec per terminorum ^{|Wx104ra|} nec⁵ per complexionis⁶ proprietatem; tres vero, id est quintus⁷, sextus, et⁸ septimus, nihil quidem colligunt⁹ secundum complexionis naturam, videntur vero colligere secundum terminorum proprietatem, ut hinc¹⁰ quoque octo vel undecim sint¹¹ syllogismi}. Horum vero omnium ^{|L1160r|} subdantur exempla. ...

(i) fient] fiunt *Pz(a.c.)BeVoPxErVxPaLbVyWzObertello*, fiant *Migne* (ii) idem] id *VyWzMigne* (iii) quidem] quid *VbVb*, Quod *Px, om. Migne* (iv) propositione] assumptione *FxWyVyMigne*, assumptione quoque *Kl* (v)

auferatur] aufertur $K\emptyset SgBeBrLdPxChDrPdFyKlErVxPaBsVbVyWzMigne-$
Obertello (vi) non] in $VxMigne$, non in Wz , *om. Sg*
 $\{\text{Error } 1\}$: (1) equidem] eiusdem Pa , quidem Wz (2) quae] quo Mx , -que Wx (3)
 respondent] respondetur Pa (4) necessitatis esse] esse necessitatis Lb (5) vero
om. Pd (6) septimoque] se primoque Pa (7) accommodatur] accomodant Pa
 (8) naturam nullam] natura nulla Pa (9) constantiam] constantia Pa (10) per
om. Pa (11) colligunt] colligitur Pa (12) omnes *om. Wx* (13) octo] aucto Pa
 $\{\text{Error } 2\}$: (1) ac] *om. PxDLbWz* (2) quarto atque octavo] atque octavo et quarto
 $PxLbWz$, atque octavo Pa (3) modo *om. Pd* (4) nihil + quidem Pd (5) nec *om.*
 Mx (6) complexionis] complexionum $WxPxLbWz$ (7) quintus + et Pd (8) et
 septimus *om. Pa*, septimus Mx (9) colligunt *om. Wx* (10) hinc] hic $PxLbWz$
 (11) sint syllogismi] syllogismi sint $PyK\emptyset VaSgBrLdPxPdPaLb$, sint 'vel sunt'
 syllogismi *alia manu add. Pz*, sint (sunt *a.c.*) syllogismi $BrWz$

After this passage, Boethius proceeds to the discussion of all the eight modes of Mi in the form of $(X \rightarrow Y) \wedge (Y \rightarrow Z)$, $\neg Z \vdash \neg X$.

Now, the parts underlined, $\{\text{error } 1\}$ and $\{\text{error } 2\}$, assert that, when Mi.5–7 are presupposed as the first premise, not only $X \vdash Z$ in $\{\text{error } 1\}$ or $\neg Z \vdash \neg X$ in $\{\text{error } 2\}$, but also $\neg X \vdash \neg Z$ in $\{\text{error } 1\}$ or $Z \vdash X$ in $\{\text{error } 2\}$ hold—but the latter hold, not by a syllogistic form (*per complexionis naturam*), but only by *terminorum proprietates*, viz. when $X \leftrightarrow \neg Y$ and $\neg X \leftrightarrow Y$ hold between the terms used. However, this assertion is very abrupt. In the discussion of Mi5–7 Boethius never mentions the cases in which $\neg X \vdash \neg Z$ or $Z \vdash X$ hold by *terminorum proprietates*. Moreover, even if this assertion were true and only applied to Mi5–7 for some reasons unknown to us, he should have mentioned the *complexio-termini* issue, not only for Mi8, as he does in Quotations 10.1 and 10.2, but also for Mi1–4, which he does not; and the reference itself to the distinction in Mi8 (in Quotations 10.1 and 10.2) should have been, not *nec in complexione nec in terminis*, but *non in complexione sed in terminis*.

$\{\text{error } 1\}$ and $\{\text{error } 2\}$ in Quotation 10.3 are found in all the earlier manuscripts as well as in some later manuscripts ($MxPy(a.c.)PzK\emptyset Va(a.c.)VIMzSgWxBr(a.c.)LdPxPdPaLbWzObertello$), which suggests the readings go back to the archetype.

Py^* and Br^* propose to expunge both $\{\text{error } 1\}$ and $\{\text{error } 2\}$, and to replace $\{\text{error } 1\}$ as follows:

Emendation (3): (Va)Py*(Be)Br*VoLlChDrFxFyKlPwWyErVxBsVb-MaVyMigne (instead of {^{error 1}})*

nullus¹ efficitur² |Vx100v| syllogismus.

(1) nullus efficitur syllogismus s.l. add. alia manu Va (2) efficitur] fiet LIMA

This emendation is followed by almost all of the later manuscripts other than those which follow the archetype. Only *Va* and *Be* are exceptions. In *Va* the emending hand (*Va**) adds *nullus efficitur syllogismus* (= emendation (3) above), retaining both {^{error 1}} and {^{error 2}}. In *Be* the hand copying the main text writes *nullus efficitur syllogismus* in place of {^{error 1}}, retaining {^{error 2}}.

2.11 Quotation 11 (Liber I)

In *Liber I* of *De syllogismis hypotheticis*, we find only one medieval emendation. This passage is as follows:

Quotation 11, Liber I, Boethius 835C4–835D4, Obertello pp. 218.59–220.70

Sunt autem aliae |Pa99v| quae habent ad se consequentiam naturae. Harum quoque duplex modus est. (I) Unus cum necesse est consequi, |Pd135r| ea tamen ipsa consequentia |My100r| non per |Py148v| terminorum positio/220/nem fit. (II) Alius vero cum fit consequentia per terminorum positionem.

(I) Ac prioris quidem modi exemplum est ut ita dicamⁱ cum homo sit, animal est.

{[#]Non enim idcirco animal est quia homo est}, sed fortasse |Fx60r| a genere principium ducitur magisque essentiae causa ex |K795ra| universalibus trahi potest, |V1155v| ut idcirco sit homo quia animal est (causa enim |Pz39r| speciei genus est). At, qui |Bs61r| dicit ‘cum homo sit, animal est’, rectam ac necessariam consequentiam facit; per terminorum vero positionem talis consequentia non procedit. (II) Sunt autem ...

(i) dicam omnes Mss] dicamus MigneObertello

The underlined phrase {#} is found only in the following manuscripts:

{#}: *MxMyPz*KøVlSgBe(a.c.)BrLdPw(a.c.)WyMaObertello*
Non enim idcirco animal est quia homo est,

So far (§§1 and 2.1–10), we have found the readings of the archetype in almost all the earlier manuscripts (*MxPyPzKøVaVlMzSgWx*), but some of them give various different readings here, as follows:

- Lectio *Va(a.c.)*: quia homo est. Non enim
 Lectio *Pz(a.c.)*: quia homo est. Non enim ut ita dicam.
 Lectio *Py*: quia homo est idcirco animal est. (#) Non enim idcirco animal est quia homo est.
 Lectio *Va**: Non enim quia homo est idcirco animal est;
 aliter: (#) Non enim idcirco animal est quia homo est,
 Lectio *Mz*: quia homo est. Non enim ut ita dicam (= lectio *Pz*),
 scilicet: (#) Non enim idcirco animal est quia homo est.
 Lectio *Wx*: quia homo est. Non enim ut ita dicam (= lectio *Va*);
 non enim quia homo est idcirco animal est.

Presumably the archetype might *in textu* have had the corrupt reading: *quia homo est. Non enim* (= Lectio *Va(a.c.)*), and in the margin a twofold emendation: one is to add *ut ita dicam* (= Lectio *Pz(a.c.)*), and since this is still corrupt, a second emendation, viz. to change it into {#}. The other manuscripts in this list (*PyVa*MzWx*) might be reporting these emendation(s) found in the archetype in different wordings.

*Be** proposes another emendation, making additions before and after (#); and some later manuscripts follow the reading with these additions.

*Emendation: Be*VoPxLlChDrPdFxFyKl(Pw*)ErVxBs(Vb)LbVyWz-Migne*

¹Hic² enim consequentia inconcussa³ veritate subnixa est. ⁴Sed⁵ (α')
non⁶ idcirco animal⁷ est quia homo est*. ⁸Non⁹ enim¹⁰ idcirco genus¹¹
 est quia¹² species est'.

(1) `Hic - Sed'] *alia manu s.l. add. BePw, add. et alia manu postea seclisit Er, om. Vb* (2) Hic] Haec *PxFxWzMigne*, Sed hic *Vy* (3) inconcussa veritate subnixa est] veritate subnixa est inconcussa *Px*, inconcussa veritate est subnixa *PdMigne*, inclusa veritate subnixa est *Wz*, (4) *Sed - est*] non enim quia homo est idcirco animal (anima *Vy*) est *LbVy* (5) sed *om. Pw* (6) non + [enim] *Be*, + enim *alia manu add. Er* (7) animal ... homo] homo ... animal *Vb* (8) `Non - est'] *alia manu s.l. add. BePw* (9) Non enim] Nec *Pw* (10) enim idcirco] idcirco enim *Be*, ideo enim *PxBs*, idcirco *Pw* (11) genus est] est genus *Px* (12) quia species est] quod sunt species *Px*

3 Three Unnecessary Medieval Additions

There are three more additions which are found only in a few manuscripts of the rather late eleventh century (*Px* in § 3.1 and *Ld* in § 3.3) or later (§ 3.2). So far (§§ 1–2) I have discussed the emendations and additions which are necessary to make the corrupt text in the archetype more readable. However, all the additions in § 3 are either not indispensable or simply false.

3.1 Quotation 13 (CC4mt)

In the discussion of CC4mt ($\neg A \rightarrow \neg B$, $B \vdash A$), Boethius says:

Quotation 13, CC4mt; Migne 848B10–C4, Obertello p. 272.78–85
 ... |*Wz12v*| Nam, si posito cum non sit A non esse B, sumatur esse B, dico quia consequens est etiam A esse ($\neg A \rightarrow \neg B$, $B \vdash A$). |*Mx35v*| Nam, si potest cum sit B |*Mz141r*| non esse A ($B \rightarrow \neg A$), |*V1169v*| frustra est prima propositio, quae cum A non sit B non esse pronun|*Pa106r*|tietⁱ ($\neg A \rightarrow \neg B$), fiet igitur |*Va134r*| rursus ut idem B sit ac non sit. Ex assumptione namque erit B |*848C*| (ita enim dicitur 'atqui estⁱⁱ B'); si vero hoc posito possit non esse A ($B \rightarrow \neg A$), rursus B non erit, quia prima propositio ait 'si non sit A, non est B' ($\neg A \rightarrow \neg B$); {*add.* erit igitur B ac non erit}, quod est impossibile.

(i) pronuntiet] pronuntiat *PyVa*BeVoChLIPdFxErVxLbMigneObertello*, enuntiat *Vb* (ii) est B] B est *Migne*

Here, {*add.*} is an addition made only in *PxLbWz*; other manuscripts do not have it, nor do Migne and Obertello. In fact, the text makes good sense without the addition, which is only explanatory.

3.2 Quotation 14 (Mii)

Another not indispensable addition is found in the general discussion of Mii $((X \rightarrow Y) \wedge (\neg X \rightarrow Z))$, where Boethius discusses the distinction between *aequimodae* and *inaequimodae propositiones*, viz. between $(X \rightarrow Y) \wedge (X \rightarrow \neg Z)$ and $(X \rightarrow Y) \wedge (\neg X \rightarrow Z)$, as follows:

Quotation 14: Mii, Migne 859B8–C2, Obertello p. 320.7–14

In quibus illud est praedicendum quod saepe aequimodae ^{|Vy55r|} propositiones ponuntur, saepe vero non. Aequimodisⁱ ^{|Vo149r|} quidem nullus est syllogismus. ^{|Px69v|} Aequimoda enim propositio est si ita dicamus

si A est, B est; et, si Aⁱⁱ est, Cⁱⁱⁱ non est.

{*add.* Quodsi inaequimodis propositio ponitur, statim efficitur syllogismus}. Inaequimoda vero secundae figurae propositio est in his syllogismis hypotheticis, quorum enuntiationes tribus ^{/859C/} terminis componuntur, veluti cum ita proponimus

si est A, est B; si autem non est A, est C.

(i) Aequimodis] Aequimodarum *p.c. alia manu Py*, aequimodae *Va*, aequimodae `aequimodarum' *Br*, Aequimodarum *BeVoDrPwVxPa*, aequimodae *et i.m. add.* aliter aequimodarum quidem *Bs*, atque de aequimodis *Li*, Atqui de aequimodis *Ma*, Ac de aequimodis *LdPxLiFxFyWyErMigne* (ii) A est] est B *Ch*, est A *FxWyMigne* (iii) C non est] non est C *ChFxWyMigne*

Here, the addition {*add.*} occurs only in *PdVbVy*, not in all the other manuscripts, nor in Obertello (Migne has the addition in a different wording: *At si sint inaequimodae, faciunt syllogismum*).

3.3 Quotation 15 (Mii5)

In the discussion of Mii5 $((\neg A \rightarrow B) \wedge (A \rightarrow C))$, after claiming that if $\neg B$ is the second premise, C follows ($\neg B \vdash C$), the text says that if $\neg C$ is the

second premise, B follows ($\neg C \vdash B$); but if B is the second premise, nothing follows, neither C nor $\neg C$ ($B \vdash \emptyset$), as follows:

Quotation 15: Mii5, $(\neg A \rightarrow B) \wedge (A \rightarrow C)$; Migne 861D6–862A2 & 862A6–12, Obertello pp. 330.48–56 & 59–64

(discussion of $(\neg A \rightarrow B) \wedge (A \rightarrow C)$, $\neg B \vdash C$)

Quodsi B esse ponatur, nihil fitⁱ necessarium. Si enim est ^{|Dr44v|} B, ^{|Fy82r|} non erit A ($B \rightarrow \neg A$ or $B \vdash \neg A$); quodsi A non est, nihil ad C ($\neg A \rightarrow \emptyset$ or $\neg A \not\vdash C$, $\neg A \not\vdash \neg C$); quocirca nullus est syllogismus. Non esse autem A si B sit ($B \rightarrow \neg A$ or $B \vdash \neg A$) ea propositio monstratⁱⁱ, per quam dicimus ‘si Aⁱⁱⁱ non est, est B’ ($\neg A \rightarrow B$) (haec^{iv} enim^v immediatis tantum contrariis convenit^{vi}). Age enim sit A quidem animal, B vero insensibile, ^{|Pa111r|} C^{vii} animatum; et proponatur ‘si animal ^{|Ma172r|} non est insensibile est, si ^{|Vx102v|} animal est animatum est’

($(\neg A \rightarrow B) \wedge (A \rightarrow C)$); et ponatur esse in^{862A}/sensibile (B), non^{viii} necesse est esse vel non esse animal ($\not\vdash A$, $\not\vdash \neg A$), quocirca^{ix} ne animatum quidem^x esse vel non esse necesse est ($\not\vdash C$, $\not\vdash \neg C$). ^{|Mz145r||Ll162v|}

(discussion of $(\neg A \rightarrow B) \wedge (A \rightarrow C)$, $\neg C \vdash B$)

Quodsi sit C, non necesse est esse vel non esse A ($C \not\vdash A$, $C \not\vdash \neg A$), quo fit ut ne B quidem esse aut^{xi} non esse necesse sit ($\neg A \not\vdash B$, $\neg A \not\vdash \neg B$).

Nam, ^{|Kø74v|} si est animatum, non necesse est ^{|Br88rb|} esse vel non esse animal ($C \not\vdash A$, $C \not\vdash \neg A$); cum vero ^{|Px70v|} animal non sit, non necesse est esse^{xii} vel non esse insensibile ($\neg A \not\vdash B$, $\neg A \not\vdash \neg B$); ^{|Vl185r|} propositio vero eadem^{xiii} quae superius^{xiv} ($(\neg A \rightarrow B) \wedge (A \rightarrow C)$).

(i) fit] sit *legunt tantum ErPaMaMigneObertello, omnes alii Mss legunt fit* (ii) monstrat] *PyBr*, demonstrata *DrMigne* (iii) A non est] est A non *Ll*, non est A *ChDrVyMigne*, est A non e(!) *Ma* (iv) haec] hoc *VbMaMigne* (v) enim + in *MxBrPxDrMigne*, + ‘in’ *FxErVb* (vi) convenit] evenit *PxLlDrVbMaMigne* (vii) C + vero *Migne* (viii) non necesse est esse vel] necesse est *Migne* (ix) quocirca ne] Sed non *Migne* (x) quidem + vel *Migne* (xi) aut] A *Pz(a.c.)Vo*, vel *PxLlWzMigne* (xii) esse vel non esse insensibile (sensibile *Vy*)] insensibile vel esse vel non esse *Migne* (xiii) eadem + est *Migne* (xiv) superius] superioribus *Migne*

At the bottom of Quotation 15 (after *superius*) the following addition is made only in *LdDrVb*.

Addition; LdDrVb (not in other Mss nor in MigneObertello)
 id est quae convenit¹ contrariis immediatis

(1) convenit + in Vb

This addition is simply false. For this addition is a repetition of the part underlined in Quotation 15: *haec enim immediatis tantum contrariis convenit*. However, there this phrase is necessary to explain why $B \rightarrow \neg A$ does not always follow from $\neg A \rightarrow B$, the first part of the first premise ($(\neg A \rightarrow B) \wedge (A \rightarrow C)$), since $B \rightarrow \neg A$ follows from $\neg A \rightarrow B$ only when A and B are *immediata* (viz. only when $A \leftrightarrow \neg B$ holds); but even if $\neg A$ were to follow from B ($B \rightarrow \neg A$ or $B \vdash \neg A$), from $\neg A$ nothing would follow about C ($\neg A \rightarrow \emptyset$ or $\neg A \not\vdash C$, $\neg A \not\vdash \neg C$). On the contrary, however, the addition (*id est quae ...*) at the end of the quotation is not necessary at all, since $\neg A \not\vdash B$ and $\neg A \not\vdash \neg B$ are here asserted from the outset, without making the unreal supposition $\neg A \rightarrow B$; therefore there is no need to make such an addition.

4 Erroneous Readings that Passed Unnoticed in the Middle Ages

So far (§§ 1–2) I have discussed the corrupt passages in the archetype, necessary emendations of which were produced by eleventh-century scholars. There are, however, many other passages, in particular in discussions of HH, which according to my interpretation are erroneous, but which the medievals overlooked.

Discussions of HH ($(X \rightarrow Y) \rightarrow (Z \rightarrow W)$, $X \rightarrow Y \vdash Z \rightarrow W$) consist of the following steps (as I have already said in § 2.6 above):

- Step 1 $\diamond \neg(X \rightarrow Y)$ and $\diamond \neg(Z \rightarrow W)$,
- Step 2 $\square(X \rightarrow Z)$ and $\square(Y \rightarrow W)$, then
- Step 3 $(X \rightarrow Y) \rightarrow (Z \rightarrow W)$, and
- Step E and Step E1–E3.

While HH1 and HH15 *p.c.* use only the normal *si*-clauses to express implication (“ $X \rightarrow Y$,” etc.), in the discussions of HH2–16 (including HH15 *a.c.*) various other expressions are often used in addition to the normal *si*-clauses. Such expressions are often used in discussions of CH and HC, too. I interpret such expressions as is shown in Table 2.

x (simul) cum y est	x atque y simul sunt ¹	x est y, ² id quod est x est y	$X \wedge Y$ viz. $\neg(X \rightarrow \neg Y)$
x (simul) cum y non est	-	-	$\neg X \wedge Y$ viz. $\neg(\neg X \rightarrow \neg Y)$
x praeter ³ y est	-	-	$X \wedge \neg Y$ viz. $\neg(X \rightarrow Y)$
x praeter y non est	x atque y simul non sunt, ut si <i>etc.</i> ,	-	$\neg X \wedge \neg Y$ viz. $\neg(\neg X \rightarrow Y)$

Table 2. Various phrases used to express implication

My interpretation in Table 2 is coherent, I believe, and works well in almost all discussions of CH, HC,⁴ and in many of HH. As a matter of fact, however, discussions of HH2–16 contain several passages that, according

¹ The expression *x atque y simul sunt* is always used only in the form *x atque y simul esse non possunt* for $\neg \diamond(X \wedge Y)$ viz. $\square(X \rightarrow \neg Y)$ (HH2 Step 2, HH9 Step 1). It is sometimes used for $\square(\neg X \rightarrow Y)$ with additional remarks that mean that if one is denied, the other follows (HH5 step 2, HH13 Step 2 and E2, HH14 Step 2, HH15 Step 2 and E2; HH9 Step E2 lacks the additional remark, cf. § 4.4 below). Such an expression is never used in discussions of CH and HC.

² The expression *x est y* is used only in the form of *x esse y non potest* for $\neg \diamond(X \wedge Y)$ viz. $\square(X \rightarrow \neg Y)$ in HH2 Step 1, HH9 Step 1 and E1 (quoted in full in § 4.3 below), and HH11 Step E1. Such an expression is never used in discussions of CH and HC.

³ In HH11 Step 2 and HH12 Step 2 *sine* is used for *praeter* (in Step CH7, too).

⁴ Cf. § 4.5 below for the few cases where discussions contain a passage that is faulty according to my interpretation.

to my interpretation, are wrong, without this having been noticed in the extant manuscripts.

Discussions of HH normally follow the general structure described above. Some, however, deviate from this general structure: HH3 and 7–9 (cf. § 4.4 below), HH12 (cf. § 4.1), HH15 (cf. § 4.3), and HH16 (cf. § 4.2). This strongly suggests that the archetype was seriously corrupt in those places; in fact, discussions of all modes of HH are full of erroneous readings. I shall study each of the deviant cases, showing which error is committed and mentioning the other modes of HH that share the same error.

4.1 Omitting Step E2

The discussion of HH12 lacks Step E2, as follows:

Quotation 4.1: HH12 $((\neg A \rightarrow B) \rightarrow (\neg C \rightarrow \neg D))$; Migne 870D8–871A3, Obertello 366.27–34

Duodecima propositio est quam talibus terminis constare oportebit, ut (Step 1) A quidem praeter B at vero $\{\text{err.CD-DC} C \text{ praeter } D\}$ vel esse vel non esse possit ($\diamond \neg(A \rightarrow B) \wedge \underline{\diamond \neg(\neg A \rightarrow B)}$; $\diamond \neg(C \rightarrow D) \wedge \diamond \neg(\neg C \rightarrow D)$, the former should be $\underline{\diamond \neg(\neg C \rightarrow \neg D)}$); (Step 2) $\{\text{err.AC-CA} A \text{ vero sine } C\}$ et B cum D esse non possit ($\{\square(A \rightarrow C)$, which should be $\square(\neg A \rightarrow \neg C)\}$, $\square(B \rightarrow \neg D)$); (Step 3) ita enim cadet ut si A negato B sequiturⁱ, C negato D etiam denegeturⁱⁱ ($(\neg A \rightarrow B) \rightarrow (\neg C \rightarrow \neg D)$), (Step E) ut si fuerit A inanimatum, B album, C invitale, D $|Br90rb|$ nigrum. (Step E1) Inanimatum (A) quidem $|871A|$ praeter album (B), $\{\text{err.CD-DC} \text{ invitale } (C) \text{ autem } |Ld41v| \text{ praeter nigrum } (D)\}$ vel esse vel non esse potest ($\diamond \neg(A \rightarrow B) \wedge \underline{\diamond \neg(\neg A \rightarrow B)}$, $\diamond \neg(C \rightarrow D) \wedge \diamond \neg(\neg C \rightarrow D)$); (Step E3) si tamen cumⁱⁱⁱ inanimatum non^{iv} sit, et sit album, cum invitale non sit, non erit nigrum ($(\neg A \rightarrow B) \rightarrow (\neg C \rightarrow \neg D)$).

(i) sequitur] sequitur p.c. alia manu et sequatur a.c. Py, sequatur p.c. alia manu et sequitur a.c. Va, sequatur Migne (ii) denegetur] negetur Ch, negatur Migne (iii) cum PxLbWz] om. ceteri Mss et Migne Obertello (iv) non] homo Migne

An error is committed in Step 2: $\{\overset{\text{err.AC-CA}}{A \text{ vero sine } C}\}$... *esse non possit* means that $\Box(A \rightarrow C)$, but we expect $\Box(\neg A \rightarrow \neg C)$ here, viz. $\Box(C \rightarrow A)$; in other words, we should emend $A \rightarrow C$ to $C \rightarrow A$, transposing the terms A and C. I shall refer to this type of error as “XY-YX.”

The XY-YX error is committed in Steps 1 and E1, too. Step 1: *A quidem praeter B at vero* $\{\overset{\text{err.CD-DC}}{C \text{ praeter } D}\}$ *vel esse vel non esse possit* means that $\Diamond \neg(A \rightarrow B) \wedge \underline{\Diamond \neg(\neg A \rightarrow B)}$, $\{\overset{\text{err.CD-DC}}{\Diamond \neg(C \rightarrow D)}\} \wedge \Diamond \neg(\neg C \rightarrow D)$.¹ The first part ($\Diamond \neg(A \rightarrow B) \wedge \underline{\Diamond \neg(\neg A \rightarrow B)}$) goes well ($\underline{\Diamond \neg(\neg A \rightarrow B)}$ is what we expect). However, instead of the latter part ($\Diamond \neg(C \rightarrow D) \wedge \Diamond \neg(\neg C \rightarrow D)$), we expect $\underline{\Diamond \neg(\neg C \rightarrow D)} \wedge \Diamond \neg(\neg C \rightarrow D)$ viz. $\underline{\Diamond \neg(D \rightarrow C)} \wedge \Diamond \neg(\neg D \rightarrow C)$, so here the CD-DC error is committed. The same error is committed in Step E1, too.

The XY-YX error is also committed in discussions of many other modes: HH2, 3 (quoted in full in § 4.4 below), 4 (with another error, cf. § 4.3 below), 7–8 (quoted in full in § 4.4 below), 13, 14 (with another error, cf. § 4.3 below), 16 (quoted in full in § 4.2 below):

HH2 $(A \rightarrow B) \rightarrow (C \rightarrow \neg D)$; *Migne* 869A7–14, *Obertello* 358.13–360.1
 ..., ut (*Step 1*) A atque B itemqueⁱ C atque D praeter se esse possint;
 ... (*Step E1*) Homo (A) namque praeter nigrum (B) et $\{\overset{\text{err.CD-DC}}{\text{animatum (C) praeter album}}\}$ (D) velⁱⁱ esse velⁱⁱⁱ non /360/ esse potest;
 ...

(i) itemque] item *BeVoKlPwErMigne* (ii) vel] et *DrMigne*, et vel *Wx, om. Ch*
 (iii) vek] et *Migne*

$\underline{\Diamond \neg(A \rightarrow B)} \wedge \Diamond \neg(\neg A \rightarrow B)$,
 $\Diamond \neg(C \rightarrow D) \wedge \Diamond \neg(\neg C \rightarrow D)$, which should be $\underline{\Diamond \neg(C \rightarrow \neg D)} \wedge \Diamond \neg(\neg C \rightarrow \neg D)$
 viz. $\underline{\Diamond \neg(D \rightarrow \neg C)} \wedge \Diamond \neg(\neg D \rightarrow \neg C)$

¹ Step 1 and/or E1 in discussions of HH often contain the phrase (*vel/et*) *esse vel/et non esse*, which I interpret as $\Diamond \neg(X \rightarrow Y) \wedge \Diamond \neg(\neg X \rightarrow Y)$. I put a double line under the part we expect (HH2, 4, 5, 6, 7, 8, 12). There is no difference whether *et* or *vel* is used (both phrases are used interchangeably in HH4, 5, and 8).

HH13 $(\neg A \rightarrow \neg B) \rightarrow (C \rightarrow D)$; Migne 871A5–12, Obertello 366.35–368.42

..., ut (Step 1) $\{\text{err. AB-BA} A \text{ quidem praeter } B \text{ at vero } C \text{ praeter } D \text{ esse possit};$

... (Step E1) $\{\text{err. AB-BA Irratio/368/nabile } (A) \text{ namque praeter aegrum } (B)\}$ et rationabile (C) praeter sanitatem (D) $|K7112rb|$ esse potest; $|K\emptyset71r|Ma$ finit

...

$\diamond \neg(A \rightarrow B)$ which should be $\diamond \neg(\neg A \rightarrow \neg B)$ viz. $\diamond \neg(B \rightarrow A)$, $\diamond(C \wedge \neg D)$ viz. $\diamond \neg(C \rightarrow D)$

4.2 Transposing Step 1 and 2 and Step E1 and E2

The discussion of HH16 runs as follows, transposing Step 1 and 2 as well as Step E1 and E2:

Quotation 4.2; HH16 $((\neg A \rightarrow \neg B) \rightarrow (\neg C \rightarrow \neg D))$; Migne 371C10–D5, Obertello 370.66–74

Sexta decima propositio est quae his terminis constat, $|Pa114r|$ ut (Step 2) $\{\text{err. AC-CA } A \text{ quidem praeter } C\}$ at vero D^i praeter B esse non possit

$(\Box(A \rightarrow C)$, which should be $\Box(\neg A \rightarrow \neg C)$; $\Box(D \rightarrow B)$ viz $\Box(\neg B \rightarrow \neg D)$);

(Step 1) A vero cum B et C $|V1196r|$ cum D esseⁱⁱ $|V364v|$ nullo modo queant $(\Box(A \rightarrow \neg B)$, $\Box(C \rightarrow \neg D)$); (Step 3) evenit ergoⁱⁱⁱ ut si A quidem negato,

negabitur B, denegato C terminus D abnuatur $((\neg A \rightarrow \neg B) \rightarrow (\neg C \rightarrow \neg D))$, (Step E) ut si sit A inanimatum, $|Pd167r|/871D/$ B artifex, C invitale,

D medicus. (Step E2) $\{\text{err. AC-CA Inanimatum igitur}^1 \text{ praeter invitale}\}$ et medicus^{iv} praeter artificem $|Ld42r|$ esse non potest $(\Box(A \rightarrow C)$ which should be $\Box(\neg A \rightarrow \neg C)$, $\Box(D \rightarrow B)$ viz $\Box(\neg B \rightarrow \neg D)$); (Step E1)

inanimatum vero cum artifice $|Sg479|$ et invitale cum medico esse non poterit $(\Box(A \rightarrow \neg B)$, $\Box(C \rightarrow \neg D)$); (Step E3) si igitur, negato inanimato

negetur artifex, negato invitale negatur^v medicus

$((\neg A \rightarrow \neg B) \rightarrow (\neg C \rightarrow \neg D))$.

(i) D praeter B] B praeter D Ch (ii) esse nullo modo] nullo modo esse BeLl (iii) ergo] igitur ChBsMigneObertello (iv) medicus praeter artificem] praeter artificem medicum Ch (v) negatur] negetur PyVaBeBrDrFxPwBsVbVyMigne (1) igitur] ergo Fx, om. PdPa

First, Steps 2 and E2 commit the AC-CA error, since they mean that $\Box(A \rightarrow C)$, but we expect $\Box(\neg A \rightarrow \neg C)$ viz. $\Box(C \rightarrow A)$.

Second, Steps 1 and E1 commit another error, since they mean that $\Box(A \rightarrow \neg B)$ and $\Box(C \rightarrow \neg D)$, whereas we expect $\Diamond \neg(\neg A \rightarrow \neg B)$ and $\Diamond \neg(\neg C \rightarrow \neg D)$. It is often the case that $\Box(X \rightarrow Y)$ is used for $\Diamond \neg(\neg X \rightarrow \neg Y)$ viz. $\Diamond \neg(Y \rightarrow X)$. We shall call this type of error the “ $\Box/\Diamond \neg$ error,” as \Box is used instead of $\Diamond \neg$. The $\Box/\Diamond \neg$ error occurs together with XY-YX error in discussions of other modes: HH3 and 7–9 (quoted in full in § 4.4 below), and HH11:

HH11 $(\neg A \rightarrow B) \rightarrow (\neg C \rightarrow D)$; *Migne 870C13–D4, Obertello 366.18–23*
 ..., ut (Step 1) neque A cum B neque C cum D ^{|K1112ra|} simul esse possit;
 ... (Step E1) Inanimatum (A) quidem medicus (B) esse non potest,
 quocirca ne invitale (C) ^{|Fy80v|} quidem artifex (D); ...
 $\Box(A \rightarrow \neg B)$, which should be $\Diamond \neg(\neg A \rightarrow B)$ viz. $\Diamond \neg(\neg B \rightarrow A)$,
 $\Box(C \rightarrow \neg D)$, which should be $\Diamond \neg(\neg C \rightarrow D)$ viz. $\Diamond \neg(\neg D \rightarrow C)$

4.3 Omitting Steps 1 and E1

As I showed in § 2.7 above, HH15 omits Steps 1 and E1. Steps 2 and E2 run as follows:

HH15 a.c. $(\neg A \rightarrow \neg B) \rightarrow (\neg C \rightarrow D)$; *Migne 871B15–C9, Obertello 368.57–370.64*
 ..., ut (Step 2) ^{err.AC-CA} A quidem ^{err.cum-praeter} cum C, at vero B cum D
 esse non possit, B vero atque D talia sint ut altero eorum negato alterum
 eorum esse necesse sit;
 ... (Step E2) Irrationabile (A) quidem atque inanimatum (C), sanum (B)
 etiam ^{/370/} aegrum (D) simul ^{|B790va|} esse non possunt, ^{|Vx108r|} et, qui
 sanum ^{|Px74v|} negaverit, aegrum necesse est, itemque ^{|Bs77r|} e diverso; ...
 $\neg \Diamond(A \wedge C)$ which should be $\neg \Diamond(C \wedge \neg A)$ viz. $\Box(C \rightarrow A)$ viz. $\Box(\neg A \rightarrow \neg C)$,
 $\Box(\neg B \rightarrow D)$

Steps 2 and E2 are emended by eleventh-century people into a version using only normal *si*-clauses (cf. § 2.7 above); but different emendations are also possible.

As for the relation between A and C, Step 2 says *A quidem cum C ... esse non possit*, viz. $\neg \diamond(A \wedge C)$ viz. $\Box(A \rightarrow \neg C)$; but we expect here $\Box(\neg A \rightarrow \neg C)$. We should then emend it into *C quidem praeter A ... esse non possit*, transposing C and A (the CA-AC error) and emending *cum* to *praeter* (we shall call this the *cum-praeter* error). The *cum-praeter* error and *praeter-cum* error are very often committed in discussions of other modes (HH4, 5, 6, 7–9 (quoted in full in § 4.4 below), 10, 14):

HH4 $(A \rightarrow B) \rightarrow (\neg C \rightarrow \neg D)$; Migne 869B12–C4, Obertello 360.29–35
 ..., ut (Step 1) A quidem {^{err. cum/praeter}cum} B termino, {^{err. CD-DC}C autem
 {^{err. cum/praeter}cum} D} vel esse vel non |Ch50ra| esse possit;
 $\diamond \neg(A \rightarrow B) \wedge \diamond \neg(\neg A \rightarrow \neg B)$, which should be $\diamond \neg(A \rightarrow B) \wedge \diamond \neg(\neg A \rightarrow B)$,
 $\diamond \neg(C \rightarrow D) \wedge \diamond \neg(\neg C \rightarrow \neg D)$,
 ..., (Step E1) Homo (A) quidem praeter nigrum (B), inanimatum (C)
 vero praeter |E^r127r| album (D) |Sg477| esse et non esse potest; ...
 $\diamond \neg(A \rightarrow B) \wedge \diamond \neg(\neg A \rightarrow B)$, $\diamond \neg(C \rightarrow D) \wedge \diamond \neg(\neg C \rightarrow D)$
 (Note that the *cum-praeter* error is here committed only in Step 1).

HH5 $(A \rightarrow \neg B) \rightarrow (C \rightarrow D)$; Migne 869C8–15, Obertello 360.39–45
 ..., ut (Step 1) A {^{err. praeter-cum}praeter} B et C praeter D |V1193v| esse vel
 non esse possit;
 ..., (Step E1) Homo (A) |V^o157v| quidem {^{err. praeter-cum}praeter
 aegritudinem} (B), |K1111v| animatum (C) |W^x104va| vero praeter sanitatem
 (D) et esse et non esse potest; ...
 $\diamond \neg(A \rightarrow B) \wedge \diamond \neg(\neg A \rightarrow B)$ which should be $\diamond \neg(A \rightarrow B) \wedge \diamond \neg(\neg A \rightarrow \neg B)$,
 $\diamond \neg(C \rightarrow D) \wedge \diamond \neg(\neg C \rightarrow D)$

HH6 $(A \rightarrow \neg B) \rightarrow (C \rightarrow \neg D)$; Migne 869D5–11, Obertello 362.48–53
 ..., ut (Step 1) A {^{err. praeter-cum}praeter} B et {^{err. praeter-cum}C praeter D} esse
 vel non esse possit;

...; (Step E1) Homo (A) quidem {^{err. praeter-cum}praeter artificium} (B),
 animatum (C) vero {^{err. praeter-cum}praeter medicinam (D)} et esse et non
 esse potest; |Vx107r| ...
 $\diamond\neg(A\rightarrow B)\wedge\diamond\neg(\neg A\rightarrow B)$, which should be $\diamond\neg(\underline{A\rightarrow B})\wedge\diamond\neg(\neg A\rightarrow B)$,
 $\diamond\neg(C\rightarrow D)\wedge\diamond\neg(\neg C\rightarrow D)$, which should be $\diamond\neg(\underline{C\rightarrow D})\wedge\diamond\neg(\neg C\rightarrow D)$

HH10 ($\neg A\rightarrow B$) \rightarrow ($C\rightarrow\neg D$); Migne 870C2–8, Obertello 364.9–15
 ..., |Pw75v| ut (Step I) A quidem |Vy63v| praeter B, at vero C {^{err. praeter-}
^{cum}praeter} D esse <et non esse (addidi)> possit;
 ... (Step E1) Inanimatum (A) quippe praeter nigrum (B) et animatum
 (C) {^{err. praeter-cum}praeter album (D)} esse et non esse possunt; ...
 $\diamond\neg(A\rightarrow B)\wedge\diamond\neg(\neg A\rightarrow B)$,
 $\diamond\neg(C\rightarrow D)\wedge\diamond\neg(\neg C\rightarrow D)$, which should be $\diamond\neg(\underline{C\rightarrow D})\wedge\diamond\neg(\neg C\rightarrow D)$
 (Note that we should add <et non esse> in Step I, which is in Step E1)

HH14 ($\neg A\rightarrow\neg B$) \rightarrow ($C\rightarrow\neg D$); Migne 871B3–10, Obertello 368.46–53
 ..., ut (Step I) {^{err. AB-BA}A quidem praeter B} |Wx104vb| et C {^{err. praeter-}
^{cum}praeter} D esse |Ll169v| possint,
 ..., (Step E1) Inanimatum (A) quidem praeter ar|Va143r|tificem (B),
 animatum (C) vero {^{err. praeter-cum}praeter medicum (D)} esse potest; ...
 $\diamond\neg(A\rightarrow B)$, which should be $\diamond\neg(\neg A\rightarrow\neg B)$, viz. $\diamond\neg(B\rightarrow A)$,
 $\diamond\neg(C\rightarrow D)$, which should be $\diamond\neg(C\rightarrow\neg D)$

As for the relation between B and D, Steps 2 and E2 of HH15 use special expressions with additional remarks:

Step 2: *B vero atque D esse non possit*
 + *B vero atque D talia sint ut altero eorum negato alterum eorum esse necesse sit*
 Step E2: *sanum (B) etiam aegrum (D) simul esse non possunt*
 + *qui sanum negaverit, aegrum necesse est, itemque e diverso*

For, without the additional remarks, they are interpreted as $\neg\diamond(B\wedge D)$ viz. $\square(B\rightarrow\neg D)$; but with the additional phrases they are intended to mean $\square(\neg B\rightarrow D)$.

When the same kind of additional remark is necessary, it is sometimes added, but sometimes not (in the quotations below such remarks are underlined; I use (\emptyset) when it's omitted; HH9 is quoted in full in § 4.4):

HH5 $(A \rightarrow \neg B) \rightarrow (C \rightarrow D)$; *Migne 869C9–D2, Obertello 360.39–362.46*
 ...; (*Step 2*) sed A praeter C esse non possit, B atque D nunquam simul esse possint ita ut si alterum non sit, alterum esse necesse sit;
 ...; (*Step E2*) sed si /869D/ homo (A) sit animatum (C) esse ne/362/cesse est, *et si non sit aeger (B) sanum (D) esse necesse est*; ...

et - est om. *MxPyPzKøVaVlMzSgWxBEBrVoPxChFxFyKlPwBsVxObertello*
 $\square(A \rightarrow C), \square(\neg B \rightarrow D)$

HH10 $(\neg A \rightarrow B) \rightarrow (C \rightarrow \neg D)$; *Migne 870C3–10, Obertello 364.10–366.17*
 ...; (*Step 2*) sed $\{\text{err.AC-CA} A \text{ cum } C\}$, et B cum D esse non possit $|E_{r127v}|$
 \emptyset ;
 ...; (*Step E2*) sed $\{\text{err.AC-CA} \text{inanimatum (A) cum animato (C)}\}$, et nigrum (B) cum albo (D) simul esse non possint (\emptyset); ...
 $\square(A \rightarrow \neg C)$, which should be $\square(\neg A \rightarrow C)$ (so A cum C ... esse non possit (*Step 2*) should be emended to A atque C ... esse non possit with the additional remark; similarly for *Step E2*), $\square(B \rightarrow \neg D)$

HH13 $(\neg A \rightarrow \neg B) \rightarrow (C \rightarrow D)$; *Migne 871A6–15, Obertello 366.36–368.44*
 ...; (*Step 2*) A vero atque C et B atque D ita simul esse non possint, $|Pz48r|$ ut si alterum $|Vy64r|$ eorum non fuerit alterum esse necesse sit;
 ...; $|Kø71r|$ $|Ma \text{ finit}|$ (*Step E2*) irrationabile (A) vero atque rationabile (C) et aegrum (B) atque sanum (D) $|Pd166v|$ simul esse non possunt, si tamen alterum eorum non fuerit, alterum esse necesse est;
 $\square(\neg A \rightarrow C), \square(\neg B \rightarrow D)$

HH14 $(\neg A \rightarrow \neg B) \rightarrow (C \rightarrow \neg D)$; *Migne 871B4–12, Obertello 368.47–54*
 ...; (*Step 2*) sed A atque C simul esse non possunt ita ut cum alterum non fuerit alterum esse necesse sit, $|Fx77v|$ D vero praeter B esse non possit;

...; (*Step E2*) inanimatum (*A*) vero cum animato (*C*) non convenit (\emptyset),
 |Pw76r| et medicus (*D*) ab artifice (*B*) nullo modo separatur; ...
 $\square(\neg A \rightarrow C)$ (*Step E2* lacks the additional remark), $\square(D \rightarrow B)$ viz.
 $\square(\neg B \rightarrow \neg D)$

4.4 Omitting Step 2^{BD} and/or E2^{BD}

Discussions of HH3 and 7–9 form a group because they all contain Step 1^{CD}&2^{CA} and/or Step E1^{CD}&E2^{CA}. (By “Step 1^{CD}&2^{CA}” I mean that Step 1^{CD} and Step 2^{CA} are expressed in one sentence with a common subject (*C*) and predicate (*potest*). Similarly for “Step E1^{CD}&E2^{CA}”). The other steps in these discussions are different from each other, as is shown in Table 3 (the steps in which they differ from each other are underlined):

HH3	Step 1 ^{AB}	Step 2 ^{CA} &1 ^{CD}	Step E	Step E1 ^{AB}	Step E2 ^{CA} &E1 ^{CD}
HH7	Step 1 ^{AB}	Step 1 ^{CD} &2 ^{CA} , <u>Step 2^{BD1}</u>	Step E	Step E1 ^{AB}	Step 1 ^{CD} &E2 ^{CA}
HH8	Step 1 ^{AB}	<u>Step 1^{CD}, Step</u> <u>2^{CA}&2^{BD}</u>	Step E	Step E1 ^{AB}	Step E2 ^{CA} &E1 ^{CD} , <u>Step E2^{BD}</u>
HH9	Step 1 ^{AB}	Step 1 ^{CD} &2 ^{CA}	Step E	Step E1 ^{AB}	<u>Step E1^{CD}, Step</u> <u>E2^{AC}</u>

Table 3. A comparison between the argumentative steps in HH3 and 7–9

The full quotations of all these passages run as follows; they all contain {error}, a new type of error in addition to the *praeter-cum* error:

¹ In Migne and Obertello (and in many manuscripts), Step 2^{BD} of HH7 is Step 2^{BC}, reading: *B etiam cum C simul esse vel non esse non possit* ($\neg \diamond(B \rightarrow \neg C) \wedge \neg \diamond(\neg B \rightarrow \neg C)$). But Step 2^{BC} never otherwise appears, and so I emend it as Step^{BD}: *B etiam cum D simul esse non possit* ($\neg \diamond(B \rightarrow \neg D)$) with some manuscripts as evidence (cf. (iii) and (iv) in the *ap. cr.* of the HH7 quotation below).

HH3, $(A \rightarrow B) \rightarrow (\neg C \rightarrow D)$; Migne 869B2–9, Obertello 360.21–27
 Item tertiae propositionis tales terminos esse oportebit, ut (Step 1^{AB}) A
 praeter B esse possit, $(\diamond \neg(A \rightarrow B))$ (Step 2^{CA} & 1^{CD}) C vero vel cum A
 $\{\text{err. } \square/\diamond \neg \& \text{CD-DC}_{\text{vel}} |V_{y62v}| \text{ cum D}\}$ simulⁱ $|B_{r89vb}|$ esse non possit
 $(\square(C \rightarrow \neg A) \text{ viz. } \square(A \rightarrow \neg C), \square(C \rightarrow \neg D) \text{ which should be } \diamond \neg(\neg C \rightarrow D))$;
 (Step 3) quocirca evenit ut, si Aⁱⁱ posito fuerit B, negato $|B_{s75v}|$ C
 termino D esse necesse sit $((A \rightarrow B) \rightarrow (\neg C \rightarrow D))$, (Step E) ut, si sit A
 quidem animatum, B medicus, C inanimatum, D artifex. (Step E1^{AB})
 Animatum enim praeter medicum esse potest $(\diamond \neg(A \rightarrow B))$, (Step
 E2^{AC} & 1^{CD}) inanimatum $|K_{\theta 69r}|$ vero neque cum animato $|V_{b62r}|$ $\{\text{err.}$
 $\square/\diamond \neg \& \text{CD-DC}_{\text{neque cum artifice}}\}$ iungi potest $(\square(C \rightarrow \neg A) \text{ viz. } \square(A \rightarrow \neg C),$
 $\square(C \rightarrow \neg D), \text{ which should be } \diamond \neg(\neg C \rightarrow D))$; (Step E3) itaque, si cum
 animatum est medicus est, cum inanimatum non sit artifex est
 $((A \rightarrow B) \rightarrow (\neg C \rightarrow D))$. $|P_{z47v}||W_{z28r}|$

(i) simul] om. Va(a.c.)BePwVxMigne (ii) A posito] posito A Migne

HH7, $(A \rightarrow \neg B) \rightarrow (\neg C \rightarrow D)$; Migne 869D14–870A9, Obertello 362.55–
 64

Septimae propositionis hi termini $|870A/|$ suntⁱ, ut (Step 1^{AB}) A quidem
 $\{\text{err. praeter-cum praeter}\}$ B esseⁱⁱ possit $(\diamond \neg(A \rightarrow B), \text{ which should be}$
 $\diamond \neg(A \rightarrow \neg B))$, (Step 1^{CD} & 2^{AC}) C vero³ $\{\text{err. } \square/\diamond \neg \& \text{C-D-}\neg \text{CD}(\emptyset)\}$ neque cum
 D} neque cum A} esse possit $(\square(C \rightarrow \neg D) \text{ which should be}$
 $\diamond \neg(\neg C \rightarrow D))$, $\square(C \rightarrow \neg A) \text{ viz. } \square(A \rightarrow \neg C)$, (Step 2^{BD}) B etiam $\{\text{err. B-D-}$
 $\neg \text{BD} \& (\emptyset)\}$ cum Dⁱⁱⁱ} simul vel^{iv} esse $|V_{1194r}|$ vel^v non esse non possit
 $(\square(B \rightarrow \neg D) \wedge \square(\neg B \rightarrow \neg D), \text{ which should be } \underline{\square(\neg B \rightarrow D)} \wedge \square(B \rightarrow D))$;
 (Step 3) ita namque eveniet^{vi}, ut, si posito A esse B denegetur, negato C
 termino D sequatur $((A \rightarrow \neg B) \rightarrow (\neg C \rightarrow D))$, (Step E) ut si A quidem sit
 animatum, B sanum, C inanimatum, D aegrum. (Step E1^{AB}) Animatum
 quidem $\{\text{err. praeter-cum praeter sanitatem}\}$ et esse et non esse potest
 $(\diamond \neg(A \rightarrow B) \wedge \diamond \neg(\neg A \rightarrow B), \text{ which should be}$
 $\underline{\diamond \neg(A \rightarrow \neg B)} \wedge \diamond \neg(\neg A \rightarrow \neg B)$; (Step E1^{CD} & E2^{CA}) inanimatum $|V_{b62v}|$ vero
 neque cum animato $|P_{d165v}|$ $\{\text{err. } \square/\diamond \neg \& \text{C-D-}\neg \text{CD} \& (\emptyset)\}$ neque cum aegro}
 $|B_{s76r}||W_{z28v}|$ convenire potest $(\underline{\square(C \rightarrow \neg D)}, \text{ which should be } \diamond \neg(\neg C \rightarrow D),$
 $\square(C \rightarrow \neg A) \text{ viz. } \square(A \rightarrow \neg C)$; (Step E3) quo fit ut, si cum animatum est

sanum non^{vii} est, cum non sit inanimatum aegrum sit
 $((A \rightarrow \neg B) \rightarrow (\neg C \rightarrow D))$.

(i) sunt] sint $MxPzK\emptyset VIMzWxLdMa$ (ii) esse + et non esse $Pz*VIMzChPd$
 (iii) D Vy] C omnes ceteri Mss et $MigneObertello$ (iv) vel] om. $MxK\emptyset BeBr-$
 $VoPxChLlDrFxHyKlPwErVxPaBsVbLbWzMigne$ (v) vel non esse] om. $BeBr-$
 $VoPxLlDrFxHyKlPwErVxPaBsVbWzMigne$ (vi) eveniet] evenit $Migne$ (vii)
 non] om. $Obertello$

$HH8$, $(A \rightarrow \neg B) \rightarrow (\neg C \rightarrow \neg D)$; $Migne$ 870A10–B6, $Obertello$ pp. 362.64–
 364.74

Item octava propositio his terminis copulanda est, ut (*Step* I^{AB}) A
 quidem {^{err. praeter-cum}praeter} B terminum esseⁱ et non esse possit
 $(\diamond \neg(A \rightarrow B) \wedge \diamond \neg(\neg A \rightarrow B))$, which should be
 $\underline{\diamond \neg(A \rightarrow B) \wedge \diamond \neg(\neg A \rightarrow B)}$, (*Step* I^{CD}) *ii C autem cum D velⁱⁱⁱ non
 esse vel esse possit $(\underline{\diamond \neg(\neg C \rightarrow \neg D) \wedge \diamond \neg(C \rightarrow \neg D)})$; /364/ (*Step* $2^{AC,DB}$)
 sed A cum C et* D praeter B esse non possit $(\square(A \rightarrow \neg C), \square(D \rightarrow B)$ viz
 $\square(\neg B \rightarrow \neg D))$. (*Step* 3) Hoc enim pacto eveniet ut, si A $|K/111vb|$ posito B
 denegetur, denegato C termino D terminus non sit
 $((A \rightarrow \neg B) \rightarrow (\neg C \rightarrow \neg D))$, (*Step* E) ut si sit A $|Ld41r|$ animatum, B
 $ar/870B/tifex$, C inanimatum, D medicus. (*Step* EI^{AB}) Animatum enim
 {^{err. praeter-cum}praeter artificium} et esse et non esse potest
 $(\diamond \neg(A \rightarrow B) \wedge \diamond \neg(\neg A \rightarrow B))$, which should be
 $\underline{\diamond \neg(A \rightarrow B) \wedge \diamond \neg(\neg A \rightarrow B)}$, (*Step* $E2^{CA} \& EI^{CD}$) inanimatum vero
 neque cum $|Vo158r|$ animato {^{err. praeter-cum}neque cum medico} convenit
 $(\square(\neg C \rightarrow A)$ viz $\square(A \rightarrow \neg C), \square(\neg C \rightarrow D)$, which should be $\diamond \neg$
 $(\neg C \rightarrow \neg D)$, (*Step* $E2^{BD}$) medicus vero praeter artificium esse non
 potest $(\square(D \rightarrow B)$ viz $\square(\neg B \rightarrow \neg D))$, (*Step* E3) Unde evenit ut, si cum
 animatum est non sit artifex, cum non sit inanimatum non sit
 $me|Be58r|$ dicus $((A \rightarrow \neg B) \rightarrow (\neg C \rightarrow \neg D))$.

(i) esse et non esse] et esse et non esse $BeLdVoLlChDrPdFxHyErVxPa$, esse et
 non Bs (ii) *C - et*] C vero neque cum A neque cum D esse possit, sed $Migne$
 (iii) vel non esse possit] vel non esse possit vel esse $Va(a.c.)K\emptyset$, vel non esse
 possit vel esse $MxPzMzWxMa$

HH9, $(\neg A \rightarrow B) \rightarrow (C \rightarrow D)$; Migne 870B7–15, Obertello 364.1–7
 Nona propositio fiet, si (Step 1^{AB}) {^{err.} $\Box/\Diamond \neg$ & AB-BA A quidem atque B
 simul esseⁱ non possint} ($\Box(A \rightarrow \neg B)$ which should be $\Diamond \neg(\neg A \rightarrow B)$),
 (Step 1^{CD} & 2^{CA}) C vero {^{err.} $\Box/\Diamond \neg$ possit esse praeter D}, cum A vero esse
 non possit ($\Box(C \rightarrow D)$, which should be $\Diamond \neg(C \rightarrow D)$, $\Box(C \rightarrow \neg A)$); (Step
 3) tunc enim eveniet ut, si A denegato |V1194v| B esse consequitur, C
 posito D sequatur ($(\neg A \rightarrow B) \rightarrow (C \rightarrow D)$), (Step E) ut si sit A quidem
 inanimatum, B medicus, C animatum, D artifex. |Px74r| (Step E1^{AB})
 Inanimatum quippe {^{err.} $\Box/\Diamond \neg$ medicus esse non potest} ($\Box(A \rightarrow \neg B)$,
 which should be $\Diamond \neg(\neg A \rightarrow B)$), (Step E1^{CD}) animatum vero potest non
 esse artifex ($\Diamond \neg(C \rightarrow D)$), (Step E2^{AC}) {^{err.} $C \rightarrow A \rightarrow \neg AC$ or \emptyset : inanimatum vero
 atque animatum simul esse non possuntⁱⁱ} ($\Box(C \rightarrow \neg A)$ which should be
 $\Box(\neg A \rightarrow C)$); (Step E3) quo fit ut, si cumⁱⁱⁱ non est inanimatum medicus
 sit, cum sit animatum sit artifex ($(\neg A \rightarrow B) \rightarrow (C \rightarrow D)$).

(i) esse om. Vy (ii) possunt] possunt p.c. et possint a.c. Vl, possint
 PzKøVaVoPa, potest VyMigne (iii) cum] cum p.c. alia manu et quod a.c.
 PyVaVl, quod PzKøMzSgWxLdObertello, quidem Mx, siquidem cum Ll, om.
 Pa

4.5 Smaller Errors in CH and HC

So far, in § 4.1–3 above, I have indicated that discussions of HH commit four kinds of errors, viz. the XY-YX error (§ 4.1), the $\Box/\Diamond \neg$ error (§ 4.2), the *cum-praeter* error, and the “ \emptyset -error” (§ 4.3). Discussions of HH3 and 7–9 commit these four kinds of errors here and there, as I have indicated in the quotations above.

In discussion of CH and HC, on the other hand, these types of errors are almost never committed. An exception is found in Steps 2 and E2 of the discussion of CH3, where the *cum-praeter* error is committed:

CH3 $A \rightarrow (\neg B \rightarrow C)$; Migne 850B1–10, Obertello 280.2–9
 ...; (Step 2) C vero terminum talem esse oportebit ut possit quidem non
 esse si non fuerit B ($\Diamond(\neg B \rightarrow C)$),

...; (*Step E2*) sensibile (C) vero potest simul non esse $\{\text{err.}^{\theta}\text{cum inanimato}\}(B)$, ($\diamond(\neg CAB)$) viz. $\diamond\neg(B\rightarrow\neg C)$, which should be $\diamond\neg(\neg B\rightarrow C)$) possunt enim esse quaedam quae nec inanimata (B) sint nec sensibilia (C) ut arbores ($\diamond(\neg BA\neg C)$ viz. $\diamond\neg(\neg B\rightarrow C)$); ...

In discussions of HC,¹ there are two more cases where we need emendations:

HC2 ($A\rightarrow B$) $\rightarrow\neg C$; *Migne 853B14–C4*, *Obertello 292.22–26*
 ...; (*Step 3*) tunc tamen necesse sit <id quod A est> non esse C si A posito B sequatur; ...
 ...; (*Step E3*) tunc vero necesse est id quod animatum (A) est non esse equum (C), si id ipsum quod animatum (A) est homo (B) fuerit.
 $A\rightarrow B \vdash A\rightarrow\neg C$

Here <id quod A est> should be added in Step 3, as Step E3 says id quod animatum (A) est non esse equum (C).²

HC3 ($A\rightarrow\neg B$) $\rightarrow C$; *Migne 853C5–8*, *Obertello 292.27–29*
 ..., ut (*Steps 1&2*) A quidem $\{\text{err. cum-praeter cum}\} C^1$ vel esse vel non esse possit ($\diamond\neg(A\rightarrow\neg C)\wedge\diamond\neg(\neg A\rightarrow\neg C)$), which should be emended as indicated in ap. cr. below); (*Step 3*) tunc tamen necesse sit simul esse cum² C, si posito A termino B terminus abnuatur ($A\rightarrow\neg B \vdash \neg(A\rightarrow\neg C)$) viz. $A\rightarrow C$); ...

(1) C MxPy(a.c.)PzKøVlMzSgWxBrlDVoPwVxBsVb] `B et' C manu^{corr} add.
 Py, B et C VaPxLlPdFxKlWyErPaWzMigneObertello, C vel B Be, C et B Ch,
 B atque C FyVy, (cum B et C om. Dr), which should be emended to cum B et
 <praeter> C (2) cum] om. PyVa(p.c.)BeVoDrVxPaVb

¹ The discussion of HC ($(X\rightarrow Y)\rightarrow Z$) consists of the following steps: Step 1&2 it is possible that $\neg(X\rightarrow Y)$ and that $\neg(X\rightarrow Z)$, Step 3 only when $X\rightarrow Y$ holds, $Y\rightarrow Z$ necessarily holds ($X\rightarrow Y \vdash Y\rightarrow Z$).

² All the other discussions of HC use the expression *id quod x est non est y* to express $X\rightarrow\neg Y$, or simply revert to the normal *si*-clause: *si est x non est y*.

Steps 1&2 of HC3 most likely say *A quidem cum C ...* in the archetype, as it is the reading found in all the early manuscripts except *Py* and *Va*; but the step should mention the relation between A and B, too. Therefore *Py* later adds *A quidem cum <B et> C ...*, which is followed by *Va* and other later manuscripts, as well as by Migne and Obertello (see *ap. cr.* (1) above). However, the emendation of *Py* is not correct, since the emended version is interpreted as $\underline{\diamond\neg(A\rightarrow\neg B)}\wedge\diamond\neg(\neg A\rightarrow\neg B)$ and $\diamond\neg(A\rightarrow\neg C)\wedge\diamond\neg(\neg A\rightarrow\neg C)$, but the latter should be $\underline{\diamond\neg(A\rightarrow C)}\wedge\diamond\neg(\neg A\rightarrow C)$; in other words, the *cum-praeter* error is committed here. Therefore I propose to emend it as follows:

My emendation of Steps 1&2:

A quidem cum C et praeter B vel esse vel non esse possit

$(\underline{\diamond\neg(A\rightarrow\neg B)}\wedge\diamond\neg(\neg A\rightarrow\neg B), \underline{\diamond\neg(A\rightarrow C)}\wedge\diamond\neg(\neg A\rightarrow C))$

Step 3 says ... *nesesse sit (A) simul esse cum C ...*, which means $\square\neg(A\rightarrow\neg C)$. *Py* (so the hand which copies the main text, not *Py**, the hand making emendations) reads this phrase as *nesesse sit (A) simul esse C*, omitting *cum*; and this reading is followed by *Va(p.c.)* and a few later manuscripts (see *ap. cr.* (2) above), but not by Migne nor by Obertello. The reading of *Py* without *cum* must be a simple copying error, since we never find an expression of the form *x simul esse y* (without *cum*) elsewhere.

5. Conclusion

The emendations discussed in § 2 are all of the main ones, to my notice, that medieval scholars proposed to the corrupt readings of the archetype (apart from some little one-word emendations). All the important emendations were made in the eleventh century (cf. § 1–2). Later period emendations do occur, but they are not as important (§ 3). Finally, many erroneous readings were left unemended (§ 4).

The important emendations made in the eleventh century were first made by hands different from that copying the main text; for example,

exactly the same emendations are made in $K\theta^*$ and Py^* (cf. § 2.1 above), in $Py^*Va^*Vl^*$ (cf. § 2.4) and in $Py^*Pz^*Va^*$ (cf. § 2.9). It suggests that the emendations by $Py^*Pz^*K\theta^*Va^*Vl^*$ (all of which are dated around 1000 A.D.) are based on common exemplars lost now. There must have been at least two types of such exemplars, since in § 2.10 Pz^* offers one emendation, while Py^*Va^* offer another. There are other groups of emendations which are recorded only in later eleventh-century manuscripts; for example, one emendation first appears in Be^* (cf. § 2.12), another in $LdPz$ (cf. § 2.6 and § 2.10). Therefore, emendations were made, not at once, but in several steps during the eleventh century.

Later manuscripts sometimes follow those emendations, and sometimes do not; but no later manuscript has exactly the same set of emendations as an earlier manuscript—that is to say, no earlier manuscript can be the direct exemplar of a later manuscript. For example, the emendation in § 2.1 by $K\theta^*$ and Py^* is followed by $BeBrLdVoPx$ and all the manuscripts after the twelfth century, but none of the later manuscripts have all of Py^* 's emendations.

As a result, significantly different versions of Boethius' *De syllogismis hypotheticis* circulated in the late eleventh century and later. A commentary of the work (SH3¹) shows that different versions were, in fact, in circulation in the early twelfth century. SH3 comments on the passage discussed in § 2.9 above, as follows:

SH3 M f. 73v, O p. 101a, (neither S nor N covers this passage)

Idem si ex consequentia (260.6, 845C2). Postquam ostendit¹ in prima propositione fieri syllogismum per positionem antecedentis, vult ostendere non posse fieri syllogismum per positionem consequentis, {^Msic dicens: **Idem si proponamus ex consequentia primae propositionis id est si assumamus consequens primae propositionis ponendo**}, **nullus efficitur² syllogismus** secundum naturam consequentis.

(1) ostendit *O*, *om.* *M* (2) efficitur *M*, erit *O*

¹ For SH3, see p. 20, n. 2 above.

The part underlined $\{^M\}$ is the reading of *M* (München clm 14458); *O* (Orléans 266) reads instead:

SH3 O-version

Id enim (260.6, 845C2). Vere assumptio est a, consequitur ut sit b in conclusione, quia id ostenditur **ex consequentia primae propositionis** id est ex ea quae dicit 'si est a, est b.' Ab effectu.

¶ **Quod(!) si** (260.6, 845C3). Postquam ostendit in prima propositione fieri syllogismum per positionem antecedentis, ostendit non posse fieri nullum in prima propositione per positionem consequentis. Continuatio. Per positionem antecedentis bonus efficitur syllogismus. **Quod** id est sed **<si> ponamus** in assumptione consequentem partem syllogismi primae propositionis,

It is clear that SH3 (the *M*-version) originally reads this passage as beginning with **Idem si ex consequentia**, as in manuscripts *VlBeVoLlCh-DrFxErBs* (cf. *ap. cr.* (1) of Quotation 9); but the *O*-revisor of SH3 reads the passage differently: **Id enim ...**, as in manuscripts *Mx(a.c.)Py(a.c.)-Pz(a.c.)KøVaMzSgWxBrLdPxPdVxPaLbMaVyMigne* (cf. *ap. cr.* (1) of Quotation 9), and **Quodsi ...**, as in manuscripts *LdPxPdWyKlPaLbMaWz* (= Emendation 3 of Quotation 9).

In short, Boethius' *De syllogismis hypotheticis*, which reached the Middle Ages in a corrupted form, was emended in various ways by people in the eleventh century, with some corruptions remaining unemended. As a result, several different versions were in circulation when, in the late eleventh and the twelfth century, people began to comment on the text. We must take these facts into consideration when studying the commentaries and other relevant works of Peter Abelard and his contemporaries, since many issues become understandable only with this knowledge.

References

Primary Sources

- Abbo of Fleury. 1966. *Opera inedita 1: Syllogismorum categoricorum et hypotheticorum enodatio*, ed. A. Van de Vyver. Bruges: De Tempel.
- Abbo of Fleury. 1997. *De syllogismis hypotheticis*, ed. F. Schupp. Leiden: Brill.
- Anonymous. 2017. *Introductiones Montane maiores*, ed. by E. P. Bos and J. Spruyt. Louvain-la-Neuve: Peeters.
- Anonymous. 1967. *Introductiones Montane minores*, ed. L.M. De Rijk, *Logica modernorum: A Contribution to the History of Early Terminist Logic*, vol. 2, pt. 2, pp. 7–71. Assen: Van Gorcum.
- Boethius. 1847. *De syllogismo hypothetico*, in *Opera Omnia*, 831b–76c. *Patrologia Latina* 64. Paris: Migne.
- Boethius. 1969. *De hypotheticis syllogismis*, ed. L. Obertello. Brescia: Paideia.
- Boethius 2008a. *De syllogismo Categorico*, ed. C. T. Thörnqvist. Gothenburg: University of Gothenburg.
- Boethius. 2008b. *Introductio ad Syllogismos Categoricos*, ed. C. T. Thörnqvist. Gothenburg: University of Gothenburg.
- Gerland of Besançon. 1959, *Dialectica*, ed. L. M. De Rijk. Assen: Van Gorcum.
- Peter Abelard. 1970. *Dialectica*, ed. L. M. De Rijk. 2nd ed. Assen: Van Gorcum.
- William of Lucca. 1975. *Summa dialectice artis*, ed. L. Pozzi. Padua: Liviana.

Secondary Sources

- Gibson, M. T. et al. 1995–2010. *Codices Boethiani*. 4 vols. London: University of London Press.
- Iwakuma, Y. 1993. “The *Introductiones secundum Wilgelmum* and *secundum G. Paganellum*.” *Cahiers de l’Institut du Moyen-âge Grec et Latin* 63, pp. 45–114.

- Iwakuma, Y. 2003 "William of Champeaux and the *Introductiones*," in H. A. C. Braakhuis and C. H. Kneepkens, eds., *Aristotle's Perihermeneias in the Latin Middle Ages*, pp. 1–30. Artistarium Supplementa 10. Groningen: Ingenium.
- Lacombe, G. 1939–55, *Aristoteles Latinus: Codices*. 2 vols. Rome: La Libreria dello Stato / Cambridge: Cambridge University Press.
- Minio-Paluello, L. 1961. *Aristoteles Latinus: Codices. Supplementa altera*. Bruges: Desclée de Brouwer.
- Martin, C. 2004. "Logic," in J. Brower and K. Guilfooy, eds., *The Cambridge Companion to Abelard*, pp. 158–99. Cambridge: Cambridge University Press.