Jan van Biezen and Kees Vellekoop

ASPECTS OF STROKE NOTATION IN THE GRUUTHUSE MANUSCRIPT AND OTHER SOURCES

In memory of Edward Stam

Edward Stam (21 June 1916 - 18 January 1980) devoted the last twelve years of his life to an intensive study of what is known as 'stroke notation'. He compiled the results of a seminar which he conducted for musicology students at the University of Amsterdam under the title *De muzieknotatie in het Gruuthuser Handschrift en verwante notaties in andere bronnen* (Musical Notation in the Gruuthuse Manuscript and Related Notations in Other Sources) (1979; unpublished). He presented the work to the authors of this article for the purpose of hearing their reactions, discussing the piece and working it into a doctoral dissertation. Due to his unexpected death these plans could unfortunately not be carried out.

While we were not always convinced by Stam's transcriptions of a large number of songs from the Gruuthuse Manuscript, they inspired us to look for other solutions. We publish the results of our continued research here in the awareness that we are indebted to Edward Stam for new insights.

The Sources

In 1913 Johannes Wolf published the first survey of the manuscripts known to him with songs in stroke notation (nos. 4, 6, 9 and 10 in the following survey). Since then a few more sources have been discovered. Edward Stam included them in his research, with the exception of nos. 7 and 11, which were not generally known to exist until recently. In listing the following sources, we limited references to secondary literature to those publications which have a bearing on notation and transcription. A complete list of titles can be found in the bibliography.

- 1. Ansbach, Regierungsbibliothek, Ms.lat. 161, ff. 29v-30v.³ Southern Germany, ca. 1406 (Messine notation).
 - 1 song.
 - Lit.: Wolf 1910, pp. 405-409; Jammers 1956, pp. 28-29; Schmidt 1956, p. 2.
- 2. Berlin, Staatsbibliothek Preußischer Kulturbesitz, Ms.germ.fol. 922, ff. 131r-134v.

Lower Rhine, 1410-1430.

12 songs.

Lit.: Lang 1941 (with transcriptions of all the songs by Müller-Blattau); Gennrich 1952, pp. 130-135 (with photographs of 1 song on f. 131r and 1 song on f. 131v); Jammers 1956, pp. 37-48.

3. Brussels, Koninklijke Bibliotheek, Ms. 15589-15623 (Hulthem Manuscript), f. 30v.

Ca. 1410.

2 melodies and fragments of 3 or 4 melodies.

Lit.: Wagenaar-Nolthenius 1969, pp. 61-67.

4. Darmstadt, Hessische Landesbibliothek, Ms. 2225, ff. 70r-71v.

1410.

5 songs.

Lit.: Wolf 1910, pp. 405-406, 409-416 (transcriptions), Taf. VI (photograph of f. 70r with 2 songs); Wolf 1913, pp. 178-181 (on p. 179 a photograph of f. 70r with two songs); Gennrich 1952, pp. 122-126 (with a photograph of 1 song on f. 70r); Jammers 1956, pp. 29-37; Jammers 1975, pp. 117-118 (photograph [Taf. 22] of 1 song on f. 70r and transcription).

5. The Hague, Rijksarchief, Inv.nr. 436 (the 'Pieter Potter' ms. in the 'Leen- en Registerkamer' of Holland), f. 54v.

The Hague, early 15th century.

1 song.

Lit.: Overmaat 1977, pp. 34-41; Stam 1977, pp. 42-47.

6. Koolkerke, Library of the Castle Ten Berghe (the 'Gruuthuse' Manuscript).

Bruges, 2nd half 14th century.

155 songs, 151 melodies.

Lit.: Lindenhurg 1955; Lindenburg 1956 (with photographs of ff. 27r and 33v on Taf. 42); Heeroma and Lindenburg 1966 (with photographs of the melodies on pp. 561-583); Van Biezen 1972; Lindenburg 1973; Jammers 1975a and 1975b.

7. London, British Library, Ms. Harley 1512, f. 2. 2nd half 15th century.

2 melodies.

Lit.: Bent and Bowers, 1981, p. 9.

8. Namur, Registers van het Schependom, reg. 5, f. 282v + reg. 6, f. 283r (3 songs); reg. 7, f. 240v (2 songs); reg. 8, on the fly-leaf attached to f. 200 (3 songs); f. 293v (1 song). Recorded by the clerk Noel de Fleurus after the county records of 1412-1423. 9 songs.

Lit.: Borgnet 1851, p. 78 (photograph of f. 293v); Montellier 1938 (photographs and transcriptions of all the songs).

9. Oxford, Bodleian Library, Ms. Digby 167, f 31v.

1450-1475.

3 melodies.

Lit.: Stainer 1901, Vol. I, plate XCVIII; Vol. II, p. 181; Wolf 1913, p. 181.

10. Rome, Biblioteca Angelica, Fondo antico 346, f 198v.⁴

ca. 1516.

1 song fragment.

Lit.: Carboni and Ziino 1982 (photograph); Wolf 1913, p. 181.

11. Saxilby-with-Ingleby, Parish of St. Botolph, 2 sheets.

Lincoln (?), 2nd half 15th century.

Two and four-part settings of Credo and Sanctus, entirely in stroke notation.

Lit.: Bent 1968, p. 149, note 17; Bent and Bowers 1981 (with photographs of the two sheets).

This survey reveals that stroke notation was used in many countries: the Netherlands, Germany, England and Italy. The Gruuthuse Manuscript is the only 14th-century manuscript and is in addition the source of the largest number of melodies in stroke notation; the other sources date from the 15th and early 16th century. In three sources we find only one song (cf. nos. 1, 5 and 10), in seven sources 2 to 12 (nos. 2, 3, 4, 7, 8, 9 and 11), in one source 155 (no. 6). To judge from the small number of melodies recorded in stroke notation, this type of notation did not enjoy great currency.

The question can arise as to why preference was given to such a rudimentary notation with strokes at a time when the mensural notation was, after all, so well developed. Was it perhaps a notation which could be read by non-specialized musicians?⁵ The wide geographical

distribution of the sources, of which no two contain the same song, seems to support this hypothesis. Yet it is not a system of notation in general use internationally and in principle every writer can apply his own method. One thing seems sure: this musical script is not suited for indicating complicated rhythms. From the rhythmically simple transcriptions made by a notation specialist like Johannes Wolf it is evident that he took this for granted.

The method of a writer can, of course, best be studied if researchers have at their disposal a large number of songs in a single source. Consequently it is understandable that the most attention has been given to the Gruuthuse Manuscript. But it is precisely in the interpretation of this manuscript that scholars have gone astray.

Many people have worked at deciphering this manuscript. Edward Stam's account of these attempts, in the study mentioned at the beginning of this article, can be summarized as follows.

The Musical Notations in the Gruuthuse Manuscript

The second part of the Gruuthuse Manuscript, the song-book section, contains 147 songs. Originally there were more, as two double sheets have disappeared. At the end of folium 21 one can still find the melody notation of the song which originally began on the following page, now lost. If there is a notation of a melody, it always precedes the text of the relevant song. This is why no melody has been preserved for two songs which began at the end of a lost page. In addition the musical notation was omitted in the case of five songs, although the staff had already been drawn for four of them. For two songs the melody was recorded in two versions. Only the last two songs include indications for text placement: the first letters of the lines of the first stanza are written in under the staff. Scattered through the third part of the Gruuthuse Manuscript, the poetry section, are eight more songs with musical notation. Due to cutting which took place during later rebinding, many melodies are no longer complete.

Three melodies are written entirely in mensural notation. But the remaining melodies, recorded in stroke notation, can contain signs taken from mensural notation: the concluding note of a melody is often written as longa; the melody of song 146 contains groups of three 'coloured', i.e. 'white' semibreves; minims as well as semibreve and minim rests appear here and there in the melodies.

In 1848 Charles Carton published a new edition of the Gruuthuse Manuscript under the title *Oudvlaemsche Liederen en Andere Gedichten der XIVe en XVe Eeuwen*. He understood the strokes in the musical notation to be 'mnemotechnical signs' and did not transcribe them.

Wolf was the first person to come with an interpretation of melodies in stroke notation (1913). In his article *Altflämische Lieder des 14./15. Jahrhunderts und ihre rhythmische Lesung* written in 1925, which deals with the Gruuthuse Manuscript, Wolf maintains that the strokes indicate the basic value ('Grundwert').

C. W. H. Lindenburg, in his article *Notatieproblemen van het Gruythuyzer Handschrift* of 1955, discusses the stroke notation in detail. This article leaves one with the impression that at this stage of his research Lindenburg, like Wolf, still assumed that the strokes signified an exact, uniform time value.

In the volume *Liederen en gedichten uit het Gruuthuse-handschrift* edited by K. Heeroma in 1966, Lindenburg wrote the chapter *Prosodie en melodie* and included a transcription of all the melodies from the song book. Here he appears as having distanced himself very decidedly from the rational presuppositions of Wolf and as striving instead for an 'inconsistent transcription with the initial and final notes, also in the cadenza sections, in principle long, and for the rest with frequent splitting, however an unforced matching of text and music may require'.

J. van Biezen reacted to this in his article *The Music Notation of the Gruuthuse Manuscript and related Notations* of 1972. On the basis of significant regularities in the melody notations of the Gruuthuse Manuscript, he concludes that this notation is not 'sketchy', and that the strokes represent semibreves in tempus imperfectum. Van Biezen leaves room for the possibility that the melodies also contain instrumental sections. In his article *Zerstreute Gruuthuser Melodien and ihre Übertragungsprohleme* of 1973 Lindenburg totally and on principle rejects the metrical interpretation of Van Biezen and goes even further in making a case for his 'inconsistent transcriptions'.

Van Biezen points out in his rebuttal that such transcriptions wrongly overlook the internal evidence of the Gruuthuse notation itself.

From Stam's study it appears that after first looking for other solutions he came to agree with the metrical interpretation of Van Biezen. The only thing which he adds to Van Biezen's theory is that, in view of the colour notation occurring in the three 'white' semibreves, the possibility has to be left open that, in addition to prolatio minor, prolatio major could also be intended. Of special significance for the interpretation of stroke notation is the connection Stam drew between two melodies recorded in strokes by Noel de Fleurus and mensurally written tenores of compositions for several voices. This provided further *external evidence* for the metrical view to which he and Van Biezen adhered.

This concludes our report of the findings of Edward Stam. In the following section we

want to take a new look at several aspects of stroke notation in the light of the sources now known.

Staves and Clefs

The melodies in the Gruuthuse Manuscript are as a rule written on a five or six-line staff which has no clef. We find six-line staves with nos. 22, 58, 106, 107, 120 and 125; the rest of the staves consist of five lines. The sixth line is added when the range of a song is such that notes appear above the fifth line; only in the case of no. 106 is the sixth line superfluous.

No. 120 has an f on the third line of the six-line staff and a c on the fifth line. On the five-line staff a c appears on the third line (alto clef) in no. 121, and in no. 122 we find an f on the second and a c on the fourth line (tenor clef).

In other sources with stroke notation we usually find either a four-line staff with the f on the second and the c on the fourth line, or a five-line staff with the tenor clef. The alto clef occurs only in a few instances. Empirical study also reveals that as a rule a tenor clef is tacitly assumed in the Gruuthuse Manuscript. In determining the clef intended (tenor or alto clef) we can also look at the relative frequencies of the notes of a given melody and relate them to the patterns of relative pitch frequencies typical of medieval melodies in the various modes.⁷

The Vertical Lines

In sources with stroke notation the text is almost never written under the melody. Just how the text had to be placed under the melody must have been a problem in the past as well, for lines were often added to indicate where a new sentence of the melody or of the text begins.

In the Gruuthuse Manuscript vertical lines can occur before the beginning and after the end of a melody; they can also indicate caesuras in a stanza, such as the beginning of a refrain. These lines usually cut across the entire staff.

Two shorter lines are generally drawn for a repeat sign. If the *Gegenstollen* has a different ending from the *Stollen*, the double line is placed after the ouvert and before the clos. We talk about an ouvert/clos situation if after the double line we find what is apparently a variant of the ending of the preceding phrase. Sometimes the single line can also have the function of a double line. The Gruuthuse manuscript is, in fact, not very consistent with its ouvert/clos indications. In other sources the lines seem to have the same function. The double lines in the Berlin manuscript, for example, separate the *Stollen* from the *Abgesang*. It is not possible to determine whether or not the double lines in the Brussels manuscript serve as a repeat sign

because there is no text present. They probably do, though, because in these manuscripts single lines are used to separate melody sentences. In the Berlin, Darmstadt, The Hague and Namur manuscripts even numbers of notes are separated by a line, the length of which depends on the height on the staff of the groups of notes on either side of the line. In those cases in which the number of notes between the two lines is uneven (for example 7), a doubling of the last note or the addition of a rest is the most obvious explanation.

In most cases the lines correspond to the lines of the text. Sometimes this is confirmed by ∇ signs under the staff, as in the second song on f. 70r of the Darmstadt manuscript (*Ich stand im Elend*) and in the Pieter Potter manuscript, as it is called, in The Hague.

Mensural Correspondences

In Oxford, Bodleian Library, Ms. Digby 167 contains on f. 31v the tenor *Quene note* in stroke notation and an accompanying cantus *Quene note* in mensural notation. There can be no doubt whatsoever here about what the strokes are intended to represent: they are imperfect semibreves, the rhythm is tempus imperfectum cum prolatione minore.



Edward Stam called our attention to two other instances in which it is possible to make a connection between stroke notation and mensural notation. The two tenores in stroke notation, La belle se siet⁸ and Mon cuer pleure⁹, are found in the city archives of Namur; they were written on blank pages in the county records by the clerk Noel de Fleurus. These same melodies appear as instrumental tenores in the three-part songs La belle se siet by Guillaume Dufay¹⁰ and Mon cuer pleure by Pierre Fontaine. In both cases a stroke appears to represent a semibreve; the rhythm is now tempus imperfectum cum prolatione maiore. The 'white' rhomb notes occurring here are apparently a simple instance of colour notation: they are imperfect semibreves, three of which make up a measure.



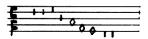








In connection with the latter piece Edward Stam points out that Fleurus begins the tenor as if there are two flats in the key signature, as is the case in Fontaine's piece, but that starting with a in the second measure he writes everything one note higher. "Has he forgotten that he started in two flats and is he proceeding as if he is now writing in a key without flats? The error is conceivable if we imagine how he solmizated: fa-fa-sol-re/la; he therefore placed the la on the la line usual in the 'empty' key and went on from there. More surprising, actually, is that he started with those two flats and that the first note was a b-flat; if he had begun with



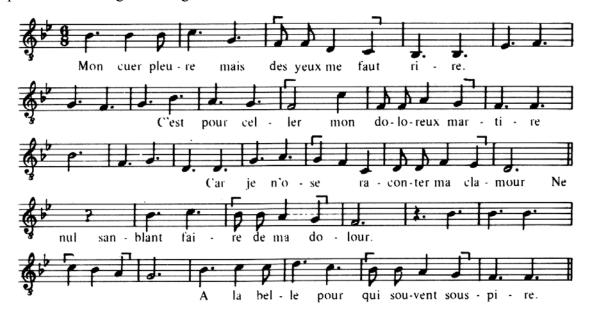
the mistake would not have been made. What I wonder is whether Noel was perhaps a member of a kind of collegium musicum and whether he was thinking of the tenor part which he had sung in an arrangement in two flats."

Instrumental Tenores?

But would the tenor written by Noel de Fleurus have been intended for singing? Edward Stam ventures the following tentative text placement.



In view of the symmetrical text underlay in Fontaine's cantus, alternating with passages without text which are apparently supposed to be executed instrumentally, we would rather expect the following rendering for the tenor.



We are of the opinion, however, that this tenor was never intended to be sung but was meant as an instrumental model against which a sung cantus can unfold. This can all be seen even more clearly in the tenor La belle se siet. Here every text placement of the tenor proves futile. For the middle section a placement

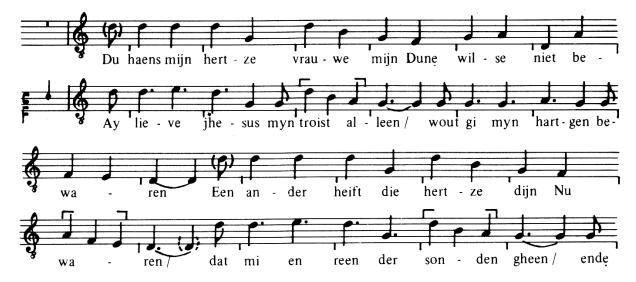


would be very plausible, but in the initial and final sections the abundance of words in the text would irrevocably destroy the structure of the tenor which in itself is rounded off to perfection. It should also be noticed that the first note of measure 7 and the corresponding measure 32 is simultaneously the final note of the preceding phrase and the first note of the following phrase, and that this remarkable feature is also given due consideration in the text underlay of the two canti by Dufay.

We believe that if, in the Gruuthuse Manuscript, we also come upon a convincing melody which resists a reasonable text placement, the possibility must be entertained that this melody was intended as an instrumental tenor in a composition for several voices.

Minim Upbeats

A comparison of melody 90 from the Gruuthuse Manuscript with the corresponding melody of *Ay lieve jhesus myn troist alleen* in the Utrecht Manuscript¹¹ reveals that the Gruuthuse notation fails to include minim upbeats in melodies which are meant to be sung, but apparently does tacitly assume their presence. In our transcriptions they appear in parentheses.





The time value of the minim upbeats is subtracted from the length of the final note in the preceding phrase. These upbeats can also derive their pitch from this note, but they can apparently also anticipate the succeeding note. Further investigation of rhythmical melody notations in the 14th, 15th and possibly 16th century might yield some indication of when the one and when the other is the case. We, of course, had to make a choice; it is an intuitive one, however, with no pretension of being more than just that.

Execution in Minims

Van Biezen (1972, p. 248) discovered in connection with song 27 of the Gruuthuse Manuscript, *Het soude een scamel mersenier*, that the text scheme matches the scheme of the

melody if every semibreve (every stroke) is assigned an arsis, therefore two syllables. The text is thus executed in minims. He found a second example in song 54 (unnoticed by Edward Stam, who came up with an ingenious 'color-talea' solution).

Text scheme: 4a 4a 4-b i 4a 4a 4-b | 4c 4c 2-d i 4c 4c 2-d.

Melodic scheme: 3 x 2 measures || 3 x 2 measures, ouvert || clos 2 measures longer.



A further indication for the possibility of execution in minims can be found in the double notation of the melody for *Eberli du bist so gar ein guter man*, in Darmstadt 2225 f. 70v. Edward Stam drew attention to the following: "Almost everything which was written as double strokes in the first version appears in the second version as single strokes, and the triple stroke on c' becomes a double stroke; but at the end of the first version was a single stroke which in the second appears as a double stroke. How could such a surprising mistake as was made in the first version have come about? In my opinion the reason can be found in the fact that the song as a rule splits up those semibreves into two minims and that the person who wrote it down the first time noticed only later that they were all splittings of one note. This immediately provides us with the correct text placement [...] The point at which three strokes are found in the first version and two in the second is precisely the moment at which the person who was making the notations became aware of his mistake."



What can also be inferred from the error mentioned above is that we are dealing here with an imperfect prolatio. For if the prolatio were *perfect* (syllables alternating the value of an imperfect semibreve and a minim), then the incorrect notation in the next longer values would not indicate, as they in fact do, an *imperfect* tempus (all syllables equal to the value of a semibreve).

Mixed Vocal-Instrumental Melodies

In 1977 Edward Stam published his interpretation of the German song *Wir willent vreulich singen ho* from the Potter manuscript. In his unpublished study of 1979, mentioned previously in this article, he describes how at that time he arrived at his transcription of this song, the melody of which is recorded in stroke notation, and how his ideas had changed since its publication. Of central importance was the interpretation of the 'coloured', i.e. 'white' semibreves. We would like to deal with this song briefly here because it contains indications about how it was to be performed. Five verse signs appear in the melody notation on the Potter sheet, which reveal that a mixed vocal-instrumental execution of the melody is intended. The number of melody lines marked with a verse sign correspond to the number of lines in the relevant song. The melody lines not marked with a verse sign are apparently intended for an accompanying instrument. Stam: "It therefore seems likely that Pieter Potter's guest was a German minstrel and singer who himself played the lute while he sang the song, with the exception of the instrumental intermezzos." In our opinion Stam would have found the following transcription acceptable.



In the case of the Gruuthuse melodies, too, we should not a priori rule out mixed vocal-instrumental executions. Nevertheless we do not want to go as far on this point as Van Biezen did in 1972.

SUMMARY

Stroke notation was used in many countries in the 14th and especially in the isth century. The sources contain no duplications, and they are not connected to centres of musical importance. It seems as if this simple kind of notation, which could be read by musicians who were not familiar with the complicated system of mensural notation, was invented again and again, each time independently. This is confirmed by the fact that – with the exception of some English sources from the second half of the isth century – the notation was used for one-part melodies of songs in the vernacular.

The rhythmic unambiguity of the notation was taken for granted by Johannes Wolf (1913 and 1925). From Edward Stam's study it appears, however, that in the 1950's people started trying too hard to find something behind the notation, particularly in the case of the Gruuthuse Manuscript. Reacting to Lindenburg's arbitrary interpretations of songs in this manuscript, Van Biezen (1972) maintained that every stroke has to be interpreted as a time unit equal to the semibreve in mensural notation. Stam later found corroboration for this theory in the mensural versions of songs which are also preserved in stroke notation. The recently published works for several voices from English sources, written entirely in strokes (Bent and Bowers 1981), remove all doubt on this point.

What the sources have in common is the use of strokes instead of notes. Differences can be found in the presence or absence of clefs, and in the use of single or double lines to separate sentences or to indicate an ouvert/clos.

If stroke notation was too limited to render a rhythmic figure, mensural notation could be used. Minim upbeats required by the text were not included in the notation, however, nor was a consistent splitting of basic values into repeating minims.

The placement of a text which is not written under the melody will very likely always be a point of discussion, particularly in the case of the Gruuthuse Manuscript, just as it is for the part songs of this time. Sometimes the text placement presents so many problems that the possibility must be entertained that instrumental preludes and interludes alternate with the sung text or even that melodies are intended as purely instrumental tenores of music for several voices.

In the examples presented below we have attempted to offer solutions for problematic songs; some of the examples are accompanied by an explanatory note.

Some Transcriptions of Gruuthuse Songs

Song no. 31¹²



Song no. 98

The famous Egidius song. We offer the following suggestion for text placement to replace the mixed vocal-instrumental interpretation given by Van Biezen in 1972.

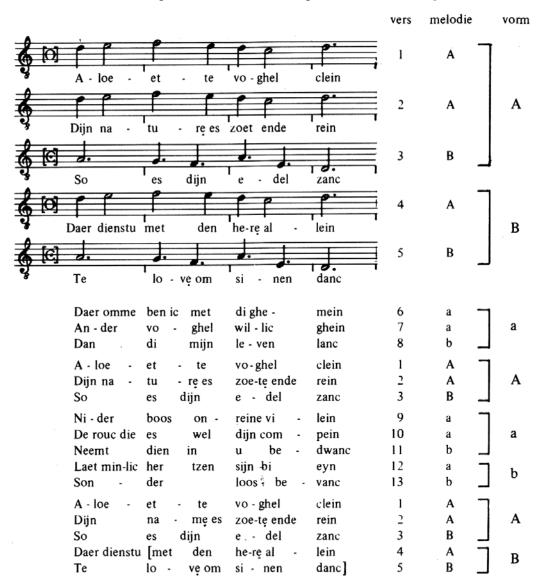




Song no. 125



Problematic, but not impossible, is the transcription of Aloeette voghel clein



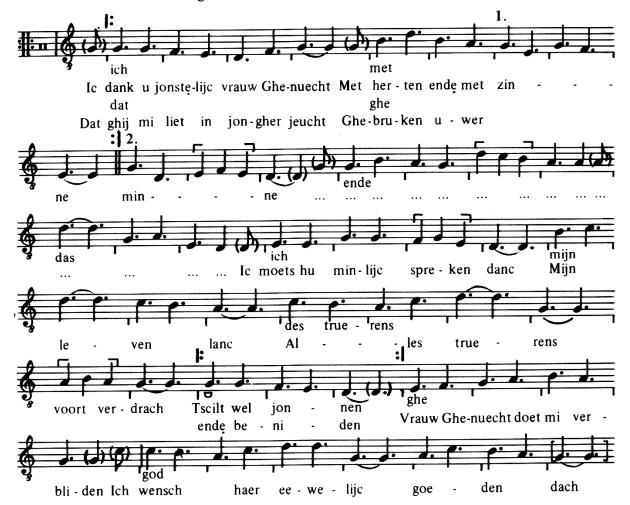
Only two melody segments are given for this long song. The obvious guideline for distributing the text over these segments A and B is to make a connection between the rhymes which occur in the song, *-ein* and *-anc*. The form of the song is reminiscent of a compound rondeau form:

The arrangement of the double strokes suggests a triple metre (tempus perfectum) for the melody of the *-ein* lines. The *-anc* lines can be interpreted also in terms of a triple metre, but this presents two difficulties: the text accents do not coincide with the musical accents, and the lines then comprise only three measures instead of four, thus disrupting the regularity of

the much more frequent four-measure phrases. It consequently seems that a better solution for these -anc verses would be to interpret them in duple metre, with measures equalling those of the triple metre. Therefore the tempus perfectum cum prolatione minore alternates with the tempus imperfectum cum prolatione majore. These two metres are not indicated in this song, but they are in song 120 (O and C). Another argument for this interpretation can be found in the fact that the -anc lines contain many fewer syllables than the -ein lines. 7, 8 or 9 syllables have to be spread over the 10 strokes of the -ein lines, whereas only 5, 6 or 7 have to be distributed among the 8 strokes of the -anc lines. Moreover, when there are 7 (in the fifth line) we find an instance of elisicn (love om), and when there are 5 (in line 13) 2 strokes at different heights even have to be joined (sonder). In the -ein lines elision is conceivable, but not necessary, in line 2 (natuere es) and line 4 (here alleyn).

Song no. 146

One of the two songs which include indications for text placement: the person who recorded the song inserted the first syllables of the lines under the melody, with the result that it is clear where the lines of the text begin.



- 1. J. Wolf, *Handbuch der Notationskunde* (Leipzig 1913), Vol. r, pp. 178-181. The manuscript 1619 in the Biblioteka Jagiellońska in Krakow, mentioned by Wolf on p. 181, we have had to leave out of consideration because it is written in a neume script which makes use of both strokes and groups of notes. Nor have we included the song, published by Wolf in 1910, from manuscript 2782 in the Hessische Landesbibliothek in Darmstadt because the notation displays mensural characteristics.
- 2. According to Bent 1968, p. 149 'simple stroke notation' is also found in the manuscripts London, BL Royal Appendix 56 and Cambridge, UL Ee.I.12. More detailed information is not available and we were not able to study these sources. Perhaps they should be added to our survey.
- 3. According to Wolf 1913: f. 28v.
- 4. Wolf 1913 incorrectly indicates f. 198r instead of f. 198v.
- 5. Cf. also Bent 1968, p. 149.
- 6. Van Biezen 1972, p. 232.
- 7. Van Biezen 1972, p. 241 ff.
- 8. *La belle se siet*: Register no. 8, f. 293v (following the county records of 1423). Montellier 1938, p. 21 (Planche VII: photograph), p. 36 (transcription).
- 9. *Mon cuer pleure*: Register no. 8(1421-I), f. 200. Montellier 1938, p. 19 (Planche VI: photograph), p. 30 (transcription).
- 10. J. van Benthem kindly informed us that a two-part version of *La belle se siet* appears already in Bologna, Biblioteca universitaria, MS. 2216, p. 104 (ca. 1400) and that only in Oxford, Bodleian Library, Ms. Can. misc. 213, f. 31 does the name of Dufay appear, and there in conjunction with the added third part.
- 11. *Het geestelijk lied*. . ., pp. 218-219.
- 12. With thanks to Jan Boeke (Amsterdam), who suggested to us the solution of the ouvert/clos.

BIBLIOGRAPHY

- M. BENT, New and Little-known Fragments of English Medieval Polyphony, in JAMS 21 (1968), pp. 137-156.
- M. BENT and R. BOWERS, *The Saxilby Fragment*, in Early Music History 1 (1981), pp. 1-27.

- J. VAN BIEZEN, *The Music Notation of the Gruuthuse Manuscript and related Notations*, in TVNM 22 (1972), pp. 231-251.
- J. BORGNET, *Les Passe-temps d'un greffier d'autrefois*, in Messager des sciences historiques, des arts, et de la bibliographie de Belgique, Ser. 5 (1851), pp. 65-79.
- F. CARBONI and A. ZIINO, *Una nuova testimonianza musicale per la 'Nuncia da Barberino'*, in Musica popolare e musica d'arte nel tardo medioevo (Palermo 1982), pp. 253-280.
- CH. CARTON, Oudvlaemsche Liederen en Andere Gedichten der XIVe en XVe Eeuwen (Ghent 1848).
- F. GENNRICH, Mittelalterliche Lieder mit textloser Melodie, in AfMw 9 (1952), pp. 120136.
- K. HEEROMA and C. W. H. LINDENBURG, Liederen en Gedichten uit het Gruuthuse-handschrift (Leiden 1966).
- Het geestelijk lied van Noord-Nederland in de vijftiende eeuw, edd. E. Bruning, Marie Veldhuyzen & Hélène Wagenaar-Nolthenius (Amsterdam, 1963). MMN 7.
- E. JAMMERS, Deutsche Lieder um 1400, in AcM (1956), pp. 28-54.
- E. JAMMERS, Aufzeichnungsweisen der einstimmigen ausserliturgischen Musik des Mittelalters (Cologne 1975a).
- E. JAMMERS, Die Melodien der Gruuthuse-handschrift, in TVNM 25 (1975b) pp. 1-22.
- M. LANG, Zwischen Minnesang und Volkslied: die Lieder der Berliner Handschrift germ. fol. 922. Studien zur Volksliedforschung, H. 1 (1941).
- C. W. H. LINDENBURG, Notatieproblemen van het Gruythuyzer Handschrift, in TVNM 17 (1955), pp. 44-86
- C. W. H. LINDENBURG, Gruythuyzer Handschrift, in MGG 5 (1956), cc. 990-991.
- C. W. H. LINDENBURG, Zerstreute Gruuthuser Melodien und ihre Übertragungsprobleme, in TVNM 23 (1973), pp. 61-74.
- E. MONTELLIER, Quatorze chansons du 15e siècle extraites des archives namuroises (Antwerp 1938).
- B. OVERMAAT, *Een drinklied in het Rijksarchief*, in De Nieuwe Taalgids 70 (1977), pp. 34-41.
- G. SCHMIDT, Die Musik am Hofe der Markgrafen von Brandenburg-Ansbach, (Kassel-Basel 1956).
- J. STAINER, Early Bodleian Music (London 1901).
- E. STAM, *De muzikale notities op het handschrift van Pieter Potter*, in De Nieuwe Taalgids 70 (1977), pp. 42-47.

- H. WAGENAAR-NOLTHENIUS, Wat is een rondeel?, in TVNM 21 (1969), pp. 61-67.
- J. WoLF, *Deutsche Lieder des 15. Jahrhunderts*, in Festschrift Liliencron (Leipzig 1910), PP⁻ 404-419.
- J. WOLF, Handbuch der Notationskunde (Leipzig 1913).
- J. WOLF, Altflämische Lieder des 14./15. Jahrhunderts und ihre rhythmische Lesung, in Kongressbericht Basel 1924 (Leipzig 1925), pp. 376-386.