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New observations on the quilisma*: occurrence, position and function in northern Low Countries sources*

RENS TIENSTRA*

ABSTRACT. *The* quilisma *is a sign found in the earliest surviving notations of Gregorian chant. Since the 'chant restoration' of the nineteenth and twentieth centuries, the sign is included once again in all chant books, and poses an inevitable question of interpretation to those studying and performing chant. However, since medieval times, there has been considerable debate whether the sign denotes a particular method of voice production, a particular rhythmic value and/or an element in a melody's modal orientation. Chant manuscripts of the northern Low Countries (the northern half of the modern-day Netherlands), although not well known for their melodic content, point to highly interesting developments in response to a continually changing musical aesthetic. Likewise, these manuscripts offer new insights into the quality of the* quilisma*: the sign was widely used in the region up to the sixteenth-century Dutch Revolt, and for much longer than in the better-known square notation. Through analytical and comparative study, the sign's occurrence, position, development, relation to other signs and functions are clarified and presented in this article along with insights into its unique notational development.*

Introduction

The *quilisma* is a sign found in the earliest surviving chant notations. It is most often notated as a wavy shape, ending in a longer ascending stroke. It never occurs in isolation but always as part of a larger neume group; for example, a *quilisma-pes* or as the middle element of a *quilisma-scandicus*. With the rise of diastematic notation in the twelfth century, the sign gradually disappeared from a number of notational systems, such as the square notation used in the southern Low Countries. In the *hufnagel* notations of Germany and the northern Low Countries – named so for the resemblance of its notation to the nails (*hufnagel*) in horseshoes – the *quilisma* retained more or less the same shape as in the oldest notations, only gradually disappearing in the sixteenth century with the rise of printed music and the religious wars that devastated the region. Since the 'chant restoration' of the nineteenth and twentieth centuries, the sign is included again in all chant books.

Since the time of Aurelianus Reomensis (*fl. c.*840–50) and his description of the sign in *Musica disciplina*, sharply contradicting interpretations regarding the sign's quality and musical meaning have been proposed. A recent and comprehensive study of its

*renstienstra@hotmail.com

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notation history and the interchangeability with other neumes, as apparent in medieval theoretical descriptions, can be found in a publication by Constantin Floros.[1] An overview of theories of interpretation has been made by Franz Tack[2] and more completely by Walter Wiesli.[3] In summary, four groups of theories can be discerned: the *quilisma* as an 'ornamental sign' (trill, tremolo), a gliding tone (glissando, portamento), an indication of particular vocal quality, and a light transitional tone. Since the *quilisma* occurs throughout Gregorian chant of all ages and genres, the sign poses an inevitable question of interpretation – and consistency of interpretation – to those performing chant.

Northern Low Countries sources

As mentioned, the *quilisma* retained more or less the same shape in *hufnagel* notation, a type of chant notation that was common in different forms in central, northern and eastern Europe (with the exception of Hungary) and also in the northern Low Countries. This area, north of the river Rhine, coincided roughly with the historic (arch)diocese of Utrecht (695–1580); the region south of the Rhine belonged to several dioceses, in particular Liège and Cambrai. The far north around Groningen was part of the diocese of Münster, though the city of Groningen belonged to Utrecht. The see of Utrecht was located at St Martin's Cathedral (the Dom) in the city of Utrecht. The 'Utrecht connection' between manuscripts from the region can be found in the ecclesiastical organisation of their locations of use (e.g., churches founded by and/or in possession of Utrecht chapter churches, or chapter churches in a close relationship with Utrecht), their liturgical content (e.g., the Utrecht calendar of saints), musical notation (*hufnagel* notation on black lines) and/or styles of penwork decoration.[4] Some sources have headings such as *Graduale Trajectense* ('Utrecht Gradual') on their first pages, making clear the ecclesiastical focal point of the region.

Besides geographical and liturgical demarcations, manuscripts from the region share a chronological demarcation: the oldest (adiastematic) notations originating from the northern Low Countries date from the twelfth century. Chant performance and manuscript production came to a standstill some centuries later during the Dutch Protestant Reformation, which coincided with the Dutch War of Independence. These demarcations offer an attractive – and manageable – window for the study of chant and its possible developments within one region, the *quilisma* in particular. It occurs in all chant genres and all types of manuscripts, from the oldest surviving notations to those of the sixteenth century.

[1] Constantin Floros, *The Origins of Western Notation*, rev. and trans. Neil Moran (Frankfurt am Main, 2011), 71–85.
[2] Franz Tack, *Der gregorianische Choral*, (Das Musikwerk Vol. XVIII) (Cologne, 1960), 9ff.
[3] Walter Wiesli, *Das Quilisma im Codex 359 der Stiftsbibliothek St. Gallen* (Immensee, 1966), 1–19.
[4] Gisela Gerritsen-Geywitz, 'Veertiende-eeuws Utrechts penwerk', in *Manuscripten en miniaturen. Studies aangeboden aan Anne. S. Korteweg bij haar afscheid van de Koninklijke Bibliotheek*, ed. Jos Biemans, Klaas van der Hoek, Kathryn M. Rudy and Ed van der Vlist (Zutphen, 2007), 101–12.

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The *quilisma* in northern Low Countries sources

The *quilisma* in manuscripts originating from the region knows only one shape: that with two 'curls' (Figure 1).[5] In all sources, the *quilisma* is reached as a unison or higher pitch.

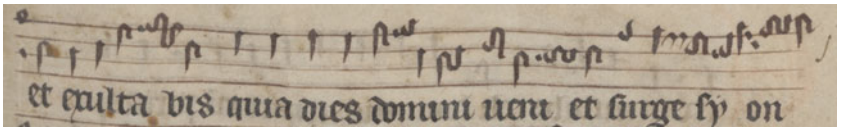


Figure 1. Utrecht, Universiteitsbibliotheek, 407, fol. 38r: *quilisma* on *exultabis*, *Domini*, *veni* and *Syon*.

To gain a precise notion of the *quilisma*'s nature in sources from the region, a comparative analysis of twenty-four manuscripts featuring *quilismas* was made (Table 1). Criteria for selection of the sources included in this analysis are that they were used in the northern Low Countries, that there is clear evidence of the location(s) where they were in use,[6] and that they contain a reasonable amount of chants for comparative analysis. The sample offers a cross-section of the entire region, with locations of use ranging from parish to chapter churches and monastic communities to knightly orders. Manuscripts are referred to here by their respective number in the first column of Table 1.

The broadest possible comparative analysis of these sources is possible through the chants of Eastertide: the majority of antiphoners are so-called summer antiphoners and a fair number of Mass Proper chants of Eastertide are included in such books. A total of 138 chants were chosen for the sample: fifty-three Mass Proper and sixty-six Office chants from Eastertide, together with seventeen Mass Ordinary chants. They are listed in Table A1 in the Appendix.[7]

Extent of *quilismas*

One way of gaining an idea of the extent of *quilismas* per source would be to simply count all the source's *quilismas* and divide this number by the number of chants

[5] For a comparison of the *quilisma* in St Gall, Stiftsbibliothek, 390 ('Hartker', which includes the 'three-curled' *quilisma*) and Utrecht, Universiteitsbibliotheek, 406, see Ike de Loos, 'German and Dutch Musical Notations in the Twelfth and Thirteenth Centuries', Ph.D. diss., University of Utrecht (1996), ch. 5. The conclusion is that Hartker's three-curled *quilisma* is not the same neume as that found in Utrecht, Universiteitsbibliotheek, 406, which is a *quilisma-pes* directly preceded by a unison *punctum*.

[6] For most sources, their origin and the location(s) of their use are undisputedly attested. A small number of sources have been moved from one church to the other, but this often concerned nearby towns or cities, still within the diocese; an example of this is ms. 6.

[7] These chants were entered into worksheets of the program Excel to enable searches and calculations. The transcription sheets can be found in the appendix of Rens Tienstra, 'Melodic Variation in Northern Low Countries Chant Manuscripts (1150–1600)', Ph.D. diss., Folkwang Universität der Künste, Essen (2020); the methodology is explained in chapter 3. Owing to size, they are not included in this article. They can be viewed freely online via the author's website: www.renstienstra.nl. In summary, each pitch is represented by a letter, ranging from Γ, a, b, c, etc. to q (following the alphabetic pitch system of the Antiphonary-Tonary-Missal of St Benigne, Dijon, Montpellier, Bibliothèque Inter-Universitaire, Section Médecine, H196), with the addition of special signs to indicate *quilisma* (*), *oriscus* (+), *liquescence* (#), *apostropha* (~) and *trigon* (!) among others. Different search functions are added to the totality of sheets.

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Table 1. Manuscripts selected for analysis

Ms. number	Siglum	Description	Location of use	Age
1	Utrecht, Universiteitsbibliotheek, 406	Ant.	Utrecht, St Mary's	1130–40
2	Utrecht, Universiteitsbibliotheek, 417	Seq.	Utrecht, St Mary's	13th c.
3	Haarlem, Noord-Hollands Archief, 184 C7	Grad./Seq.	Haarlem, Commanderij Jan Baptist	1300–50 (probably near mid-14th c.)
4	Utrecht, Universiteitsbibliotheek, 407	Ant.	Utrecht, St Mary's	2nd quarter or mid-14th c.
5	Den Haag, Koninklijke Bibliotheek, 76 D14	Not. miss./Seq.	Elden, parish church (near Arnhem)	1st half of the 15th c.
6	Utrecht, Catharijneconvent, BMH Warm 92 H1	Not. miss.	In use in Almkerk in South Holland, since *c*.1421 in Wijk near Heusden and Aalburg	Early 15th c.
7	Haarlem, Noord-Hollands Archief, 184 C2	Miss. (incipits)	Haarlem, St Bavo's	Early 15th c.
8	Utrecht, Universiteitsbibliotheek, 408	Ant.	Utrecht, St Mary's	Mid-15th c.
9	Utrecht, Universiteitsbibliotheek, 405	Not. miss.	Lopik, parish church (the church being property of Utrecht, St Mary's and St Salvator/*Oudmunster*)	Mid-15th c.
10	Deventer, Athenaeumbibliotheek, 11 L 2 KL	Not. miss.	Herwen, parish church	2nd half 15th c.
11	Utrecht, Universiteitsbibliotheek, 410	Ant. (summer)	Utrecht, St Mary's	2nd half 15th c.
12	Utrecht, Universiteitsbibliotheek, 411	Ant. (summer)	Utrecht, St Mary's	2nd half 15th c.
13	Utrecht, Universiteitsbibliotheek, 409	Ant.	Utrecht, St Mary's	1475–1500
14	Haarlem, Noord-Hollands Archief, 184 C5	Ant.	Zoeterwoude, St Lebuin's (served by Commanderij Jan Baptist in Haarlem)	1480
15	Haarlem, Noord-Hollands Archief, 184 C3	Not. breviary	Heemskerk, St Lawrence's (served by Commanderij Jan Baptist in Haarlem)	Late 15th c.
16	Leiden, Universiteitsbibliotheek, BPL 3683	Grad./Seq.	Amsterdam, St Agnes monastery	*c*.1480–1500
17	The Hague, Koninklijke Bibliotheek, 73 E8	Ant. (summer)	Rijnsburg, St Mary Abbey	15th c.
18	Brussels, Koninklijke Bibliotheek Albert I, II 3825	Grad./Seq.	Rijnsburg, St Mary Abbey	15th c.
19	Zutphen, Regionaal Archief Zutphen, 6	Ant. (summer)	Zutphen, St Walburga's	15th c. + add. from the 2nd quarter of the 16th c.
20	Amsterdam, Universiteitsbibliotheek, I A 8	Grad.	Utrecht, *Buurkerk*	1554

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21	The Hague, Koninklijke Bibliotheek, KW 1708 C 14 [1]	'Cantuale' (mostly ant.)	Leiden, St Pieterskerk	1564
22	Amsterdam, Universiteitsbibliotheek, C 17	Grad.	Amsterdam, *Nieuwe Kerk*	1571
23	Delft, Old-Catholic Parish, 'Cantuale Novum'	'Cantuale Novum' (mostly ant.)	Printed in Delft, finished in St Michael's monastery, Den Hem (near Schoonhoven)	Printed 1566, notation finished 1572
24	Utrecht, Universiteitsbibliotheek, 413	Grad./Seq.	Utrecht, St Mary's	15th c./early 16th c.

involved. However, this calculation would overlook the possibility that the sign occurs at differing rates within each chant category. Moreover, it would not make clear to what degree one source matches with or diverges from other sources in this study. So, a calculation of variation among and between manuscripts for the same melodic positions was added to the search in Excel sheets: a particular note (group) is only counted if at least one other source shows a variant for that particular position. To make clear the variation of a *quilisma*, a search was made for the concurrence of two variants:

- Variant 1 (concurring at the same positions as variant 2): two successive 'normal' notes of unspecified pitch; this two-note group may be part of a larger neume group.
- Variant 2 (concurring at the same positions as variant 1): two successive notes of unspecified pitch, of which the first is a *quilisma*; this two-note group may be part of a larger neume group.

The demarcation allows for the inclusion of the two-note variation *pes/quilisma-pes* as well as the larger note group variations *scandicus/quilisma-scandicus* and *torculus/quilisma-torculus*. An example of such variation between sources can be seen in Figures 2 and 3: in the highly 'quilismatic' ms. 9, *quilismas* are found on *Ecce virgo* and *eius E-ma-nuel*; in ms. 10, these are 'normal' notes. Ms. 10 only has the *quilisma* on *pariet* (*quilisma-scandicus*), which is set to 'normal' notes in ms. 9.

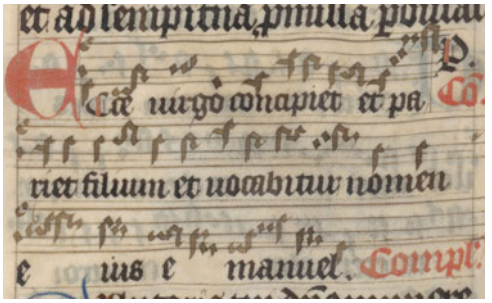


Figure 2. Utrecht, Universiteitsbibliotheek, 405 (Ms. 9), fol. 10v: communion chant *Ecce virgo*.

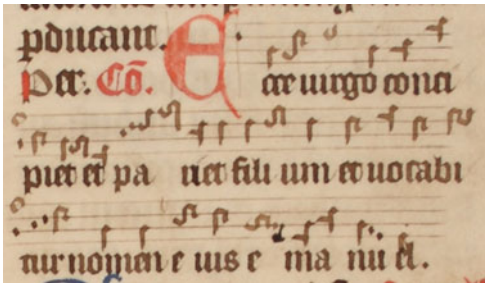


Figure 3. Deventer, Athenaeumbibliotheek, 11 L 2 KL (Ms. 10), fol. 14r: communion chant *Ecce virgo*.

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As illustrated by Figures 2 and 3, the melodic variation between manuscripts from the region always points to the 'substitution' of a *quilisma* for another note; no examples of variation with a *quilisma*'s position left 'unfilled' could be found.

The results of the Excel-based analysis are shown in Tables 2–5. The number of variants per source is translated into a percentage of the total number of positions found in that source. These percentages offer a direct overview of the 'quilismatic' nature of sources in question; they also make clear that some manuscripts are markedly more so than others. For example, in the Mass Proper category, ms. 3 is a clear 'unquilismatic' manuscript (97% variant 1), while ms. 9 is a relatively high 'quilismatic' source compared with contemporaneous manuscripts.

Table 2. Mass Proper chants

Ms. number	Var. 1		Var. 2	
3	255	**97%**	9	**3%**
3, older layer	0	**0%**	0	**0%**
5	308	**69%**	140	**31%**
6	297	**76%**	96	**24%**
8	143	**74%**	51	**26%**
9	311	**63%**	186	**37%**
10	303	**72%**	117	**28%**
10, older layer	33	**79%**	9	**21%**
12	150	**99%**	2	**1%**
13	92	**99%**	1	**1%**
14	73	**100%**	0	**0%**
15	118	**100%**	0	**0%**
16	285	**100%**	0	**0%**
16, older layer	125	**100%**	0	**0%**
18	186	**100%**	0	**0%**
18, older layer	45	**98%**	1	**2%**
19	49	**100%**	0	**0%**
19, older layer	16	**100%**	0	**0%**
20	58	**100%**	0	**0%**
22	135	**99%**	2	**1%**
23	0	**0%**	0	**0%**
24	269	**100%**	0	**0%**

The analytical results show that even in the use of a single sign, manuscripts from the same era and region can differ greatly, and different melodic traditions can be discerned. The gradual disappearance of the *quilisma* is apparent when comparing the oldest with the youngest sources (lowest to highest ms. nos. respectively). The differences in the manuscripts originating from Utrecht's influential chapter church of St Mary's (nos. 1, 2, 4, 11, 12, 13, 24) underline the possibility of chant evolution, even in the same location. Also note the differences in the *quilisma*'s frequency per chant category.

Position of the *quilisma* in northern Low Countries sources

A remarkable feature of the *quilisma* in the sources analysed is that its melodic position contrasts sharply with that known from the modern-day *Graduale Romanum* and other publications of Solesmes Abbey. In the *Graduale Romanum*, but likewise in Lorraine

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Table 3. Mass Ordinary chants

Ms. number	Var. 1		Var. 2	
1	14	**82%**	3	**18%**
2	234	**93%**	17	**7%**
3	358	**99%**	5	**1%**
3, older layer	52	**96%**	2	**4%**
4	37	**90%**	4	**10%**
5	432	**92%**	38	**8%**
6	380	**97%**	13	**3%**
7	45	**88%**	6	**12%**
9	398	**94%**	24	**6%**
10	429	**92%**	39	**8%**
10, older layer	20	**95%**	1	**5%**
15	16	**100%**	0	**0%**
16	374	**100%**	1	**0%**
16, older layer	73	**100%**	0	**0%**
18	269	**100%**	0	**0%**
18, older layer	34	**100%**	0	**0%**
20	456	**93%**	33	**7%**
22	459	**100%**	0	**0%**
24	429	**100%**	0	**0%**

Table 4. Office chants

Ms. number	Var. 1		Var. 2	
1	152	**59%**	106	**41%**
3	1	**100%**	0	**0%**
3, older layer	0	**0%**	0	**0%**
4	154	**64%**	85	**36%**
8	150	**67%**	73	**33%**
9	1	**100%**	0	**0%**
13	68	**91%**	7	**9%**
11	123	**87%**	19	**13%**
12	153	**91%**	15	**9%**
14	102	**100%**	0	**0%**
15	108	**100%**	0	**0%**
17	118	**98%**	3	**2%**
17, older layer	0	**0%**	0	**0%**
19	148	**99%**	2	**1%**
21	15	**100%**	0	**0%**
23	75	**99%**	1	**1%**

notations, the *quilisma* always occurs at the lower note of a semitonal position: *mi*, *si* and *la* below *si♭*. This position seems to add to the idea of a passing note leading to a stronger note, almost as a leading-note. In the manuscripts of the northern Low Countries, it is very rarely found at this position; the *quilisma* mostly occurs as the lowest note of a minor third position (*re*, *sol* (with *si♭*) and *la*). This is an important observation from the point of modal theory: in contrast to the 'passing notes' of the *Graduale Romanum*, the *quilisma* is just as often found on modally important pitches.

To gain a statistically grounded notion of the *quilisma*'s position with regards to pitch, all *quilismas* in the fifty-three Mass Proper chants were listed, comprising a

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Table 5. Sum of manuscripts featuring multiple categories

Ms. number	Var. 1		Var. 2	
1	166	**60%**	109	**40%**
4	191	**68%**	89	**32%**
3	614	**98%**	14	**2%**
3, older layer	52	**96%**	2	**4%**
5	740	**81%**	178	**19%**
6	677	**86%**	109	**14%**
8	293	**70%**	124	**30%**
9	710	**77%**	210	**23%**
10	732	**82%**	156	**18%**
10, older layer	53	**84%**	10	**16%**
12	303	**95%**	17	**5%**
13	160	**95%**	8	**5%**
14	175	**100%**	0	**0%**
15	242	**100%**	0	**0%**
16	659	**100%**	1	**0%**
16, older layer	198	**100%**	0	**0%**
18	455	**100%**	0	**0%**
18, older layer	79	**99%**	1	**1%**
19	197	**99%**	2	**1%**
19, older layer	16	**100%**	0	**0%**
20	514	**94%**	33	**6%**
22	594	**100%**	2	**0%**
23	75	**99%**	1	**1%**
24	698	**100%**	0	**0%**

total of 366 positions (Table A2 in the Appendix). (Proper chants were chosen to include two sources discussed in the next paragraph.) By numbering the frequencies of the *quilisma*'s pitch combinations, the *quilisma*'s position becomes clear (Figure 4).

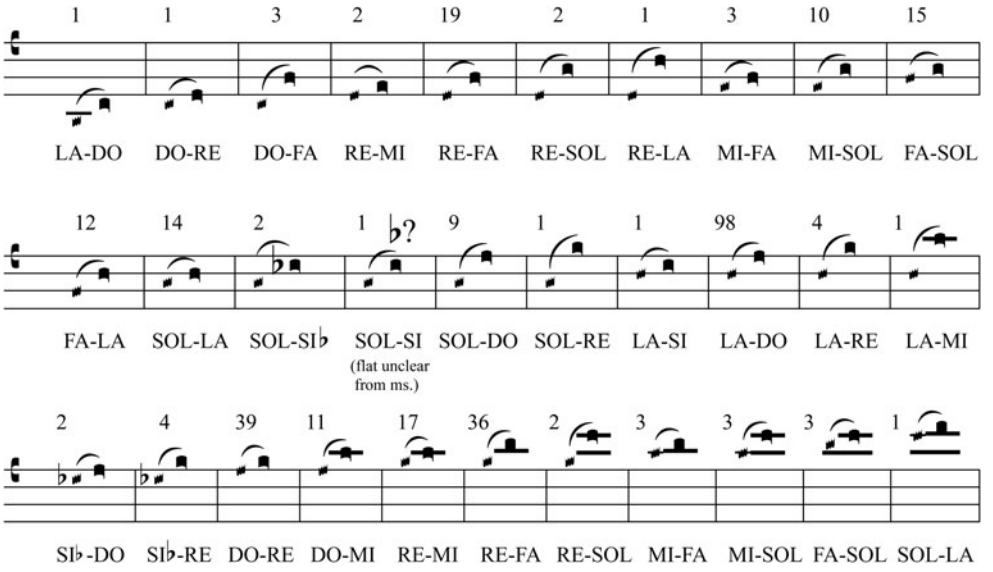


Figure 4. Frequency of the *quilisma* per pitch combination in fifty-three Mass Proper chants.

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As can be observed, the pitch combinations most often found are *la-do*, *re-fa* (minor thirds in the higher register of melodies) and the whole tone position *do-re*, which is echoed in other whole tone positions: *sol-la*, *fa-sol*, *re-mi* and *sol-la*. The quilisma is very rarely found on minor third positions with a semitone at its basis: *mi*, *si* and *la* below *si♭*.

The *quilisma* and melodic traditions

The story of chant in the northern Low Countries is one of many co-existing chant traditions. Two examples of such traditions (also included in Table A2) make clear that the differentiation also holds for the use of the *quilisma*.

One of the oldest manuscripts kept in the Netherlands is the missal from the Hellum parish church (Utrecht, Catharijneconvent, BMH h7) dating from the second half of the twelfth century or *c*.1200. Hellum, in the northern region, belonged to the exclave of the Münster diocese. The missal features detailed adiastematic notation of Mass Proper chants, which suggests a melodic tradition very much in line with that of the Utrecht diocese. Although it contains many *quilismas*, it also lacks at least ninety-four *quilismas* shared by the sources from the Utrecht diocese (see Table A2). The difference, which does not seem correlated to any particular type of *quilisma*, can be observed in almost every chant transcription table.

Another example of differentiation can be found in a fourteenth-century gradual belonging to the Commanderij Jan Baptist of the Knights Hospitaller of Haarlem (Haarlem, Noord-Hollands Archief, 184 C7). The knightly order, an 'import tradition', followed the so-called liturgy of the Holy Sepulchre, which is notable for a specific liturgical ordering and unique combinations of order-related and local feasts. Moreover, all the commandry's manuscripts feature different melodic traditions than those of other contemporaneous Low Countries sources. A comparison of *quilismas* makes clear that a further distinction can also be observed in this particular sign: the selection of Eastertide Propers contains comparatively few *quilismas* (only ten such moments in fifty-three chants) and apart from one unique *quilisma* on *mi-sol*, these all concern whole tone *quilismas*. This contrasts sharply with the degree of *quilismas* and the preferred minor third position in contemporary sources from the Utrecht diocese. A further exploration of the Hospitaller manuscript confirms this first impression – in fact, no further minor third *quilismas* were found at all.

More study could perhaps shed light on the *quilisma*'s favoured position per melodic tradition throughout Europe.

The whole tone *quilisma*: the exchange of *oriscus* and *quilisma*

It should be noted that a preference for specific positions of the *quilisma* does not wholly exclude other positions. As mentioned, all 'Utrecht' sources also contain examples of the sign as the lowest note of a whole tone – but only specific positions of whole tones. In the transcription tables of the 138 Proper chants under scrutiny, this became especially apparent in cadences ending with *do-re*, such as in *Haec dies* chants. In the oldest known notations of Gregorian chant, this is a

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position usually reserved for the *pes quassus* (two ascending notes of which the first is an *oriscus*).[8]

The phenomenon can partly be explained by a notational development of the apparently similar *oriscus* and *quilisma*. As pointed out by chant scholar Franz Karl Praßl, compared with the oldest surviving notations such as in the Hartker Antiphoner (St Gall, Stiftsbibliothek, 390–391), the neume called *oriscus* is often 'replaced' with a *quilisma* in younger notations.[9] This only seems to concern ascending neume groups that feature the *oriscus*, such the *pes quassus* and the *salicus* (three ascending notes of which the second note is an *oriscus*). The *oriscus* as part of a *descending* note group (the *pressus*) is never 'replaced'. A reverse development, with a *quilisma* as found in older sources being notated as an *oriscus* in younger sources, has not yet been observed.

This development is corroborated in northern Low Countries sources: ms. 1 is a good example. As chant scholar Ike de Loos pointed out in her dissertation on the manuscript,[10] the 'replacement' may be explained in part by developments in notational technique: however sophisticated the notational system of the manuscript, it does not contain the *pes quassus*; therefore, it seems 'logical' to replace this neume with the structurally similar *quilisma-pes*. The *salicus*, however, is nearly always found 'replaced' by a simple *scandicus* (three ascending 'normal' notes). De Loos explained the interchangeability by the suggestion that the difference in performance practice between *oriscus* and *quilisma* had disappeared during the centuries separating Hartker and the Utrecht antiphoners. It could therefore explain the *quilisma*'s occurrence outside its 'preferred' minor third position. Two phrases with an exceptional high quantity of the *pes quassus* may serve as example, as shown in Figures 5–8.

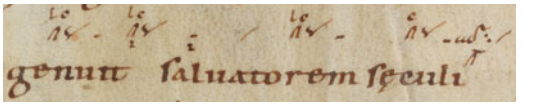


Figure 5. St Gall, Stiftsbibliothek, 390, p. 47: ending of *Beata Dei genitrix*.

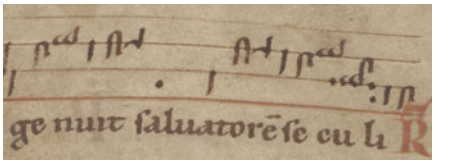


Figure 6. Utrecht, Universiteitsbibliotheek, 406, fol. 23r.

[8] In the oldest diastematic neume notations containing so-called 'East-Frankish' melodic traditions similar to the Utrecht sources (e.g., Klosterneuburg and Karlsruhe Badische Landesbibliothek Aug.LX), the *quilisma-pes* is almost exclusively positioned on minor thirds. Unlike the *quilisma-pes*, the *pes quassus* occurs more regularly in positions outside the minor third. In fact, it is regularly found at whole tone positions.

[9] Franz Karl Praßl, 'Beobachtungen zur adiastematischen Notation in Missalienhandschriften des 12. Jahrhunderts aus dem Augustiner-Chorherrenstift Seckau', *Cantus Planus. International Musicological Society Study Group: Papers Read at the Fourth Meeting, Pécs, Hungary, 3–8 September 1990* (Budapest, 1992), 31–54.

[10] de Loos, 'German and Dutch Musical Notations', 139.

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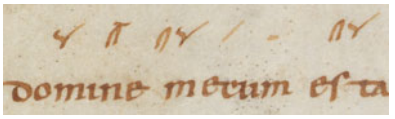


Figure 7. St Gall, Stiftsbibliothek, 390, p. 174: responsory *Contumelias et terrores*.

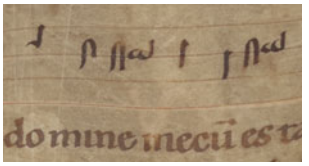


Figure 8. Utrecht, Universiteitsbibliotheek, 406, fol. 89v.

Function

The interchangeability of the *oriscus* for a *quilisma* draws attention to the *quilisma*'s function, which remains debated up to today. As described in great detail by Dom Eugène Cardine in his *Gregorian Semiology*, the *oriscus* of ascending note groups indicates a melodic tension towards the (higher) note 'of special importance' which follows.[11] The same interpretation is given for the *quilisma* of the *quilisma-pes* and *quilisma-scandicus* with compelling argument. The similarity of both signs' function seems corroborated by the development described in the previous paragraph.

Unknown so far is that a similar function is also suggested in some northern Low Countries sources, in particular ms. 9: the missal (with notation) Utrecht, Universiteitsbibliotheek, 405, once belonging to Lopik's parish church (*c.*1450) (Figure 9).[12] As could already be observed in Tables 2, 3 and 5, it features an abundance of *quilismas*: the sign is included in every possible position, ranging from the 'regular' minor third position to the more 'exotic' ascent of a fifth, and also in regular connection with liquescent neumes. Remarkably, its *quilismas* are found on positions where none of the oldest known chant sources (e.g., Einsiedeln, Stiftsbibliothek, 121) give such a neume.

Part of the missal's more uncommon *quilismas* can be explained on the basis of the aforementioned interchangeability of *oriscus* and *quilisma* in ascending neume groups. In line with Praßl's observations, the *oriscus* is still present in descending note groups (e.g., *nobis*, *angelus*). But a great deal of Lopik's quilismas seem odd in comparison with contemporaneous and older manuscripts, and cannot be explained on the basis of this interchangeability alone. After examining different scenarios, one type of neumatic phenomenon showed the most similarity to the *quilisma*'s use in the Lopik Missal: *initio debilis*.

[11] Eugène Cardine, *Gregorian Semiology*, trans. Robert M. Fowells (Solesmes, 1982), 184–214.
[12] The manuscript can be viewed online: https://dspace.library.uu.nl/handle/1874/333902.

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Figure 9. Utrecht, Universiteitsbibliotheek, 405, fol. 17v: introit, *Puer natus est*. Note that *quilismas* are written with upward strokes ('puer natus') and *strophae* with downward strokes ('est').

Initio debilis is best discernible at (and most associated with) the '*torculus initio debilis*': a *torculus* 'with a weak initial note', 'with a relative predominance of the last two notes'.[13] The phenomenon is only associated with the oldest neumatic notations.

[13] Cardine, *Gregorian Semiology*, 50.

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It can be detected very clearly in the famous Einsiedeln 121 (*c*.960–70) by its use of the 'excessive' *torculus and* the addition of *litterae significativae* (most often '*tenete*') (Figure 10).

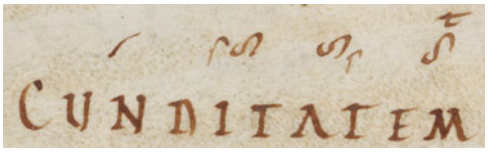


Figure 10. Einsiedeln, Stiftsbibliothek, 121, p. 258: two 'normal' *torculi* followed by a '*torculus initio debilis*' with '*tenete*' in the introit *Accipite iucunditatem*.

The earliest surviving neumatic sources from the northern Low Countries (such as the aforementioned Hellum Missal) give no suggestion of *initio debilis*. Owing to its clarity of notation, Einsiedeln 121 was used for comparison with the Lopik Missal (with only the clearest examples of '*torculus initio debilis*' selected for comparison). The results can be found in Table A3 in the Appendix. They show that every *initio debilis* in Einsiedeln on an intonation or mid-word syllable is given shape as a *quilisma* in the Lopik Missal; in short, all *torculi* that 'lead' to ensuing notes.

The positions concerning final syllables point to a markedly more mixed use of *quilisma*, the missal featuring a *quilisma-torculus*, a *pressus* (*major*), or a normal *torculus*. This can be explained by the phrases in question, since these are all melodic and/or textual *endings* where the melodic flow is rounded off instead of continued. At such points, the cadential *pressus* is usually the neume of preference.

The remarkable feature of the Lopik Missal is that the lower *debilis* note of first and mid-word syllables is given shape not by a regular note, but by a *quilisma*. Even more remarkable is the fact that this occurs in a fifteenth-century manuscript in *hufnagel* notation, while the phenomenon is only associated with the oldest known adiastematic neumatic sources. As far as it is known, *hufnagel* notations never include *initio debilis*, nor is there any sign associated with this phenomenon.

As a slight digression from the topic, the question could be asked if the 'Lopik style' should be considered a one-off flourish by an eccentric scribe, or a remnant of an older tradition, or perhaps a notational *attempt* to preserve something of an older performance tradition. It should be noted that the missals of Elden (ms. 5) and Almkerk (ms. 6) – two churches about 80 kilometres apart – are often in agreement with the *quilismas* of Lopik, especially those at less regular positions. This similarity is already apparent in Table 2. It is hoped more sources can be found to further study this phenomenon.

Initio debilis continued: the '*quilisma-tristropha*'

The idea of a *quilisma* indicating *initio debilis* may also explain the nature of two symbols of unknown significance encountered in a number of Low Countries sources.[14]

[14] In literature, I could only find it listed in 'The Neumatic Alphabet of NL-Uu406' in de Loos, 'German and Dutch Musical Notations', 91. De Loos only described it as a '*tractulus*-like neume', nothing more.

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Both symbols always appear as the first element of a *strophae* group. In the oldest Utrecht sources,[15] the symbol is a wavy horizontal line of two strokes, similar to a tilde (Figure 11).

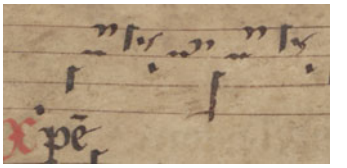


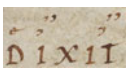
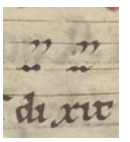
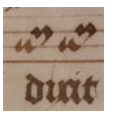
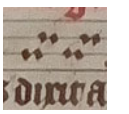
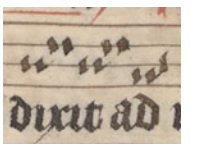
Figure 11. Utrecht, Universiteitsbibliotheek, 417, fol. 47r: three examples of the 'tilde', each time followed by two *strophas*.

Although its shape suggests a *tractulus* (usually a horizontal line indicating a lower note in a phrase) of some sort, the *tractulus* is not included in the neumatic alphabets of any of these sources, its role already being taken by the *punctum*. Moreover, *tristrophas* opening with a *punctum* can be observed in all manuscripts in question.

At similar positions as the unknown sign in Mass chants, the fifteenth-century graduals ms. nos. 5 and 6 feature a neume that looks like an isolated *quilisma* or a *distropha*.

So far, it has been unclear how many notes the sign indicates, and why it often occurs as the first lower element of a *tristropha* – a position reserved for either a *tractulus* or *stropha* in manuscripts throughout Europe. The idea of *quilisma* as an indication for *initio debilis* offers an explanation: the sign could be a *quilisma*, indicating a note of a passing nature, leading towards the notes that are emphasized by their repercussion. This idea is given argument by the fact that in late medieval sources, the symbol is notated in the same manner as the *quilisma* (as part of a larger neume), namely with two *upward* strokes. It thus results in a '*quilisma-tristropha*' (my terminology), which

Table 6. Examples of the '*quilisma-tristropha*' in the Christmas introit *Dominus dixit*

Einsiedeln, Codex 121	Utrecht, Catharijneconvent, ABM h62 (Miss. (winter part); Utrecht Cathedral; early 13th c.)	Ms. no. 5 (1st half of the 15th c.)	Ms. no. 6 (early 15th c.)	Ms. no. 9 (*c.*1450)
				

[15] Utrecht, Catharijneconvent, ABM h62; Universiteitsbibliotheek mss. 406 and 417. The sign was also found in the twelfth-century antiphoner fragments of Utrecht's St Paul's abbey (the oldest known diastematic notations from the northern Low Countries): E fol. 149 (pdf digitalisation: page 14, line 11, ending), responsory *Beata viscera*, on the word 'hodie'; in the same chant, it is perhaps also included in 'lactaverunt'. Furthermore, E fol. 68, resp. *Sancte Dei preciose* (pdf: page 19), melisma of 'collegio'.

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is not only remarkable for its composition, but also for its notation: although obviously part of a neume group, the quilisma is notated as an *isolated* element (Table 6).

The '*quilisma-tristropha*' is relatively rare in sources, and is most often observed in more melismatic chants. Table 7 shows a comparison of its use. As can be observed, the '*quilisma-tristropha*' does not occur in all sources: sometimes, only a *quilisma-pes* fills this position. However, the element important to the comparison – the *quilisma* – is nearly always present. This strongly suggests that both signs indicate a *quilisma*.

Table 7. Comparison of manuscripts with regards to the '*quilisma-tristropha*'

Chant	Syllable	Utrecht, Catharijneconvent, ABM h62	Ms. no. 5	Ms. no. 6	Ms. no. 9
All. Ostende nobis	tuum	q-tr	q-tr	(///)	(///)
Grad. Ex Sion	eius	q-tr	pes-bistropha	q-tr	q-pes
Grad. Ex Sion, V. Congregate	congragate	q-tr	q-pes	q-tr	pes
Grad. Ostende nobis, V. Benedixisti	domine	q-tr	q-tr	q-tr	q-pes
Grad. In sole posuit, V. A summo	caelo	q-tr	q-tr	q-tr	q-pes
Grad. Excita, V. Qui regis	intende	q-tr	q-tr	q-tr	q-pes
Off. Exulta satis	exulta	q-tr	pes	pes-bistropha	pes-bistropha
Intr. Hodie scietis	hodie	q-tr	pes-bistropha	pes-bistropha	q-tr
Intr. Dominus dixit	dixit (2 tristropha's)	q-tr	q-tr	q-tr	q-tr
Intr. Dominus dixit	hodie	q-tr	pes	q-tr	pes
Grad. Tecum principium, V. Dixit Domino	meo	q-tr	q-tr	q-tr	q-tr
All. Dominus dixit	hodie	q-tr	q-pes	q-tr	q-pes
Off. Deus enim firmavit	saeculo	q-tr	pes-bistropha	q-tr	pes-bistropha
Off. Deus enim firmavit, V. Dominus regnavit	domum	q-tr	(no verse)	(no verse)	(no verse)
Off. Tui sunt caeli, V. Magnus et	dominaris	q-tr	(no verse)	(no verse)	(no verse)
Grad. Exiit sermo	non	q-tr	pes-bistropha	q-tr (2x)	pes
Grad. Speciosus forma	diffusa	q-tr	(notes grouped otherwise)	q-tr	q-pes
Grad. Speciosus forma	gratia	q-tr (2x)	q-tr (2x)	q-tr (2x)	q-tr (2x)
Grad. Speciosus forma	labiis	q-tr	q-pes	Pes	q-pes
Grad. Speciosus forma, V. Eructavit	calamus	q-tr	q-pes	q-tr	q-tr
Grad. Speciosus forma, V. Eructavit	scribe	q-tr	q-tr	q-tr (2x)	q-tr (2x)
All. Vidimus stellam	eius	q-tr	(notes grouped otherwise)	q-tr	q-pes

(*Continued*)

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Table 7. Continued.

Chant	Syllable	Utrecht, Catharijneconvent, ABM h62	Ms. no. 5	Ms. no. 6	Ms. no. 9
Comm. Fili quid	ego	q-tr	q-tr	q-tr	q-tr
Grad. Angelis suis, V. In manibus	portavit	q-tr	q-tr	q-tr	q-tr
Tr. Qui habitat, V. Qui habitat	caeli	q-tr	pes-bistropha	pes-bistropha	pes-bistropha
Tr. Qui habitat, V. Cadent a	milia	q-tr	q-pes	q-tr	(‘mille’)
Tr. Qui habitat, V. Quoniam in	speravit	virga-bistropha	Pes	q-tr	q-pes
Tr. Qui habitat, V. Quoniam in	eum	q-tr	scandicus	scandicus	q-tr
Tr. Qui habitat, (V.) Longitudine	longitudine	pes-bistropha	pes-bistropha	q-tr	q-pes
Tr. Qui habitat, (V.) Longitudine	dierum	q-tr	Tr	virga-bistropha	q-tr
Tr. Qui habitat, (V.) Longitudine	meum	q-tr	q-pes	q-tr	q-pes

Note: q-tr = *quilisma-tristropha*; q-pes = *quilisma-pes*.

The ‘*quilisma-tristropha*’ is only found in manuscripts nos. 1, 2, 4, 5, 6 and 9 on ascents of a whole tone, minor third and fourth; it is suspected in the (somewhat crudely written) gradual Utrecht, Universiteitsbibliotheek, 413. It could not be found in any of the other manuscripts studied.

Conclusions

As stated by David Hiley, ‘it is true that sources are in general surprisingly uniform … even in the placing of such special features as quilismas. … But the agreement is general, not exact.’[16] This also holds for manuscripts from the northern Low Countries, even sources from the same location, as demonstrated by those from St Mary’s, Utrecht. The *quilisma*’s gradual disappearance from chant notation over the ages – a development that differed per notation system – could account for some of that variation. But the manuscripts from the northern Low Countries draw attention to other factors that influence quilismatic variation.

First, as could be observed in the *quilisma*’s occurrence in the Hellum Missal (of the Münster diocese) and the gradual of the Haarlem Knights Hospitaller, a further distinction in melodic traditions can also be observed in the use of this particular sign.

Second, the interchangeability of the *oriscus* for a *quilisma* in ascending note groups over the ages has added to the signs’ variation: a development also observed in northern Low Countries sources that corroborates Cardine’s observations on the function shared by both signs: ‘leading towards’ a following note of importance.

[16] David Hiley, *Western Plainchant: A Handbook* (Oxford, 1993), 385.

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Third, comparative analysis has demonstrated the possibility of the *quilisma*'s use to indicate *initio debilis* (a phenomenon so far unknown in *hufnagel* notation, let alone fifteenth-century chant notation). Consistent with this function, two signs of so far unknown significance, encountered as the first lower element of a *tristropha*, could be explained as a *quilisma*, thus realising a '*quilisma-tristropha*' with a first quilisma-note 'leading towards' notes that are emphasized by their repercussion. Both of these observations add further argument to the sign's function mentioned.

Lastly, this short study of the *quilisma*'s occurrence in northern Low Countries manuscripts is a demonstration of the musical wealth contained in these sources. It is hoped that many more discoveries may follow.

Appendix

Table A1. List of chants selected for analysis

Chant no.	Incipit	Feast	Genre	Mode
Mass Proper chants				
1	Resurrexi et adhuc tecum	Dom. Resurrectionis	I	4
2	Haec est dies quam fecit	Dom. Resurrectionis	G	2*
3	Confitemini Domino quoniam	Dom. Resurrectionis	G verse	2*
4	Alleluia (Pascha nostrum)	Dom. Resurrectionis	A	7
5	Pascha nostrum	Dom. Resurrectionis	A verse	7
6	Epulemur in azimis	Dom. Resurrectionis	A verse	7
7	Terra tremuit et quievit	Dom. Resurrectionis	O	4
8	Pascha nostrum immolatus	Dom. Resurrectionis	C	6
9	Introduxit vos Dominum	Fer. 2 p. Pascha	I	8
10	Dicat nunc Israel	Fer. 2 p. Pascha	G verse	2*
11	Alleluia (Nonne cor nostrum)	Fer. 2 p. Pascha	A	?
12	Nonne cor nostrum	Fer. 2 p. Pascha	A verse	?
13	Angelus Domini descendit	Fer. 2 p. Pascha	O	8
14	Surrexit Dominus et apparuit	Fer. 2 p. Pascha	C	6
15	Aqua sapientiae potavit	Fer. 3 p. Pascha	I	7
16	Dicat nunc qui redempti sunt	Fer. 3 p. Pascha	G verse	2*
17	Alleluia (Oportebat pati)	Fer. 3 p. Pascha	A	4
18	Oportebat pati	Fer. 3 p. Pascha	A verse	4
19	Intonuit de caelo	Fer. 3 p. Pascha	O	4
20	Si consurrexistis cum	Fer. 3 p. Pascha	C	7
21	Venite benedicti patris mei	Fer. 4 p. Pascha	I	7
22	Dextera Domini fecit	Fer. 4 p. Pascha	G verse	2*
23	Alleluia (Christus resurgens)	Fer. 4 p. Pascha	A	1
24	Christus resurgens	Fer. 4 p. Pascha	A verse	1
25	Portas caeli aperuit	Fer. 4 p. Pascha	O	8
26	Christus resurgens ex	Fer. 4 p. Pascha	C (also Resp)	8
27	Victricem manum tuam	Fer. 5 p. Pascha	I	8
28	Benedictus qui venit in	Fer. 5 p. Pascha	G verse	2*
29	Alleluia (In resurrectione tua)	Fer. 5 p. Pascha	A	8
30	In resurrectione tua	Fer. 5 p. Pascha	A verse	8
31	In die sollemnitatis vel	Fer. 5 p. Pascha	O	1
32	Populus aquisitionis	Fer. 5 p. Pascha	C	8
33	Eduxit eos Dominus	Fer. 6 p. Pascha	I	4
34	Lapidem quem reprobaverunt	Fer. 6 p. Pascha	G verse	2*
35	Alleluia (Dicite in gentibus)	Fer. 6 p. Pascha	A	8
36	Dicite in gentibus	Fer. 6 p. Pascha	A verse	8

(*Continued*)

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Table A1. Continued.

Chant no.	Incipit	Feast	Genre	Mode
37	Erit vobis haec dies	Fer. 6 p. Pascha	O	6
38	Data est mihi omnis	Fer. 6 p. Pascha	C	1
39	Eduxit Dominus populum suum	Sabbato in Albis	I	7
40	Alleluia (Haec dies quam)	Sabbato in Albis	A	8
41	Haec dies quam	Sabbato in Albis	A verse	8
42	Alleluia (Laudate pueri)	Sabbato in Albis	A	4
43	Laudate pueri	Sabbato in Albis	A verse	4
44	Sit nomen Domini	Sabbato in Albis	A verse	4
45	Benedictus qui venit in	Sabbato in Albis	O	8
46	Omnes qui in Christo	Sabbato in Albis	C	2
47	Alleluia (Surrexit pastor bonus)	Octava Paschae	A	4
48	Surrexit pastor bonus	Octava Paschae	A verse	4*
49	Quasi modo geniti	Octava Paschae	I	6
50	Mitte manum tuam	Octava Paschae	C	6
51	Alleluia (Angelus domini descendit)	Octava Paschae	A	8
52	Angelus domini descendit	Octava Paschae	A verse	8
53	Respondens autem angelus	Octava Paschae	A verse	8
Office chants				
54	Vespere autem sabbati quae lucescit	Dom. Resurrectionis	A	8
55	Alleluia quem quaeris mulier alleluia	Dom. Resurrectionis	A	5
56	Ego sum qui sum et	Dom. Resurrectionis	A	1
57	Postulavi patrem meum alleluia dedit	Dom. Resurrectionis	A	1
58	Ego dormivi et somnum coepi	Dom. Resurrectionis	A	8
59	Angelus domini descendit de caelo	Dom. Resurrectionis	R	3
60	Angelus domini locutus est mulieribus	Dom. Resurrectionis	V	3
61	Angelus domini locutus est mulieribus	Dom. Resurrectionis	R	5
62	Ecce praecedet vos in Galilaeam	Dom. Resurrectionis	V	5
63	Dum transisset sabbatum Maria Magdalena	Dom. Resurrectionis	R	4
64	Et valde mane una sabbatorum	Dom. Resurrectionis	V	4
65	Angelus autem domini descendit de	Dom. Resurrectionis	A	8
66	Et ecce terraemotus factus est	Dom. Resurrectionis	A	7
67	Erat autem aspectus ejus sicut	Dom. Resurrectionis	A	8
68	Prae timore autem ejus exterriti	Dom. Resurrectionis	A	7
69	Respondens autem angelus dixit mulieribus	Dom. Resurrectionis	A	8
70	Et valde mane una sabbatorum	Dom. Resurrectionis	A	8
71	Et dicebant ad invicem quis	Dom. Resurrectionis	A	8
72	Et respicientes viderunt revolutum lapidem	Dom. Resurrectionis	A	8
73	Nolite expavescere Jesum Nazarenum quaeritis	Dom. Resurrectionis	A	8
74	Alleluia resurrexit dominus alleluia sicut	Dom. Resurrectionis	A	5
75	Surrexit dominus vere alleluia	Fer. 2 p. Pascha	I	6
76	Maria Magdalena et altera Maria	Fer. 2 p. Pascha	R	8
77	Cito euntes dicite discipulis ejus	Fer. 2 p. Pascha	V	8
78	Surgens Jesus dominus noster stans	Fer. 2 p. Pascha	R	7
79	Videte manus meas et pedes	Fer. 2 p. Pascha	V	7
80	Expurgate vetus fermentum ut sitis	Fer. 2 p. Pascha	R	1
81	Non in fermento malitiae et	Fer. 2 p. Pascha	V	1
82	Qui sunt hi sermones quos	Fer. 2 p. Pascha	A	8
83	Videte manus meas et pedes	Fer. 3 p. Pascha	A	8
84	Congratulamini mihi omnes qui diligitis	Fer. 5 p. Pascha	R	3
85	Maria stabat ad monumentum plorans	Fer. 5 p. Pascha	A	7
86	Dixit Jesus mulier quid ploras	Fer. 5 p. Pascha	V	1
87	Undecim discipuli in Galilaea videntes	Fer. 6 p. Pascha	A	7
88	Data est mihi omnis potestas	Fer. 6 p. Pascha	A	8
89	Surrexit pastor bonus qui posuit	Sabbato in Albis	R	1
90	Currebant duo simul et ille	Sabbato in Albis	A	1
91	Cum esset sero die illo	Octava Paschae	A	1

(*Continued*)

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Table A1. Continued.

Chant no.	Incipit	Feast	Genre	Mode
92	Christus resurgens ex mortuis jam	Dom. Resurrectionis	R	1
93	Lux perpetua lucebit sanctis tuis	Suff. Om. Sanct. TP	R	1
94	Surrexit dominus de sepulcro qui	Dom. Resurrectionis	R	4
95	Vox laetitiae in tabernaculis justorum	Suff. Om. Sanct. TP	R	8
96	Post dies octo januis clausis	Octava Paschae	A	8
97	Tu solus peregrinus es et	Fer. 2 p. Oct. Pasch.	A	1
98	Thomas qui dicitur Didymus non	Fer. 2 p. Oct. Pasch.	A	1
99	Spiritus carnem et ossa non	Fer. 3 p. Oct. Pasch.	A	8
100	Mitte manum tuam et cognosce	Fer. 3 p. Oct. Pasch.	A	8
101	Quia vidisti me Thoma credidisti	Fer. 5 p. Oct. Pasch.	A	8
102	Multa quidem et alia signa	Fer. 6 p. Oct. Pasch.	A	6T
103	Haec autem scripta sunt ut	Sabb. p. Oct. Pasch.	A	8
104	Ego sum pastor bonus qui	Dom. 2 p. Pascha	A	3
105	Ego sum pastor ovium ego	Fer. 6 Hebd. 3 Pasc.	A	8
106	Alias oves habeo quae non	Sabbato 3 p. Pascha	A	6T
107	Modicum et non videbitis me	Dom. 3 p. Pascha	A	6
108	Dixit Jesus discipulis suis afferte	In tempore Paschae	A	8
109	Euntes docete omnes gentes baptizantes	In tempore Paschae	A	8
110	Vado ad eum qui misit	Dom. 4 p. Pascha	A	1
111	Ego veritatem dico vobis expedit	Fer. 4 Hebd. 5 Pasc.	A	7
112	Dicant nunc qui redempti sunt	Fer. 5 Hebd. 5 Pasc.	R	7
113	Quos redemit de manu inimici	Fer. 5 Hebd. 5 Pasc.	V	7
114	Adhuc multa habeo vobis dicere	Fer. 6 Hebd. 5 Pasc.	A	5
115	Cum autem venerit ille spiritus	Sabbato 5 p. Pascha	A	7
116	Usque modo non petistis quidquam	Dom. 5 p. Pascha	A	1
117	Petite et accipietis ut gaudium	Dom. 5 p. Pascha	A	8
118	Pater manifestavi nomen tuum hominibus	Ascensio Domini	A	6
119	Viri Galilaei quid aspicitis in	Ascensio Domini	A	7
120	O rex gloriae domine virtutum	Ascensio Domini	A	2
Mass Ordinary chants				
121	Kyrie I			8
122	Kyrie II			3
123	Kyrie IV			1 (trans.)
124	Kyrie V			8
125	Kyrie IX			1
126	Kyrie XI			1
127	Kyrie XIV			8
128	Kyrie XVIIIA			1
129	Sanctus IV			8
130	Sanctus VIII			6
131	Sanctus IX			5
132	Sanctus XV			2
133	Sanctus XVII			5
134	Agnus Dei IV			6
135	Agnus Dei X			4
136	Agnus Dei XV			1
137	Agnus Dei XVII			5
138	Agnus Dei XVIII			–



Figure 12. Alphabetic system of pitch names used in Table A2.

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Table A2. The *quilisma* in fifty-three Mass Proper chants

			'Münster' tradition	Knights Hospitaller tradition	'Utrecht' tradition							
			Utrecht, Catharijneconvent, BMH h7	Ms. 3	Ms. 5	Ms. 6	Ms. 8	Ms. 9	Ms. 12	Ms. 10	Ms. 13	Ms. 22
Chant no. (see Table A1)	**Syllable**	**Pitches (see Figure 12)**	2nd half 12th c. or *c.*1200	1300–50	1st half of the 15th c.	Early 15th c.	Mid-15th c.	Mid-15th c.	2nd half 15th c.	2nd half 15th c.	1475–1500	1571
1	resurrexi	df	x					x				
	resurrexi	df						x				
	et	df						x				
	adhuc	fg						x				
	sum	fg								x		
		fg						x				
	alleluia	df						x				
	alleluia	eg			x			x				
	posuisti	fg						x				
	posuisti	gh	x		x			x		x		
	super	(df)	x									
	manum	(df)	x									
	tuam	eg			x			x				
	alleluia	(df)	x									
	scientia	(fg)	x									
	facta	df			x			x				
	alleluia	df	x		x			x				
2	haec	hk			x	x	x	x		x		
	dominus	hk	x			x	x			x		
	ea	kl			x	x				x		
	ea[17]		x									
3	quoniam	(lm)	x									
		hk				x						
		kl	x	x								
	bonus	km			x	x		x				

(*Continued*)

[17] Unique melisma.

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Table A2. Continued.

			'Münster' tradition	Knights Hospitaller tradition	'Utrecht' tradition							
			Utrecht, Catharijneconvent, BMH h7	Ms. 3	Ms. 5	Ms. 6	Ms. 8	Ms. 9	Ms. 12	Ms. 10	Ms. 13	Ms. 22
	quoniam	kl		x								
	misericordia	hk			x	x		x				
	eius	kl								x		
	eius	kl	x					x		x		
	eius		x									
4	alleluia	hk				x				x		
	alleluia	(il)	x									
		hk			x			x				
		gk						x				
5	nostrum	kl			x					x		
	immolatus	pq		x		x						
		mp			x	x	x	x				
		il	x			x						
	christus	hk				x				x		
		hl			x							
6	epulemur	kl								x		
	epulemur	lo	x		x	x	x			x		
	in	(lo)	x									
	sinceritatis	lo					x					
	sinceritatis	lp			x	x						
	sinceritatis	lo			x							
	sinceritatisi	lo						x				
		kl						x				
		hk	x					x				
7	quievit	fh						x				
	dum	df						x				
	alleluia	fg						x				
	alleluia	eg			x			x				
8	pascha	fh			x	x		x				
	immolatus	(gh)	x									
	immolatus	(fg)	x									
	alleluia	fh						x				

(*Continued*)

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Table A2. Continued.

			'Münster' tradition	Knights Hospitaller tradition	'Utrecht' tradition							
			Utrecht, Catharijneconvent, BMH h7	Ms. 3	Ms. 5	Ms. 6	Ms. 8	Ms. 9	Ms. 12	Ms. 10	Ms. 13	Ms. 22
	itaque	df						x				
	alleluia	(df)	x									
	alleluia	(fg)	x									
	alleluia	gï	x		x	x						
9	vos	hk			x							
	et	hk						x				
	alleluia	(hk)	x									
	alleluia	fg						x				
	semper	(kl)	x									
	alleluia	fh				x		x				
10	dicat	hk					x					
	nunc	kl			x			x	x			
	quoniam	kl	x	x								
		lp						x				
		hk	x							x		
	bonus	km			x	x		x		x		
	quoniam	kl	x	x								
	misericordia	hk			x		x	x		x		
	eius	kl			x	x		x		x		
	eius	kl	x		x	x	x			x		
	eiusi		x									
11	alleluia	hk								x		
	alleluia	lo						x				
	alleluia	lm			x					x		
		lm				x		x				
		lm						x				
		lo		x[18]								
		lo			x			x		x		

(*Continued*)

[18] In oldest layer of notation.

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Table A2. Continued.

			'Münster' tradition	Knights Hospitaller tradition	'Utrecht' tradition							
			Utrecht, Catharijneconvent, BMH h7	Ms. 3	Ms. 5	Ms. 6	Ms. 8	Ms. 9	Ms. 12	Ms. 10	Ms. 13	Ms. 22
		ïk				x				x		
12	nonne	lo			x		x	x				
	cor	op						x				
	ardens	hk						x				
	erat	lo						x		x		
	ihesu	hk						x				
	dum	hk			x			x				
	nobis	lo					x	x				
	queretur	lm			x					x		
		lo			x							
		lo					x					
		lm			x	x				x		
		lm			x	x						
	in	hk						x				
	via	lo						x				
	via	lo				x						
		lm			x			x		x		
13	domini	hk			x			x				
		kl								x		
	descendit	ef			x	x		x		x		
		hk	x					x				
	de	(hk)	x									
	caelo	hk						x				
	dixit	eg			x	x						
	mulieribus	hk			x	x		x				
		kl								x		
	mulieribus	hk						x				
	queritis	fg			x							
	surrexit	gk				x						
		gh				x				x		
	sicut	(hk)	x									
	alleluia	hk	x			x						

(*Continued*)

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Table A2. Continued.

			'Münster' tradition	Knights Hospitaller tradition	'Utrecht' tradition							
			Utrecht, Catharijneconvent, BMH h7	Ms. 3	Ms. 5	Ms. 6	Ms. 8	Ms. 9	Ms. 12	Ms. 10	Ms. 13	Ms. 22
	alleluia	kl			x							
		hk						x				
		hk			x							
14	dominus	op	x		x							
	dominus	kl	x		x							
	apparuit	hl						x				
		lm	x									
	alleluia	hï				x				x		
		(hï)	x									
15	exaltavit	hk						x				
16	dicant	hk					x					
	redemit	lo	x		x	x	x	x		x		
	regionibus	hk			x	x	x	x		x		
		hk	x		x			x				
	congregavit	hk			x	x	x	x		x		
	eos	kl			x	x				x		
	eos	kl	x		x	x	x		x	x		
17	alleluia	df				x						
	alleluia	dh				x		x		x		
		df	x		x			x		x		
18	pati	(fg)	x									
	a	ac			x							
	ita	eg						x				
		gh	x									
	intrare	ef						x				
		de	x			x		x		x		
		df	x		x			x		x		
		df	x					x		x		
	suam	df			x							
19	intonuit	(gh)	x									
	caelo	gi/gï						x				

(*Continued*)

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Table A2. Continued.

			'Münster' tradition	Knights Hospitaller tradition	'Utrecht' tradition							
			Utrecht, Catharijneconvent, BMH h7	Ms. 3	Ms. 5	Ms. 6	Ms. 8	Ms. 9	Ms. 12	Ms. 10	Ms. 13	Ms. 22
	dominus	gï			x	x		x				
	dominus	eg						x				
	apparuerunt	ik/ïk	x		x					x		
	apparuerunt	gï			x							
	aquarum	gh						x				
	alleluia	gh	x									
	alleluia	gh	x									
	alleluia	eg			x			x				
20	si	gk	x			x		x		x		
	consurrexistis	gk			x			x				
	sursum	lo	x		x	x		x		x		x
	sursum	lo	x		x	x		x		x		x
	alleluia	(hk)	x									
	alleluia	hk						x				
		hk						x				
21	benedicti	lm	x					x				
	mei	(hg)	x									
	alleluia	(fh)	x									
	alleluia	(gh)	x									
	est	(lm)	x									
	ab	lo						x				
	origine	lo	x					x				
	mundi	lo			x			x				
	alleluia	ko						x				
22	domini	hk			x							
		hk			x	x						
		lo	x		x	x	x	x		x		
	fecit	lo	x		x	x	x	x		x		
		lo	x		x	x	x	x		x		x
	virtutem	lm						x				
	domini	hk			x	x		x		x		
		hk			x		x	x				

(*Continued*)

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Table A2. Continued.

			'Münster' tradition	Knights Hospitaller tradition	'Utrecht' tradition							
			Utrecht, Catharijneconvent, BMH h7	Ms. 3	Ms. 5	Ms. 6	Ms. 8	Ms. 9	Ms. 12	Ms. 10	Ms. 13	Ms. 22
	me	kl	x		x	x	x	x		x		
		hk						x				
		km			x							
23	alleluia	kl						x				
	alleluia	lo	x			x	x			x		
	alleluia	lm	x			x	x			x		
		lm	x				x			x		
		lo			x		x					
24	christus	kl					x					
	surgens	mo			x	x	x					
	mortuis	lo			x	x	x	x				
		lm					x					
	iam	hk						x				
	non	lo			x	x		x				
	mors	(mp)	x									
		lm	x		x	x						
	illi	lo					x					
	dominabitur	lo	x		x							
	dominabitur	lm	x		x	x	x	x		x		
25	dominus	hk						x				
	panem	km			x	x		x		x		
	illis	hk	x					x				
	angelorum	hk								x		
	alleluia	hk				x				x		
26	resurgens	kl						x				
	ultra	gi						x				
	dominabitur	il						x				
	alleluia	hm						x				
	alleluia	hk			x			x		x		
27	victricem	hk						x				
	domine	gk			x			x				

(*Continued*)

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Table A2. Continued.

			'Münster' tradition	Knights Hospitaller tradition	'Utrecht' tradition							
			Utrecht, Catharijneconvent, BMH h7	Ms. 3	Ms. 5	Ms. 6	Ms. 8	Ms. 9	Ms. 12	Ms. 10	Ms. 13	Ms. 22
	laudaverunt	hk								x		
	os	hk						x		x		
	mutum	hk								x		
		hk	x					x				
	linguas	hk						x				
	infantium	kl						x				
28	benedictus	hk								x		
	venit	hk						x				
		lm						x				
		lm						x				
		hk			x	x		x				
		lo	x		x	x		x		x		
	nomine	lo	x		x	x	x	x		x		
	domini	hk	x				x	x			x	
	dominus	hk			x	x	x	x		x		
		hk			x	x	x	x				
	illuxit	hk			x	x	x	x				
	nobis	kl	x		x	x						
	nobis	kl	x		x	x	x	x		x		
	nobisi	(kh)	x									
29	alleluia	hk								x		
30	resurrectione	hk					x					
	resurrectione	fg			x							
	christe	lo				x						
	et	gi						x				
	terra	hk			x							
	laetantur	hk				x				x		
31	solemnitatis	hk						x		x		
	vos	kl						x				
	fluentem	hk	x	x[19]		x		x		x		

(*Continued*)

[19] Different *pitches* than the other sources for a *quilisma* in the same position: [fg].

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Table A2. Continued.

			'Münster' tradition	Knights Hospitaller tradition	'Utrecht' tradition							
			Utrecht, Catharijneconvent, BMH h7	Ms. 3	Ms. 5	Ms. 6	Ms. 8	Ms. 9	Ms. 12	Ms. 10	Ms. 13	Ms. 22
		kl			x							
	et	kl						x				
	alleluia	hl						x				
		hk								x		
		hk			x			x		x		
		ik			x							
32	populus	hk						x		x		
	populus	hk	x			x						
	annuntiate	mp				x				x		
		mo				x						
	alleluia	fh						x				
	qui	gl								x		
	tenebris	lo			x			x		x		
	vocavit	op			x	x		x		x		
	vocavit	mp			x			x		x		
		mo			x			x				
	in	ko						x				
33	in	fg			x							
	alleluia	(gh)	x									
	alleluia	fh	x					x				
	mare	dg			x			x				
	alleluia	gh			x	x		x		x		
	alleluia	eg			x			x				
34	lapidem	kl				x				x		
	factus	kl			x	x						
	est	kl				x						
		ko			x		x					
		lo	x		x	x		x		x		
	anguli	km			x			x				
	anguli	hk	x		x			x				

(*Continued*)

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Table A2. Continued.

			'Münster' tradition	Knights Hospitaller tradition	'Utrecht' tradition							
			Utrecht, Catharijneconvent, BMH h7	Ms. 3	Ms. 5	Ms. 6	Ms. 8	Ms. 9	Ms. 12	Ms. 10	Ms. 13	Ms. 22
	a	hk						x				
	et	hl							x			
	mirabile	hk	x			x	x			x		
	oculis	hk						x				
	nostris	kl	x		x	x		x				
	nostris	kl			x		x	x		x		
		hk	x					x		x		
35	alleluia	kl						x				
		hk			x							
		hk								x		
36	dominus	dg				x						
		hk					x	x		x		
	dominus	hk						x				
	regnavit	gk			x	x		x				
	ligno	hk					x					
37	vobis	gk						x				
	memorialis	hk								x		
	alleluia	kl		x								
		gï			x	x		x		x		
	celebrabitis	hk						x				
	solemnem	hk								x		
	alleluia	hk				x				x		
		gh		x		x				x		
38	est	fh							x			
	potestas	cf								x		
	in	fh						x				
	alleluia	df	x		x		x					
	euntes	df					x					
	gentes	gh						x				
	baptizantes	gh						x				
	in	df						x				
39	dominus	km			x			x				

(*Continued*)

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Table A2. Continued.

			'Münster' tradition	Knights Hospitaller tradition	'Utrecht' tradition							
			Utrecht, Catharijneconvent, BMH h7	Ms. 3	Ms. 5	Ms. 6	Ms. 8	Ms. 9	Ms. 12	Ms. 10	Ms. 13	Ms. 22
	suum	lo			x			x		x		
	exsultatione	il				x				x		
	alleluia	fh			x			x		x		
40	alleluia	hk	x				x					
	alleluia	hk			x		x	x		x		
		gk			x			x				
41	haec	il			x			x		x		
	fecit	km			x		x	x				
	dominus	(ik)	x									
	dominus	hk	x		x					x		
	exsultemus	hk			x	x		x				
		hk			x							
	eai		x									
42	alleluia	gh			x	x		x		x		
43	laudate	gi/ï			x					x		
	pueri	gh	x			x						
	laudate	eg								x		
	domini	fh						x				
44	domini	hk						x				
		fh				x				x		
	benedictum	eg						x				
	saeculum	fh						x				
	saeculum	hk			x							
45	nobis	hk						x				
	domo	hk						x				
	deus	km						x				
	deus	hk	x					x				
	dominus	gk			x			x				
	alleluia	hk				x						
46	baptizati	cf						x				
	estis	cf				x						

(*Continued*)

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Table A2. Continued.

			'Münster' tradition	Knights Hospitaller tradition	'Utrecht' tradition							
			Utrecht, Catharijneconvent, BMH h7	Ms. 3	Ms. 5	Ms. 6	Ms. 8	Ms. 9	Ms. 12	Ms. 10	Ms. 13	Ms. 22
	christum	df	x					x		x		
	alleluia	fg	x		x			x				
47	alleluia	de	x		x	x				x		
48	surrexit	fg	x			x						
	pastor	fg				x						
	pro	hk						x				
		hi			x							
		kl				x						
	grege	hk	x		x			x				
	mori	ik	x					x		x		
49	geniti	hk						x		x		
		kl		x		x						
	alleluia	km						x				
	rationabiles	lo			x			x				
	dolo	hk						x				
	lac	hk				x		x				
	alleluia	km						x				
	alleluia	kl						x				
	alleluia	km			x			x				
50	mitte	fg	x							x		
	alleluia	(gï)	x									
	alleluia	(gk)	x									
	alleluia	gï			x							
51	alleluia	fg					x			x		
	alleluia	ef								x		
		hk			x			x		x		
52	angelus	cd								x		
	descendit	gh						x				
	accedens	fg				x						
	revolvit	df						x				
53	autem	gh						x				
	ihesum	df						x				

Table A3. Comparison of *initio debilis* in Einsiedeln 121 with *quilismata* in Utrecht 405

Chant	Word/syllable	Einsiedeln 121, page	Utrecht 405, folio
'*Initio debilis*', intonations			
Intr. Populus Sion	cordis	3	7v
All. Laetatus sum	dicta	3	7v
Off. Deus tu	tu	3	8r
Off. Confortamini	salvos	11	10v
Com. Ecce virgo	eius (incl. quilisma!)	13	10v
Com. Exultavit ut	eius	21	13v
Com. Revelabitur	revelabitur	24	15r
Com. Video caelos	et	36	19v
Intr. Sacerdotes tui	servum	44	
Com. Quis dabit	plebis	136	58v
Off. Si ambulavero	si	141	61v
Grad. Respice Domine	in (2)	158	71v
Com. Videns Dominus	mortuus	161	73v
Grad. Sepe expugnaverunt, V. Dicat nunc	Israel	165	75v
Com. Hoc corpus	calix	167	76r
Com. Hoc corpus	dicit	167	76r
Com. Memento verbi	quo	177	80v
Off. Benedictus es	superbis	178	80v
Off. Improperium expectavit	meum	184	92r
Off. Improperium expectavit	fuit	184	92r
Off. Improperium expectavit	quesivi	184	92r
Com. Erubescant et revereantur	simil	188	93v
Intr. Aqua sapientiae	exaltabit	212	122v
Intr. Venite benedicti	regnum	215	123v
Com. Data est mihi	gentes	222	126v
Intr. Dicit Dominus Ego	cogito	341	209v
'*Initio debilis*', syllables in the middle of words			
Intr. Dum medium silentium	silentium	48	21v
Com. Acceptabis sacrificium	oblationes	97	
Comm. Erubescant	erubescant	115	93v
Intr. Ego autem	respexisti	138	59v
Intr. Laetare	conventum	147	65v
Intr. Laetare	exultetis	147	65v
Off. Benedicite gentes	amovit	156	70v
Off. Factus est	firmamentum	162	74v
Intr. Judica me	exurge	164	92r
Intr. Miserere mihi Domine	confundar	178	80v
Intr. Judica Domine	exurge	186	92r
Intr. Judica Domine	adiutorium	186	92r
Grad. Exurge Domine	Dominus	187	92v
Com. Erubescant et revereantur	erubescant	188	93v
Intr. Resurrexi	alleluia (1)	206	120v
Intr. Introduxit vos	alleluia (2)	209	121v
Com. Si consurrexistis	consurrexistis	214	123v
Intr. Repleatur os meum	alleluia	259	144v
Com. Non vos relinquam	alleluia	261	147r
Intr. Iustus es Domine	misericordiam	327	197v
Off. Confessio	confessio	289	244v

(*Continued*)

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Table A3. Continued.

Chant	Word/syllable	Einsiedeln 121, page	Utrecht 405, folio	Sign used		
				quilisma-torculus	pressus	normal torculus
'*Initio debilis*' on last syllables						
Off. Deus tu	vivificabis	3	8r	x		
Comm. Jerusalem surge	jerusalem	4	8r		x	
Intr. Gaudete	domino	7	8v	x		
Intr. Gaudete	nihil	7	8v	x		
Intr. Gaudete	petitiones	7	8v	x		
Intr. Gaudete	vestrae	7	8v	x		
Com. Dicite pusillanimis	nolite	9	9v			x
Off. Confortamini	retribuet	11	10v	x		
Com. Ecce virgo	ecce	13	10v	x		
Com. Exultavit ut	currendam	21	13v	x		
Com. Exultavit ut	summum	21	13v	x		
Grad. Hodie scietis	salvabit	23	14v	x		
Off. Deus enim	deus	28	17r			x
Intr. Puer natus	nobis	30	17v		x	
Off. Tui sunt	tui	31	18v	x		
Intr. Etenim sederunt	domine	33	18v			x
Grad. Sederunt principes	sederunt	34	19r			x
Com. Video caelos	caelos	36	19v			x
Intr. Ego autem	oliva	37				
Intr. Ego autem	expectabo	37				
Com. Exiit sermo	moritur (1)	41	20v		x	
Comm. Vidimus stellam	adorare	52	23v	x		
Com. Qui meditabitur	dabit	95	36v			x
Comm. Erubescant	erubescant	115	93v	x		
Com. Passer invenit	reponat	134	57v			x
Intr. Salus populi	populi	140	60v	x		
Com. Jerusalem quae	cuius	150	66v	x		
Intr. Deus in nomine	tua	150	66v	x		
Intr. Deus in nomine	exaudi	150	66v	x		
Off. Expectans expectavi	immisit	152	68v	x		
Off. Benedicite gentes	posuit	155	70v	x		
Intr. Sicientes	aquas	161	73v	x		
Intr. Sicientes	bibite	161	74r			x
Com. Dominus regit	aquam	163	74r		x	
Intr. Miserere mihi Domine	miserere	168	76r	x		
Com. Domine convertere	animam	168	77r	x		
Grad. Exaltabo te	inimicos	172	78v	x		
Off. Improperium expectavit	quesivi	184	92r	x		
Com. Pater si potest	pater	186	92r	x		
Com. Erubescant et revereantur	erubescant	188	93v	x		
Off. Custodi me	manu	189	97v	x		
Tr. Eripe me, V. Qui cogitaverunt	constituebant	198	105r	x		
Intr. Resurrexi	posuisti	206	120v			x
Com. Si consurrexistis	christo	214	123v			x
Off. Portas caeli	dominus	216	124v		x	
Off. Portas caeli	angelorum	216	124v		x	
Com. Factus est	erant	257	141v			x
Intr. Accipite iocunditatem	deo	258	142v	x		
Intr. Scio cui credidi	scio	277	216r	x		
Intr. Inclina Domine	miserere	325	194v	x		
Off. Collegerunt pontifices	eum (1)	378	83r	x		
Ant. Vidi aquam	templo	392	119v	x		

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