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EVOLUTION OF NOTATIONAL PRACTICES IN
MANUSCRIPTS BETWEEN 1400 -- 1450.

The Ohio State University, Ph.D., 1974
Music

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EVOLUTION OF NOTATIONAL PRACTICES

IN MANUSCRIPTS BETWEEN

1400 -- 1450

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

Robert Davis Reynolds, Jr., B.M., M.M.

* * * * *

The Ohio State University

1974

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INTRODUCTION

The MS Oxford, Bodleian Library, Canonici Misc. 213 (Ox) is a central source for music of the early fifteenth century. Almost all of the music from it has been published in modern transcriptions. However, no thorough study of the notational problems in the manuscript has been made, and some of the modern transcriptions are inaccurate, misleading performers who may wish to delve into this rich source of late medieval and early renaissance literature.

Although a great deal is known and has been published about the notation of the music of the fourteenth century, much of this work is scattered in textbooks on notation or articles in journals. Few if any attempts have been made to bridge the gap between late fourteenth-century and early fifteenth-century music notation. It seems apparent that a new study of the notational problems from de Vitry through the early Dufay era is in order. Many of the problems of reading or transcribing the music of the early Dufay era into modern notation may be traced to the music of the middle or even early fourteenth century. At least many of the notational problems of the two centuries are similar.

As one scholar has written, "We need to gather evidence of the mensural practice of each of the principal composers, each of the principal publishers, perhaps each of the principal anthologies."¹ The Ox

¹Arthur Mendel, "Some Ambiguities of the Mensural System," in Studies in Music History, Essays for Oliver Strunk, edited by Harold Powers (Princeton, New Jersey: Princeton University Press, 1968), p. 153.

manuscript is one of the principal anthologies of music of the early fifteenth century. The mensural practice in this manuscript is transitional between the "classical" notation of Guillaume de Machaut in the mid-fourteenth century, along with the notational complexities of the late fourteenth century, and the proportional notation of the later fifteenth century.

Although Heinrich Bessler has done some preliminary work in this transitional period in his Bourdon und Fauxbourdon; Studien zum Ursprung der niederländischen Musik,² his pioneering efforts need to be carried out systematically and with broader coverage. Charles Hamm has studied the evolution in the use of mensural signs and other notational devices in the works of Dufay in A Chronology of the Works of Guillaume Dufay Based on a Study of Mensural Practice,³ but this work is weakest in its discussion of practices at the time Dufay began his career as a composer. These practices are widely represented in the music found in Ox.

However, Ox includes pieces earlier than any of the music of Dufay. Concordances with the MSS Chantilly, Musée Condé 564 (olim 1047) (Ch), and Modena, Biblioteca Estense, a. M. 5. 24 (olim 568) (Mod), indicate that the compiler of the Ox manuscript was familiar with the complex notational devices of the late fourteenth century. A review of the notation of fourteenth-century music, therefore, should place the notational practice in Ox in perspective. Such a review cannot attempt

²(Leipzig: Breitkopf & Härtel, 1950).

³(Princeton, New Jersey: Princeton University Press, 1964).

to cover all of the notational nuances, of course. It can only point out the accomplishments that continue to be useful and the problems for which later notational practice provides solutions.

By examining the notational innovations of Philippe de Vitry, one can see the starting point for the type of notation used by Machaut. Developments in Machaut's notation lead directly to the complex and often enigmatic notation of later fourteenth-century composers. That notation is then found in a number of the earlier pieces in the Ox repertory.

Certain pieces have been selected from early fourteenth-century manuscripts through the repertory of Ox to demonstrate both the development of notational practice and some of the problems that arise. Such problems range from an understanding of the relationship between note values to an understanding of the meaning of Latin canons, from a study of mensuration signs to a study of the meanings of proportional signs, coloration, and special note shapes. It is assumed that the reader knows the fundamental principles and procedures of mensural notation. There would be little point in duplicating the explanations of these principles and procedures that can be found in textbooks such as Willi Apel's The Notation of Polyphonic Music 900-1600.⁴ The purpose here is to examine the problems of mensural notation and their solution in modern transcription. It is hoped that an examination of these problems will shed new light not only upon the notational difficulties encountered by the transcriber and performer of early fifteenth-century music, but also upon the music itself.

⁴(Fifth edition; Cambridge, Massachusetts: The Mediaeval Academy of America, 1953).

CHAPTER I
THE EARLY DEVELOPMENT OF
FOURTEENTH-CENTURY
NOTATION

Philippe de Vitry

The development of French musical notation in the first half of the fourteenth century begins with the innovations that established the "classical" notation of Philippe de Vitry and Guillaume de Machaut. An outgrowth of this "classical" notation is the development of complex notational devices by a group of late fourteenth-century French composers whose works appear in such manuscripts as Ch and Mod. These complexities continue to be found to some extent in the MS Turin, Biblioteca Nazionale, J. II. 9 (Tu B), and in the earlier works of Ox. Thus the principles established by Philippe de Vitry form the basis for notational throughout the rest of the fourteenth, and well beyond the fifteenth century. These principles would have been learned and applied by composers and performers of the music preserved in Ox.

Philippe de Vitry's achievements are, themselves, refinements and expansions of the system of mensural notation described about a half century earlier by Franco of Cologne. Franco's explanation of note shapes and values, his codification of the rules of imperfection and alteration, as well as his establishment of a method of indicating note

values within ligatures, all form the starting point, the ground rules, for any musician from the late thirteenth through the late sixteenth centuries. Franco established rules only for longs and breves in the triple meters of the rhythmic modes, or perfect modus. He did not allow the imperfection of a breve by a single semibreve, only the replacement of a breve by two or three semibreves. To Petrus de Cruce is given the credit for using larger groups of four to seven semibreves in place of one breve. Although various theorists have given detailed and often contradictory explanations of how the notes within a grouping should be performed, the notes themselves are all written as semibreves in the musical sources.¹ It was Philippe de Vitry who established an organized system for interpreting the values of these semibreves, a system that soon led to the introduction of a smaller note value, the minim. De Vitry applied Franco's rules for modus to the relations of breve and semibreve, thereby defining perfect tempus, and to the relations of semibreve and minim, thereby defining perfect prolation. In addition, de Vitry placed imperfect mensurations, which were unknown to Franco, on a par with perfect mensurations at all note levels. It is particularly these innovations of de Vitry that deserve attention. A performer would have had to know them to read the earliest works of de Vitry, including his motets in the MS Paris, Bibliothèque Nationale, f. fr̄cs. 146, the Roman de Fauvel (Fauvel).

¹A summary of opinions by various theorists, including the opinions of the scholars J. Wolf and F. Ludwig, with two tables of rhythmic organization, is given in Willi Apel, The Notation of Polyphonic Music 900-1600 (Cambridge, Mass., 1953), pp. 320-23; see also p. 339n. A simplified explanation is also given by Carl Parrish in The Notation of Medieval Music (New York: W. W. Norton & Co., Inc., 1959), p. 133.

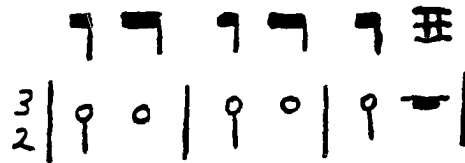
De Vitry's motets in the Roman de Fauvel appear to be in the post-Franconian notation of Petrus de Cruce, with groups of semibreves separated by dots of division, breves, or the ligature cun opposita proprietate (c.o.p.). These semibreves are to be read according to de Vitry's directions in the Ars Nova. Two of the five motets in Fauvel that are now attributed to de Vitry are mentioned in his treatise. They are Firmissime fidem teneamus--Adesto, sancta trinitas--Alleluya, Benedictus and Garrit Gallus flendo dolorose--In nova fert animus--N(euma). The chief basis for their attribution to de Vitry is their mention in his treatise.² He cited the first as an example of imperfect modus and tempus and the second for the use of red notes in the tenor.³

The imperfect modus of Firmissime--Adesto--Alleluya is detectable in all three parts by the rests of two parallel lines, each covering two spaces. The iambic meter of the tenor is written in longs and maximas, however, and the metrical units are arranged in groups equalling nine imperfect longs. Thus the common thirteenth-century pattern of tenors in the second rhythmic mode appears here in notes of the next

²Facsimiles of both are in Apel, The Notation..., Numbers 67 and 65 respectively. Transcription of all five motets are in Leo Schrade, ed., Polyphonic Music of the Fourteenth Century, vol. 1 (Monaco: Éditions de l'Oiseau-Lyre, 1956); issued separately: Commentary to Volume 1.

³Philippi de Vitriaco, Ars Nova, trans. by Gilbert Reaney, André Gilles and Jean Maillard, Corpus Scriptorum de Musica, 8 (Rome: American Institute of Musicology, 1963), p. 26; see also Apel, The Notation..., pp. 330-32.

higher value, or in perfect maximodus:



Therefore the mensuration at all levels is perfect maximodus, imperfect modus and tempus, and perfect prolation, or (III, II, 2, 3) in the method of showing mensuration devised by Apel.⁴ These mensural levels are evident in Leo Schrade's transcription of the motet in 2/4 (6/4) with triplets of eighth and sixteenth notes to indicate the perfect prolation.⁵ The use of either perfect or imperfect maximodus was still another innovation of the Ars Nova period.⁶ Maximodus occurs in some of Machaut's isorhythmic motets and in a few compositions by composers who followed him. It generally disappeared by the fifteenth century. The rhythmic organization by modus continued to be important, especially in motets, throughout the fourteenth and well into the fifteenth century.

The imperfect modus of Firmissime--Adesto--Alleluya is apparent not only because of the rests, but also because the long clearly equals

⁴The Notation..., p. 99. Italicized Roman numerals stand for perfect (III) or imperfect (II) maximodus, plain Roman numerals stand for perfect (III) or imperfect (II) modus. Arabic numerals stand for perfect (3) or imperfect (2) tempus, with an italic numeral for prolatio when that level is present. Thus III, II, 3, 2 means perfect maximodus, imperfect modus, perfect tempus, and imperfect prolatio.

⁵Polyphonic Music of the Fourteenth Century, 1:60.

⁶Apel, The Notation..., pp. 328 and 124.

only two breves. However, when a long is replaced by a three-note grouping similar to the conjunctura of modal notation (P ♯ ♯), the value of all three notes must equal two breves, but the interpretation of the individual notes remains uncertain. The older meaning of the conjunctura was that the final note was a long. Whether the notes are to be read as in the older conjuncturae in the rhythm short-short-long or in the rhythm long-short-short has been the subject of considerable discussion.⁷ In the case of Firmissime--Adesto--Alleluya, concordances with other manuscripts offer a solution to the problem. One concordance for this motet is the MS London, British Museum, Add. 28550, the Robertsbridge Codex (Rob), in which the conjunctura is always rewritten with the notes breve-semibreve-semibreve, or long-short-short.⁸ Another concordance is the rotulus MS Brussels, Bibliothèque Royale de Belgique, 19609 (Br). In this copy of the motet, as well as four other motets also in Fauvel, the conjunctura is again always replaced by breve-semibreve-semibreve.⁹ Br was probably copied around 1314-1315 and is very little later, if any, than Fauvel itself. Nevertheless, Schrade adopted the older interpretation of short-short-long in his transcriptions.¹⁰ Br is also important because it distinguishes between semi-breves and minims both in Firmissime--Adesto--Alleluya and in other

⁷Ibid., p. 333.

⁸Ibid., p. 449 (Note to p. 333).

⁹Richard H. Hoppin, "A Musical Rotulus of the Fourteenth Century," Revue belge de musicologie 9 (1955):137.

¹⁰Polyphonic Music of the Fourteenth Century, 1:60.

pieces not by Philippe de Vitry.¹¹

Whatever the correct interpretation of the conjunctura, it is a substitution of one breve and two semibreves in place of an imperfect long. What is not at all clear in the notation, which may be called Petronian, is the correct interpretation of semibreves, the smallest written notes in the Fauvel notation.

In several late motets in Fauvel, semibreves appear only in groups of two, three, or four. The numerous groups of four semibreves are perhaps the only indication that tempus is more likely to be imperfect rather than perfect. Even then, it is gratifying that de Vitry specifically said that the tempus was imperfect in Firmissime--Adesto--Alleluya.

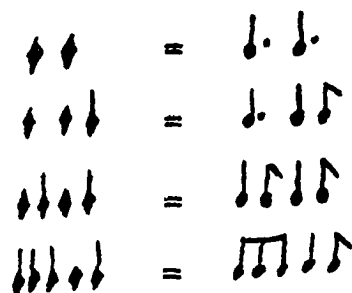
The semibreve groups in imperfect tempus described in Chapter XV of de Vitry's Ars Nova are to be interpreted as follows:

2 semibreves = 
 3 semibreves = 
 4 semibreves = 
 5 semibreves = 

The same groups are notated in the motets in Br, all but one of which are in imperfect tempus, and in the copy of the motet Garrit Gallus--In nova fert--N(euma) in the single sheet MS, Paris, Bibliothèque Nationale, Coll. de Picardie 67, f. 67 (Pic), in the standard

¹¹Hoppin, "Musical Rotulus...", pp. 132 and 137.

notation for tempus imperfectum, prolatio perfecta:



Since both Br and Fauvel were copied at approximately the same time and perhaps from the same source, the proper rhythmic interpretation of these pieces should no longer be in dispute.¹² Schrade's transcriptions do follow these principles.

Although pieces with no more than four semibreves in a group could be thought of as tempus imperfectum with imperfect prolation, the concordances with Fauvel all indicate perfect prolation. Finally, three more motets cited by Philippe de Vitry in his Ars Nova appear in later sources, but not Fauvel, with semibreves and minims distinguished as ♦ and ↓.¹³ All three motets are in the MS Ivrea, Biblioteca Capitolare (Iv).

Ultimately the problem of rhythm within a group of Petronian semibreves is thus solved by the addition of stems to the semibreves minimae or, in other words, by use of the minim as a standard note.

The invention, explanation, or at least the use of the minim is

¹²Ibid., p. 138.

¹³The three motets are Bona condit--Colla jugo--Libera me, Garison selon nature--Douce playsence--Neuma, and In arboris--Tuba sacra fidei--Virgo sum.

one of the most famous achievements of Philippe de Vitry. Its invention is attributed to de Vitry by the theorist, Anonymous I, but is also attributed to the younger Johannes de Garlandia by Johannes Hanboys.¹⁴ Whoever may have invented it, the minim does occur, perhaps for the first time, in de Vitry's famous treatise, Ars Nova, as does an even smaller note, the flagged semiminim.¹⁵ The flagged semiminim may be a later addition to the treatise, however.

It has been suggested by the translators of de Vitry's treatise that the minim was introduced first to distinguish the different values represented by semibreves in the notation of Petronian groups and that the semiminim was invented at the same time as a further clarification of very small notes, even though the semiminim was rarely used by French composers during the fourteenth century.¹⁶ The minim is necessary, of course, to complete de Vitry's description of both perfect and imperfect prolation. Although de Vitry does not use the word prolatio in his Ars Nova, he clearly suggests the idea in Chapters XX and XXIV, when he discusses the use of either two or three minims per semibreve in either tempus perfectum or tempus imperfectum. Both de Vitry and Marchettus de Padua describe semibrevis major, semibrevis minor, and semibrevis minima and where they should come. An

¹⁴E. de Coussemaker, ed., Scriptorum de musica medii aevi novam seriem, 4 vols. (Paris: Durand, 1864-1876; reprint eds., Milan: Bollettino Bibliografico Musicale, 1931, and Hildesheim: Georg Olms, 1963), 3:336 and 1:424.

¹⁵(Vitry), Ars Nova, p. 23ff.

¹⁶*Ibid.*, p. 6.

upward stem was added to distinguish the semibrevis minima, or minim.

Perhaps with the introduction of the minim and the expansion of the notational system to include both perfect and imperfect modus, tempus and prolatio, de Vitry felt that performers needed signs to indicate the mensurations intended by the composer. He did propose such signs for both perfect and imperfect modus in Chapter XVIII of the Ars Nova, but they were not adopted in the musical sources. In Chapter XVI, de Vitry proposed the sign O for tempus perfectum and the semicircle, C, for tempus imperfectum, without mentioning the lower mensuration level of prolation.¹⁷

One motet attributed to de Vitry does have these signs with the meaning he proposed for them, Douce playsence--Garison selon nature--Neuma quinti toni. This is de Vitry's only motet with French texts and belongs with his older works of the Fauvel period.¹⁸ According to the Paris manuscript of the Ars Nova treatise, there is a circle enclosing three vertical strokes in the motet.¹⁹ The motet itself survives only in the MS Iv, f. 23v-24.²⁰ This source, indeed,

¹⁷Ibid., pp. 27 and 24.

¹⁸Schrade, Commentary to Volume 1, p. 104.

¹⁹(Vitry), Ars Nova, p. 7. Other sources which mention the motet and its signs are quoted by Schrade, Commentary to Volume 1, p. 103.

²⁰See the facsimile in Die Musik in Geschichte und Gegenwart: allgemeine Enzyklopadie der Musik, ed. Friedrich Blume (Kassel: Bärenreiter, 1949--), vol. 1, Tafel XXVII, opposite Cols. 703-4. The signs do not always coincide with Schrade's placement of them in his transcription, Polyphonic Music of the Fourteenth Century, 1:72.

has not one but two signs in all three voices, the circle, O, and the semicircle, C. Neither sign has vertical strokes, however. In the triplum and motetus the sections in C coincide with coloration passages in the tenor and the breves of these C sections are imperfect, whereas they are perfect in O. In the first part of the motet all tenor notes are longs. Each black long is worth three perfect breves or nine semibreves of the upper voices in O, whereas the colored longs are each worth two imperfect breves or four semibreves of the upper voices in C. Consequently, both coloration in the tenor and the O and C signs are necessary if all voices are to change from III, 3 to II, 2 at the same time. Neither sign refers to prolation, which is perfect throughout the motet in triplum and motetus.

The same Paris manuscript of the Ars Nova treatise indicates that a semicircle containing two horizontal lines, meaning imperfect modus and tempus, is used in the motet, Zolomina--Nazarea que decora--Ave.²¹ This motet is found in Iv, f. 13v, and also in the MS Barcelona, Biblioteca Central de Catalunya, BM 853, f. iv (Barc A). Both manuscripts have only the circle and semicircle, without horizontal lines, in the triplum. Although the mensuration of the entire piece is (III, 3, 3) according to Harrison's transcription and critical notes,²² the recurring hoquet passages marked with the sign C in both manuscripts

²¹(Vitry), Ars Nova, p. 27.

²²Frank Ll. Harrison, ed., Polyphonic Music of the Fourteenth Century, vol. 5: Motets of French Provenance (Monaco: Éditions de l'Oiseau-Lyre, 1968), p. 62, and the critical notes, p. 195, in which the signs are listed but not discussed.

could well be read in imperfect modus and tempus, which is what the sign surely means.

Of the various mensuration signs that de Vitry proposed, only O and C begin to appear in the manuscripts about half a century later. Signs were rarely used throughout the fourteenth century, however, unless the mensuration changed within a piece. When used in late fourteenth-century sources, the signs indicated both tempus and prolatio. Ultimately four signs correspond to the four primary mensurations codified by de Vitry. These signs, with their abbreviations, Latin names, and the modern meter signatures in which they are normally transcribed, are as follows:

⓪	3, <u>3</u>	Tempus perfectum, prolatio perfecta	9/8
Є	2, <u>3</u>	Tempus imperfectum, prolatio perfecta	6/8
0	3, <u>2</u>	Tempus perfectum, prolatio imperfecta	3/4
C	2, <u>2</u>	Tempus imperfectum, prolatio imperfecta	2/4

As an example of the use of mensuration signs, Apel cites a ballade of Machaut, Biaute qui toutes autres, and writes that it "...is particularly interesting because it is one of the earliest compositions to show the use of Vitry's signs O C...."²³ These may be de Vitry's signs, but they are used in the ballade in the meaning later associated with both tempus and prolatio. The passages in C are written in coloration in other manuscripts, one of which, Paris, Bibliothèque Nationale

²³The Notation..., p. 356 and Facsimile 70 of the MS Paris, Bibliothèque Nationale frç. 9221, f. 152v-153 (Mach E).

frq. 1586 (Mach C), "though a 15th century manuscript ... probably represents the oldest phase of a collection of Machaut's total works."²⁴ To achieve the same note values by different means, such as coloration in one place and change of mensuration in another, even in the same piece, becomes common in the later fourteenth century.

Still another type of sign has caused considerable confusion. Two anonymous Fauvel motets, Detractor est--Qui secuntur--Verbum iniquum and Servant regem--O philippe--Rex regum, have two short vertical lines resembling rests before the first notes of the triplum and motetus parts. Wolf²⁵ and Apel²⁶ interpreted these lines as meaning tempus imperfectum. Their interpretation is rejected by Schrade, who finds that both motets are in modus imperfectus, tempus perfectum.²⁷ However, he transcribes them both in modus perfectus, tempus imperfectum.²⁸ The confusion about these lines seems to call into question whether they were indeed mensuration signs that were later abandoned

²⁴Leo Schrade, ed., Polyphonic Music of the Fourteenth Century, vols. 2-3: The Works of Guillaume de Machaut (Monaco: Editions de l'Oiseau-Lyre, 1956); issued separately: Commentary to Volumes 2 & 3, p. 27. See also, Ursula Günther, "Chronologie und Stil der Kompositionen G. de Machauts," Acta Musicologica 35 (1963):99.

²⁵Johannes Wolf, Geschichte der Mensural-Notation von 1250-1460, nach den theoretischen und praktischen Quellen, 3 vols. (Leipzig, 1904; reprint ed., Wiesbaden: Breitkopf & Härtel, 1965), 1:57.

²⁶The Notation..., p. 330.

²⁷Commentary to Volume 1, p. 67.

²⁸As noted by Willi Apel in Die Notation der polyphonen Musik 900-1600 (Leipzig: VEB Breitkopf & Härtel, 1970), p. 369, n. 1. A facsimile of the signs is found on p. 369 also. The Schrade transcriptions are published in Polyphonic Music of the Fourteenth Century, 1:16 and 29, respectively.

because of their resemblance to rests,²⁹ or whether they ever had any significance at all in regard to mensuration. Caudae descendentes, or downward stems, are found in both motets on the first semibreve of three-note groupings, although they may have been added later to clarify the rhythmic values. A concordance manuscript also includes caudae ascendentes, or upward stems, on the second two notes of a three-semibreve group.³⁰ If one accepts these stems, even though they may have been added later,³¹ Detractor est--Qui secuntur--Verbum iniquum becomes a piece in perfect modus with imperfect tempus and prolatio, as Schrade has transcribed.³²

Minor details such as circles and semicircles that have only a limited meaning and lines that do or do not have any significance, may, but should not, obscure de Vitry's accomplishments in simplifying and clarifying mensural notation. His real contribution is a systematic organization of all values down to the subdivisions of semibreves in duple and triple mensurations. This is a distinct advance over the earlier system, although the notation of Franco and the semibreve groupings of Petrus de Cruce were adequate for the music of their time. In addition, de Vitry experimented with coloration and isorhythm, which become highly developed devices in the vocabulary of later fourteenth-century musicians.

²⁹(Vitry), Ars Nova, p. 7, n. 21.

³⁰Schrade, Commentary to Volume 1, p. 67.

³¹Apel, The Notation..., p. 325.

³²Polyphonic Music of the Fourteenth Century, 1:16.

The motet attributed to de Vitry, Garrit gallus--In nova fert--N(euma), is one of only two motets in the Fauvel manuscript that include coloration. The tenor starts with three black notes in modus perfectus, then changes to notes and rests in red, which indicates a change to imperfect modus. The change of mensuration is confirmed by black rests covering three spaces for a perfect long, and red rests covering two spaces for an imperfect long. Red notes are replaced by black void notes with the same meaning in the manuscript Pic.³³

In this early, perhaps even the first, example of coloration, it is used in the manner that was to become standard. That is, black notes that are normally perfect lose one third of their value in coloration. In this case, then, only the perfect long is reduced by one third in the change to red notes. Because the tempus is imperfect throughout, black and red breves have the same value. Since the effect of the coloration is a change from modus perfectus to modus imperfectus (III, 2 to II, 2) Schrade bars the motet according to the long,³⁴ changing from triple to duple meter in all voices when the tenor coloration occurs. It is clear, however, that the upper parts are in imperfect modus throughout because longs, even in succession, are always imperfect unless dotted.

³³Richard H. Hoppin, "Some Remarks a propos of Pic," Revue belge de musicologie 10 (1956):111. Hollow black notes also appear in the tenor of Musicalis scientia--Scientie laudabilis, the second of the two complete motets preserved in Pic; see *ibid.*, p. 107.

³⁴Polyphonic Music of the Fourteenth Century, 1:68.

The other Fauvel motet with coloration is the anonymous Thalamus puerpere--Quomodo cantabimus--(Tenor),³⁵ in which three red longs occur just before the end. Apel has called this reversed coloration because, he says, the red longs are perfect whereas the previous black longs are imperfect.³⁶ In fact every previous black long has been imperfed by normal procedures in perfect modus. The red longs are therefore not necessary and have no notational significance because black longs in succession would also be perfect. Schrade has suggested that the red notes point up an augmented cadential formula for the virelai-like structure of the tenor.³⁷

For a true example of reversed coloration, de Vitry's motet, Tuba sacre fidei--In arboris--Virgo sum, may be cited.³⁸ The tenor includes a Latin canon: Nigre notule sunt imperfecte et rube sunt perfecte ("Black notes are imperfect and red (notes) are perfect"). Most canons indicate some unusual rather than usual mensural practice, and this one shows that the normal relationship of black and red notes has been reversed.

In addition to coloration, de Vitry was one of the leaders in developing more complex formal structures with longer rhythmic periods, or taleae, in the tenors of motets. Furthermore, he began the process of allowing this isorhythmic technique to penetrate into the upper

³⁵Ibid., p. 51.

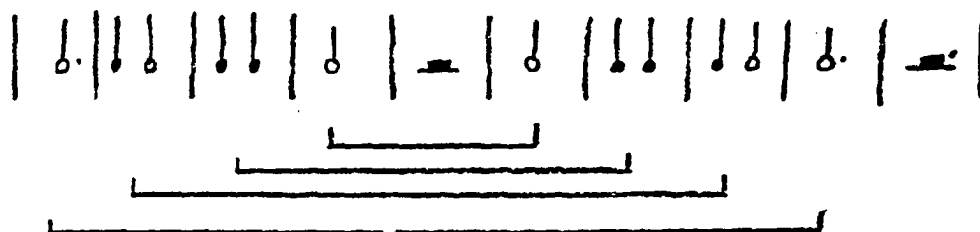
³⁶The Notation..., p. 449, note to p. 328.

³⁷Commentary to Volume 1, pp. 89 and 25.

³⁸Schrade, Polyphonic Music of the Fourteenth Century, 1:88, and Commentary to Volume 1, pp. 109-110.

voices, thus pointing the way to the total isorhythm of all parts in many late fourteenth- and early fifteenth-century motets. Although isorhythm may not be an invention of de Vitry, it was one of the novelties of his music that helped make him the most renowned musician of his time.³⁹

The tenor of de Vitry's motet, Garrit Gallus--In nova fert--N(euma), is "...one of the earliest examples of that fourteenth-century extension of the modal scheme which is known as isorhythmic construction (isorhythmic motet)."⁴⁰ The tenor melody is copied once, but must be repeated exactly a second time. The melody, or color, is divided into three rhythmic periods, or taleae, each with a total of twenty-two breves plus a perfect long rest. Each talea has an entirely symmetrical construction:



Symmetrical constructions of this sort are common in the motets of Guillaume de Machaut, as in his Quant en moy--Amour--Amara valde.⁴¹

³⁹Leo Schrade, "Philippe de Vitry: Some New Discoveries," The Musical Quarterly 42 (1956):331; reprint in De Scientia Musicae Studia atque Orationes, ed. Ernst Lichterhahn (Stuttgart: Paul Haupt, 1967), p. 284.

⁴⁰Apel, The Notation..., p. 330.

⁴¹See the analysis by Otto Gombosi in "Machaut's Messe Notre-Dame," The Musical Quarterly 36 (1950):220.

The five motets in Fauvel attributed to de Vitry, including, according to Schrade's edition, Nos. 12 (22) and 30 (124) which are mentioned in the Ars Nova treatise, are dated 1316 or earlier because the copying of Fauvel was supposedly completed in 1316. The three other motets mentioned in the treatise, Nos. 6, 9, and 10, are therefore dated before 1320, when the treatise was presumably written. Four additional motets are accepted as authentic by both Schrade and Heinrich Besseler.⁴² Two of these, Nos. 7 and 8, are dated about 1330, one, No. 14, about 1335, and the final one, No. 12, almost surely 1342.⁴³

The four authentic motets do not include two others that Schrade published in his edition of de Vitry's works. One of the two is No. 11, Impudenter circumivi--Virtutibus laudabilis--(Contratenor)--(Tenor)--Tenor Solus, a religious motet of doubtful authenticity because it is attributed to de Vitry only in the unreliable MS Strasbourg, Bibliothèque municipale, M. 222 C. 22 (Str), which burned in 1870. The manuscript is now known only through a partial copy, with all incipits, made by E. de Coussemaker. The motet is isorhythmic, however, and uses imperfect mensuration on two levels, modus and tempus, (II, 2, 3). The

⁴²Besseler accepts eight motets as authentic works of de Vitry in two long articles, "Studien zur Musik des Mittelalters. I. Neue Quellen des 14. und beginnenden 15. Jahrhunderts," Archiv für Musikwissenschaft 7 (1925):167-252, and "II. Die Motette von Franko von Köln bis Philipp von Vitry," Archiv für Musikwissenschaft 8 (1926):137-258. A ninth motet is accepted, but not specified, in Die Musik in Geschichte und Gegenwart, 1949 ed., s. v. "Ars Nova," by Heinrich Besseler.

⁴³Schrade, Commentary to Volume 1, pp. 29-41.

other motet, No. 13, Dantur officia--Quid scire proderit--(Tenor), is probably not by de Vitry at all.⁴⁴ It is not isorhythmic but has the same mensuration as No. 11, (II, 2, 3). Both motets are certainly in the Ars Nova style, although no dates have been suggested for their composition.

In order of probable chronology as established by Schrade, the first of the later authentic motets is No. 7, Vos qui admiramini--Gratissima virginis species--(Contratenor)--(Tenor:) Gaude gloriosa--Tenor solus--Tenor solus "Vivat iste", which may be performed by either three or four voices.⁴⁵ The mensuration is (III, 2, 3). The form of the isorhythmic tenor and contratenor is bipartite, with the first statement of the color consisting of six repetitions of a talea and the second statement in diminution consisting of seven and a half repetitions of a new talea. The slightly incomplete Tenor solus "Vivat iste" is not isorhythmic. It has a single imperfect long in coloration, the only appearance of coloration in the four late motets.

The second of the four late motets is No. 8, Cum statua Nabucodonasor--Hugo, Hugo, princeps invidie--(Tenor), which is in (III, 2, 3). The form is unipartite, with a tenor color consisting of three taleae repeated three times without diminution. Above the last

⁴⁴See Schrade, Commentary to Volume 1, pp. 37-38, and bibliography listed there.

⁴⁵The Tenor solus "Vivat iste" should be deleted according to Harrison, who reads "Vacat iste iste iste," indicating that the scribe had written that voice in error; see Polyphonic Music of the Fourteenth Century, 5:194, n. 1.

two repetitions of the taleae, the upper voices are also isorhythmic.

The third motet is No. 14, O canenda vulgo--Rex quem metrorum--
(Contratenor)--(Tenor:) Rex regum, which is for four voices. Like
 No. 7, Motet 14 has an isorhythmic tenor with diminution. Its form is
 bipartite, with the tenor color consisting of four taleae. The color
 is performed twice in (III, II) and diminished to (III, 2) for a third
 statement. However, the contratenor is in (III, 3) diminishing to
 (3, 3), although no minims are present. The upper voices of the final
 section in diminution have no text and perform throughout in hocket. A
 remarkable feature is the syncopation of modus units which continues
 in the contratenor throughout the entire motet. The simplicity of de
 Vitry's rhythmic patterns in modern 6/8 meter is well illustrated in
 the opening of this motet (Example 1).⁴⁶

The fourth motet is No. 12, Petre Clemens--Lugentium siccentur--
(Tenor), which like No. 8, is for three voices. A vocal introduction
 precedes an isorhythmic tenor of seven taleae, followed by a conclusion
 of five longs. The mensuration is (II, 3, 3). In a short section of
 each talea, the tenor joins the upper voices in a three-part hocket.

⁴⁶See the facsimile of Iv, f. 55, in Apel, Die Notation...,
 p. 392, which has, in mm. 6-7 of the motetus, pitches g'g', c'bc'd'.
 These notes appear to be copied a third too high, but are so tran-
 scribed in Schrade, Polyphonic Music of the Fourteenth Century. 1:106.
 Compare Gabriel Zwick, "Deux motets inédits de Philippe de Vitry et de
 Guillaume de Machaut," Revue de Musicologie 27 (1948):40, a transcript-
 tion according to the MS Fribourg, Bibliothèque Cantonale et Univer-
 sitaire de Fribourg en Suisse, Z 260 (Fri), of which there is a photo-
 graph opposite p. 28. Furthermore, the ternary ligature in the contra-
 tenor, mm. 3-4, cannot be long-long-breve as in the Apel facsimile of
Iv, but must be breve-breve-long as in Fri.

Example 1

Handwritten musical score for Example 1, first system. The system consists of five staves. The top staff is a treble clef with a 6/8 time signature, featuring a series of eighth and sixteenth notes. The second staff is a treble clef with a 6/8 time signature, featuring a series of eighth and sixteenth notes. The third staff is a treble clef with a 6/8 time signature, featuring a series of eighth and sixteenth notes. The fourth staff is a bass clef with a 6/8 time signature, featuring a series of eighth and sixteenth notes. The fifth staff is a bass clef with a 6/8 time signature, featuring a series of eighth and sixteenth notes. The system is marked with a 'T' at the beginning and a 'T' at the end.

Handwritten musical score for Example 1, second system. The system consists of five staves. The top staff is a treble clef with a 6/8 time signature, featuring a series of eighth and sixteenth notes. The second staff is a treble clef with a 6/8 time signature, featuring a series of eighth and sixteenth notes. The third staff is a treble clef with a 6/8 time signature, featuring a series of eighth and sixteenth notes. The fourth staff is a bass clef with a 6/8 time signature, featuring a series of eighth and sixteenth notes. The fifth staff is a bass clef with a 6/8 time signature, featuring a series of eighth and sixteenth notes. The system is marked with a 'T' at the beginning and a 'T' at the end.

In summary, all four of the motets by de Vitry that are dated later than his Ars Nova treatise are isorhythmic, and two include repetitions of the tenor in diminished values. From a notational standpoint, the motets use only a limited vocabulary of the possibilities available at the time. Maximodus appears in only one motet, but both perfect and imperfect modus are used. Two motets are in (2, 3), one is in (3, 3), and No. 14 combines (2, 3) and (3, 3) simultaneously in different voices. Perfect prolation is used in all four motets, and the minim note shape provides a clear representation of the rhythmic values on the prolatio level. Thus, as shown by de Vitry in the above four motets and as described by him, but without using the term prolatio, the mensurations of music by the time of the second quarter of the fourteenth century include perfect and imperfect modus, tempus and prolatio. When one of these levels is perfect, the Franconian principles of perfection, imperfection, and alteration are in force. The descending cauda or stem on the semibreve is dropped, although it lives on in Italian notation. The ascending stem becomes an accepted new note, the minim. Dots marking off groups of semibreves are no longer necessary except occasionally to mark a perfection when the lack of a dot would make the rhythm unclear. Although still used in Italian fourteenth-century music, French practice essentially limits the use of dots to those of addition to imperfect notes, and to those of division in perfect mensurations.

Perhaps the most important achievement of Philippe de Vitry was the codification and acceptance of both perfect and imperfect mensurations at the levels of longs, breves, and semibreves. By adding the

minim, the so-called "Quatre prolacions," which are attributed to de Vitry, provide the four primary meters available to French fourteenth-century composers in either perfect or imperfect modus. As was previously stated, de Vitry suggested certain signs to indicate modus and tempus, but they were not readily accepted by his contemporaries. When signs did come into use, they specified tempus and prolatio. Mensuration signs are found more frequently in Italian than in French manuscripts, where their use is most often reserved for changes from one mensuration to another.

The innovations of Philippe de Vitry established the basic principles of the "classical" notation of Guillaume de Machaut. Notational similarities between late de Vitry and early Machaut may be seen in the four late motets of de Vitry, all of which are found in the Iv manuscript, which also includes three motets and a rondeau of Machaut.⁴⁷ Before moving to the notational problems of Machaut, however, it should be noted that there are no extant secular works by Philippe de Vitry. In fact, aside from the early works of Machaut, Willi Apel has discovered only four French secular polyphonic compositions of the fourteenth century that date before about 1360.⁴⁸ There are, however, a respectable number of polyphonic mass movements. Most of the

⁴⁷Friedrich Ludwig, ed., Guillaume de Machaut. Musikalische Werke, Bd. 1-3 reprinted from Publikationen alterer Musik, 1926-1929; Bd. 4 first published separately 1943 and edited by Heinrich Besseler (reprint ed., Leipzig: Breitkopf & Härtel, 1954), 2:18*.

⁴⁸Willi Apel, ed., French Secular Compositions of the Fourteenth Century, 3 vols.; Corpus Mensurabilis Musicae, 53 (Rome: American Institute of Musicology, 1970-73), 1:xix.

fourteenth-century mass movements, except the Tournai mass, probably are contemporary with Machaut or even later. From the standpoint of notation the mass movements are not of outstanding interest, but they may well be discussed before Machaut, whose late works lead directly into the complex notational style of the late fourteenth century.

Polyphonic Mass Movements

The polyphonic mass movements of French provenance in the fourteenth century are of no great interest insofar as notational problems are concerned. There are only about seventy-eight individual mass movements, including the mass cycles of Tournai, Toulouse, Barcelona, and Sorbonne, but excluding the six movements of the Machaut Mass.⁴⁹ Most of the mass compositions originated in or near Avignon and are primarily preserved in the MS Apt, Trésor de la Basilique Sainte-Anne, 16 bis (4) (Apt), and Iv.

The most famous mass, of course, is that of Machaut, but from a notational standpoint, it is of less interest than his motets, ballades, and rondeaux. The usual minor problem for the modern transcriber of Machaut's mass is, as is true of his motets, the

⁴⁹All except the Tournai and Machaut masses are published by H. Ståblein-Harder, ed., Fourteenth-Century Mass Music in France, Corpus Mensurabilis Musicae, 29 (Rome: American Institute of Musicology, 1962). The critical apparatus for this volume was published under the same title as part of the series, Musicological Studies and Documents, 7, by the same publisher and with the same date, but with the sub-title, Critical Text, which will be used as a short title to distinguish these publications. The Tournai, Toulouse, Barcelona and Machaut masses are also published in Schrade, Polyphonic Music of the Fourteenth Century, vols. 1 and 3.

determination of the mensuration, which is not indicated by signs. Essentially, all voices are in (III, 2, 2) throughout the mass, although the modus sometimes alternates between perfect and imperfect in the Gloria and Credo.

Only a few notational devices of special interest need be mentioned about the other, mostly anonymous, mass movements. For example, an incomplete two-part Kyrie from Barc A quite unusually has many flagged semiminims. Two semiminims substitute for one minim, as is standard practice, but the large number of semiminims indicates that this Kyrie must be a late fourteenth-century composition.⁵⁰ Several of the mass movements from Iv have occasional groupings of four semiminims replacing three minims within the basic mensuration of (2, 3).⁵¹ This 4:3 proportion of semiminims to minims seems to be a unique way of notating the common late fourteenth-century substitution of four notes for three, which is usually indicated by special note shapes or by using minims under the mensuration sign of a reversed semicircle. Finally, a scattering of special note symbols in the Apt manuscript may reveal some Italian influence.⁵²

Mensuration signs are rarely used in the mass movements. However, towards the end of the Gloria of the Sorbonne Mass the signs O and C are found in the top voice, the only voice that is complete in

⁵⁰See the transcription in Ståblein-Harder, Fourteenth-Century Mass Music, No. 7, p. 10; see also Critical Text, p. 27.

⁵¹For the several occurrences, see *ibid.*, No. 28 (Iv 25), p. 45; No. 43 (Iv 48), p. 77; No. 46 (Iv 47), p. 86; and No. 64 (Iv 58), p. 124.

⁵²Ståblein-Harder, Critical Text, p. 114.

this piece. The two signs refer to modus perfectus and modus imperfectus respectively, with the tempus under both signs imperfect.⁵³

The few other signs that are found occur in the Apt manuscript and have the usual meaning of defining tempus and prolatio. The signs occur with increasing frequency in those compositions that belong to the latter part of the fourteenth century.

Coloration is also seldom used in the mass movements. Its occurrence is not shown in Stäblein-Harder's transcriptions but is indicated in the notes. The most frequent type of coloration is the use of full red notes within a basic mensuration of (2, 3) to create the usual change to (3, 2). However, one occasionally finds black void notes with the same meaning as full red coloration, as in the "Amen" section of the Credo by Tapissier from Apt, f. 35v.⁵⁴

From the foregoing remarks, it may be seen that mass movements of the fourteenth century are straightforward and unadventurous in their notational practice. Only in the later mass movements from Tu B will some of the complex developments of the late fourteenth century be introduced.

Guillaume de Machaut

Guillaume de Machaut probably wrote his earliest pieces around 1324, but his most productive period of creativity is considered to be

⁵³Stäblein-Harder, Fourteenth-Century Mass Music, No. 36, p. 59; see Critical Text, p. 137.

⁵⁴See the facsimile in A. Gastoué, Le Manuscrit de musique du Trésor d'Apt (Paris: Société française de musicologie, 1936), before p. 111.

from 1340 to 1370.⁵⁵ According to Günther, his earliest works were very likely the monophonic virelais and lais, followed, around mid-century, by the ballades, rondeaux, and motets, although she offers no explanation for his waiting until nearly 40 years of age to begin writing ballades, rondeaux, and motets. Nevertheless, according to Günther, he wrote his famous mass by 1365 at the latest, and he seems to have devoted his final years to the ballades and rondeaux that were also popular with his contemporaries and followers.⁵⁶ From a notational standpoint, however, there is good reason to believe that the virelais are later than the earliest lais, and that the lais themselves were composed over a long period, perhaps throughout his life. Modus is used in some lais almost in a thirteenth-century manner, whereas others are written entirely in tempus and prolatio. Some lais mix both types of writing in different strophes.⁵⁷ In some strophes, Lais 5, 6, and 12 have signatures of either three vertical dashes, with or without dots at both sides, to indicate tempus perfectum or two dashes to indicate tempus imperfectum.

As for the virelais, none uses modus notation, but all are in tempus and prolatio, with (2, 3) predominating. Longs never seem to be present in the monophonic virelais, and even breves are rare, usually coming only at cadences at the end of sections. This would seem to be

⁵⁵Günther, "Chronologie und Stil...", p. 102.

⁵⁶Ibid., p. 103.

⁵⁷Compare, for example, the modus of Nos. 1 and 2 with the tempus of Nos. 11 and 13, and the mixture in Nos. 5 and 6, all published in Schrade, Polyphonic Music of the Fourteenth Century, vol. 2.

a clear indication that they are by no means as old as the *lais* or even some of the ballades written in *modus*. The *virelai* was a new form, possibly still an actual dance-song, that was just getting a standard name. Like the contemporary Italian *ballata*, the *virelai* probably remained a monophonic form until shortly after the mid-century. In any case, the *virelais* are written in the fully developed "classical" notation of the *Ars Nova*, and not all of the *lais* are.

The "classical" notation of Machaut's works includes notes from the largest value, the *maxima*, to the smallest value, the *minim*. For the modern transcriber, about the only notational problem is the determination of the mensuration, since signs are almost never used, but the solution is rarely difficult or in any way questionable. Except for some minor details, most of the problems of Machaut's notation have been solved, at least as far as actual note values are concerned. *Maximas* are few in Machaut's music, and a rhythmic organization by *maximodus* is seldom found.⁵⁸ *Modus* is used in the tenors, and in the contratenors when they are present, of all the motets except Motet 20. The correct reading of notes on the *tempus* and *prolatio* levels is occasionally doubtful because of a scarcity of dots of division in perfect mensurations.⁵⁹ The lack of dots of division occurs mostly in the secular songs, perhaps because they were the more progressive or experimental forms. The upper voices of the motets, like

⁵⁸Schrade finds *maximodus* in Motets 4, 5, 7, 21, and 23; see *Commentary to Volumes 2-3*.

⁵⁹Apel, *The Notation...*, p. 344.

most of the secular songs, move primarily in semibreve-minim groups.⁶⁰ Longs, when they occur, are usually imperfect, but they appear at irregular intervals and thus leave no impression that the composer was thinking in units of modus. Except for the lower voices of motets, therefore, most of the pieces should be barred in units of tempus in modern transcriptions.

Ludwig's transcriptions of the secular songs seem to indicate the presence of modus in almost every piece and frequent change of modus within pieces.⁶¹ Schrade found no such irregularity in the original notation,⁶² but he may have been wrong to accuse Ludwig of barring in modus. It seems more likely that Ludwig barred by the larger rhythmic units as he interpreted them. His barring may be questionable, but he may not have intended to indicate shifts of modus. In any case, Schrade falls into the same error in his transcription of Ballade 6, Doulz amis. If he had kept the perfect modus, which is certainly present in the tenor, he would not have made the long perfect in measure 9 of the cantus and then would not have had to omit a breve value in the following passage.⁶³ Ballade 6 illustrates a situation that probably reflects the transitional period between using modus and tempus as basic mensurations. Like the isorhythmic sections of

⁶⁰Ursula Günther, "The 14th-Century Motet and its Development," Musica Disciplina 12 (1958):31-34.

⁶¹Guillaume de Machaut..., vols. 1 and 4.

⁶²Commentary to Volumes 2 & 3, pp. 13-14.

⁶³Polyphonic Music of the Fourteenth Century, 3:77; see Richard H. Hoppin, "Notational Licences of Guillaume de Machaut," Musica Disciplina 14 (1960):24 and Example 5.

Machaut's mass, it is written in (III, 2, 2), with the beat presumably still on the breve. In the Gloria and Credo of the mass, the modus does seem to change, because there are sometimes units of two breves and sometimes units of three breves between longs. All perfect longs are dotted, however, and there is no alteration of breves or imperfection of longs. Modus also occurs in Ballades 11, 12, and 16. For the most part, however, modus is not an organizing factor in the secular songs, although occasional longs may be present.

Considering the lack of secular music by de Vitry and the several similarities already noted between some of his motets and those of Machaut, a logical approach to the mensuration difficulties, if any, in Machaut's music would be to consider the motets first and then the secular music. Günther suggests that rhythmic complications in the motets are mainly restricted to the larger note values,⁶⁴ but the complications are few. There is agreement among scholars, however, on the presence of modus in all of the motets except Motet 20. Of the other twenty-two motets, fifteen use perfect and four use imperfect modus.⁶⁵ Motets 5, 21, and 23 combine perfect and imperfect modus in their tenor and contratenor voices, producing more complex rhythmic patterns. In Motets 5 and 23, the change of modus is indicated by the use of red notes.

⁶⁴"The 14th-Century Motet...", p. 34.

⁶⁵Imperfect modus is found in Motets 3, 4, 7, and 13. These figures are based upon Schrade, Commentary to Volumes 2 & 3; but compare Günther, "The 14th-Century Motet...", p. 34, in the table which lists twenty-two in imperfect and three in perfect modus. Since Motet 20 has no modus, all of the rest use imperfect modus with three using, in addition, perfect modus, according to her calculations.

In Motet 5, Aucune gent m'ont demandé--Qui plus aime--Fiat voluntas tua--(Contratenor), a conflict of rhythm is caused when the tenor and contratenor voices alternate in perfect and imperfect modus in the first part, and in perfect and imperfect tempus in the diminished section. Whereas the upper voices are in (3, 3) throughout, the tenor and contratenor initially perform black or red longs of different lengths. The rhythmic conflict is especially apparent between the red notes and the upper voices. Two imperfect black longs in (3, 3) last four measures of 9/8 in the tenor. Reduced in value by one third, three red longs in the contratenor last six measures of 6/8 at the same time. Each talea of the tenor and contratenor consists of two sections, one of black and one of red notes and rests, but the tenor begins with black and the contratenor with red. When they exchange, the rhythms are retrograde:

Tenor: ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩

Contratenor: ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩ ♩

The mensuration of Motet 23, Felix virgo--Inviolata genitrix--Ad te suspiramus--(Contratenor), has been interpreted differently by several scholars. Ludwig interpreted the rests for tenor and contratenor in the introitus as beginning in (II, III), or 2 X 3 X 6/8,⁶⁶ whereas Schrade interpreted them as (III, II), or 3 X 2 X 6/8.⁶⁷

⁶⁶ Guillaume de Machaut..., 3:82 (186).

⁶⁷ Polyphonic Music of the Fourteenth Century, 3:26.

Hoppin has pointed out that Schrade's reading cannot be correct because the rests are written as perfect longs written in pairs.⁶⁸ According to Apel, a pair of perfect long rests indicates perfect modus but is rarely clear evidence of maximodus.⁶⁹ Since there are no maximas in the tenor and contratenor in the entire motet, assigning a maximodus is somewhat arbitrary.⁷⁰ Consequently, the perfect long rests show that the tenor and contratenor should be barred in perfect modus, or 3 X 6/8, whereas the upper voices are in imperfect modus, or 2 X 6/8. Two pairs of perfect long rests precede the entry of the motetus in one manuscript, but all other manuscripts correctly have five imperfect long rests.⁷¹ The modus of the upper voices is clearly imperfect because longs in succession are imperfect, and perfect longs are produced by dots of addition.⁷² When all four voices conclude the introitus, maximodus is still not really present. Schrade interprets the passage as a change to (III, III), and the upper voices do seem to be grouped in two units of nine measures, first 3 X 3 X 6/8, then

⁶⁸"Notational Licences....," p. 25.

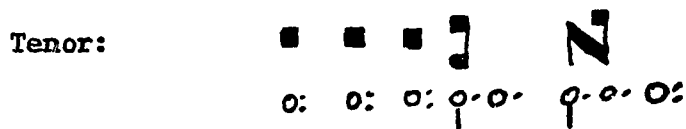
⁶⁹The Notation..., p. 124.

⁷⁰Maximas occur in the tenors of Motets 2, 3, 4, 7, 13, 18, and 21; see the notes following each motet in Ludwig, Guillaume de Machaut..., vol. 3.

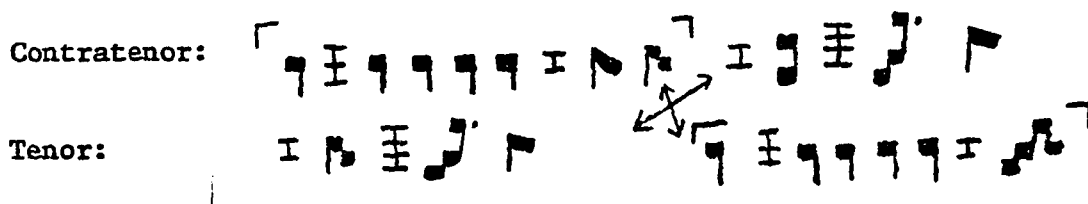
⁷¹See the facsimile in Parrish, The Notation of Medieval Music, Plates LII-LIII from the MS Paris, Bibliothèque Nationale, f. frç. 22, 546 (Mach G); Apel, The Notation..., p. 360 (tenor and contratenor only); and Wolf, Geschichte der Mensural-Notation..., 2:24-27.

⁷²See Schrade, Polyphonic Music of the Fourteenth Century, 3:26-27, mm. 23-26, 38-40, and 31-33, respectively.

3 X 2 X 6/8 + 3. By themselves, however, the notes in the tenor and contratenor give no clue as to whether they should be divided into 2 X 3 X 6/8 or 3 X 3 X 6/8:



Following the introitus, the isorhythmic structure of the tenor and contratenor of Motet 23 consists of a talea stated three times and then diminished by one-half for three more repetitions. Each talea divides into rhythmically identical halves, with the rhythmic patterns of the red and black notes interchanged between the two voices:



The red notes could be interpreted simply as 2 X 6/8 and the black notes as 3 X 6/8. To combine the two, however, they must equal a number of 6/8 measures divisible by both two and three. The red notes, therefore, must be grouped in 3 X 2 X 6/8 and the black in 2 X 3 X 6/8, or in perfect and imperfect maximodus, although nothing in the notation itself indicates the presence of maximodus.

A canonic inscription with the tenor of Motet 23, Nigre sunt perfecte et rubee imperfecte, prescribes, not an unusual or abnormal reading of the notes, but the meaning of coloration that was to become customary: "Black (notes) are perfect and red (notes) imperfect."

The third and last appearance of coloration in Machaut's works occurs in Ballade 4, Biaute qui toutes autres pere.⁷³ Rather than on the modus level, as in the two motets, coloration in the ballade is on the tempus level, resulting in (2, 2) passages in the tenor against the prevailing (3, 2) of the other two voices. Of special interest from a notational standpoint is the fact that, instead of coloration, Mach E uses the sign C for 2, 2 and the sign O to return to 3, 2 at the end of each of the three passages.⁷⁴ This may be one of the earliest uses of C rather than coloration in pieces that are otherwise in 3, 2 (O), as sometimes occurs in late fourteenth- and early fifteenth-century music.

To return to the use of modus in Machaut's music, it will suffice here to note that many of the motets other than No. 23 present problems to the transcriber.⁷⁵ But these problems are simply ones of barring in modern transcriptions, not of note values. The upper voices of the motets either have irregularly placed longs indicating an unconcern for modus, or else they are in imperfect modus when the tenor, and contratenor if it is present, are in perfect modus. Longs in the upper voices are almost always imperfect unless dotted. As previously

⁷³As noted by Armand Machabey, Guillaume de Machault, sa vie et son oeuvre musical, 2 vols. (Paris, 1955), 1:90; see also Parrish, The Notation of Medieval Music, p. 160, n. 9. Transcriptions published by Ludwig, Guillaume de Machaut..., 1:4, and Schrade, Polyphonic Music of the Fourteenth Century, 3:74.

⁷⁴Ludwig, Guillaume de Machaut..., 1:4 (notes); see also Apel, The Notation..., Facsimile 70 (of Mach E), p. 359.

⁷⁵Hoppin, "Notational Licences...", pp. 25ff, discusses difficulties found in Motets 13, 18, 10, 4, and 7.

stated, with the exception of Motet 20, which has a tenor based on a monodic song form, modus is always present in the lower part or parts of Machaut's motets. But "...less than half of Machaut's secular songs reveal the presence of modus, and even in these it is rarely employed throughout but must be considered as semi-obsolete."⁷⁶

Schrade's edition bars most of the songs by tempus, eliminating many of the changes of measure in Ludwig's edition.⁷⁷ Even though Günther suggests that modus may be apparent in virelais 4, 13, 20, 23 (21), 25 (22), and 28 (25), Schrade has transcribed them without exception by tempus.⁷⁸

A similar situation exists in Machaut's *lais*. Some of the *lais* may be among Machaut's earliest compositions, and recently the first eight have been dated by Günther before 1349.⁷⁹ This dating is based primarily on an ordering of the Machaut manuscripts and the acceptance of Mach C, which includes *lais* 1-8, as the earliest collection of Machaut's works, even if it was copied on paper in the fifteenth century.⁸⁰ All eight of the *lais* contained therein move primarily in

⁷⁶Günther, "The 14th-Century Motet...", p. 35.

⁷⁷Hoppin, "Notational Licences...", pp. 23-24, includes discussions of modus problems in Ballades 25 and 6, and in Rondeaux 17 and 8.

⁷⁸Günther, "Chronologie und Stil...", p. 109 and n. 105; numbers in parentheses are those of Schrade's edition, some of which differ from Ludwig's numbering.

⁷⁹Ibid., p. 100 and Table, p. 99.

⁸⁰Gilbert Reaney, "A Chronology of the Ballades, Rondeaux and Virelais set to Music by Guillaume de Machaut," Musica Disciplina 6 (1952):37-38,

longs, breves, and semibreves, with a scattering of minims in Lais 3, 5, and 6, in ornamental figures.⁸¹ However, Lais 10 and 14, from other, presumably later, collections, also move only in longs, breves, and semibreves. Lai 3 is in (III, 2, 2) with groups of minims--usually four--on one syllable in strophes 1-5 and 12. Lais 5 and 6 are similar in some strophes, but both also have strophes in 2, 2 and 3, 2 without any modus. These sections are indicated by mensuration signs of three or two vertical dashes.⁸² Modus is also employed in strophes 1, 11, and 12 of the polyphonic Lai 24 (18), which is found in Mach E, one of the latest Machaut manuscripts.⁸³ A notational feature of Lai 12 (8) is the alternation between duple and triple subdivisions of the breves, an unusual, perhaps archaic feature.

One of the innovative features in a few of the Machaut lais is the use of syncopation, of which only one type creates any notational problems. The simplest type displaces imperfect notes, such as semibreves in (3, 2) and (2, 2), or breves in (2, 3), and Machaut uses it throughout his music, much more in the later pieces than in the earlier ones. The second type of syncopation displaces perfect notes, such as

⁸¹Günther, "Chronologie und Stil...", p. 111.

⁸²Lai 17 (12) also has these signs for some strophes, and Schrade considers the isorhythmic strophe 10 to have imperfect modus; see Commentary to Volumes 2-3, p. 66.

⁸³Hoppin, "Notational Licences...", p. 18; see transcription in Margaret Hasselman and Thomas Walker, "More Hidden Polyphony in a Machaut Manuscript," Musica Disciplina 24 (1970):12-16.

breves in (3, 2) or, more frequently, semibreves in (2, 3). In this more frequent displacement, a minim or a minim rest comes before two or more semibreves. The question is, then, which semibreve should be imperfected. Both Hoppin⁸⁴ and Günther⁸⁵ have called attention to the different transcriptions by Ludwig and Schrade of Lai 17 (12),⁸⁶ in which syncopation is created by a minim rest preceding a series of semibreves. Hoppin points out that the syncopated transcription of strophe 10 is correct, whereas the unsyncopated transcription by Schrade is incorrect:

Ludwig	γ ♩. ♩. ♩. ♩. ♩. ♩. ♩.
Schrade	γ ♩ ♩. ♩. ♩. ♩. ♩. ♩. ♩.

The correct solution follows a basic rule of imperfection: no note may be imperfected before another note of the same value, or similis ante similem perfecta.⁸⁷ Of the three lais with perfect prolation, only Lai 17 (12) includes this type of syncopation.⁸⁸ Of the polyphonic virelais, only No. 29 is in perfect prolation, but has no syncopation. Of the twenty-three motets, only four, Numbers 14, 15, 20, and 22,

⁸⁴Hoppin, "Notational Licences...", p. 17.

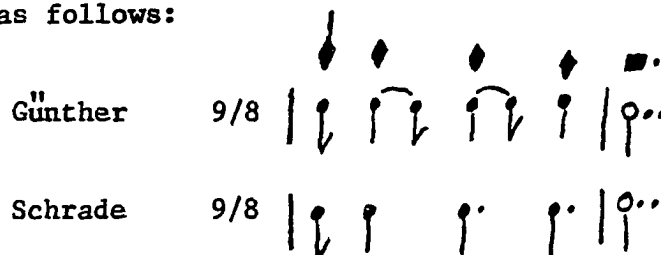
⁸⁵Ursula Günther, "Die Mensuralnotation der Ars nova in Theorie und Praxis," Archiv für Musikwissenschaft 19-20/1 (1962-63):21-23.

⁸⁶Ludwig, Guillaume de Machaut..., 4:64 (254), mm. 249-250; Ludwig's interpretation may be a result of Heinrich Besseler's editorial completion of volume 4; see also Schrade, Polyphonic Music of the Fourteenth Century, 2:70-71, mm. 497-500.

⁸⁷See Hoppin, "Notational Licences...", pp. 15 and 16-17, n. 16; also see Apel, The Notation..., p. 108, rule 8.

⁸⁸The other two lais are No. 18 (13), and No. 23 (17).

introduce the iambic rhythms with which such syncopation usually occurs.⁸⁹ Of these four, No. 20 is the exceptional motet with syncopation.⁹⁰ The most frequent passages of syncopation by Machaut occur in his late ballades and rondeaux.⁹¹ Often these passages are very short, as, for example, in the tenor of Ballade 36, Se pour ce muir, which is correctly transcribed by Günther,⁹² but incorrectly by Schrade,⁹³ as follows:



Apel once suggested⁹⁴ that Philipoctus de Caserta may have been the pioneer of the syncopated style of the late fourteenth century, but he has since withdrawn that opinion.⁹⁵ Since Caserta's dates are,

⁸⁹Günther, "Die Mensuralnotation der Ars nova...", p. 23.

⁹⁰This syncopation is discussed by Hoppin, "Notational Licences...", p. 16.

⁹¹Günther, "Die Mensuralnotation der Ars nova...", p. 23.

⁹²Ibid., p. 24, Example 6b.

⁹³Polyphonic Music of the Fourteenth Century, 3:130, mm. 18 and 41.

⁹⁴Willi Apel, ed., French Secular Music of the Late Fourteenth Century (Cambridge, Mass.: Mediaeval Academy of America, 1950), p. 8.

⁹⁵Apel, French Secular Compositions..., 1:xxiii-xxiv; it might be added that Gilbert Reaney has written, without any further explanation or note of source, that "Syncopation is first mentioned by an Englishman, though it is first defined in a treatise attributed to Philippe de Vitry...", in "The Ballades, Rondeaux and Virelais of Guillaume de Machaut: Melody, Rhythm and Form," Acta Musicologica 27 (1955):45; see also Apel, The Notation..., p. 395.

according to Apel, around 1365-90,⁹⁶ the syncopation by Machaut may well make Philipoctus a follower rather than a pioneer. He and other late fourteenth-century composers used displacement syncopation much more extensively and in passages of much greater length than Machaut ever did.

In the first type of syncopation, involving imperfect notes, Günther finds that Machaut's longest chains of syncopations are found in Rondeau 17, Dix et sept, and in Rondeau 21, Quant je ne voy, as follows:



Both passages are in (2. 2), which Günther suggests is, along with syncopation, a hallmark of Machaut's late style.⁹⁷ She could have added Rondeau 9, Tant doucement,⁹⁸ which is also in (2, 2) and has a passage of syncopation almost identical with that of Rondeau 21.

Transcribing the syncopation in Machaut's works presents no difficulties, but questions as to the proper reduction of note values and the choice of modern meters, in a few cases, are not easily resolved. For example, the rhythmic style of the cantus in Ballade 10

⁹⁶Apel, French Secular Compositions..., p. xxxiv and n. 9.

⁹⁷"Chronologie und Stil...", p. 109; both passages are from the transcriptions by Schrade, Polyphonic Music of the Fourteenth Century, 3:160, cantus, mm. 57, and p. 164, cantus, mm. 15-20.

⁹⁸Ibid., p. 150, cantus, mm. 18-22.

changes in the refrain. In the first part of the ballade, the cantus moves mostly in semibreves and minims in (3, 3), and the only indication of modus comes from several isolated imperfect longs in the tenor. Both Ludwig⁹⁹ and Schrade change meters in the refrain, to 6/4 and 9/4, and Schrade even states that the modus shifts from imperfect to perfect.¹⁰⁰ Imperfect modus could be maintained throughout the refrain, however, and a change of modus is unnecessary. Ludwig uses triplets in 3/4 for the first part of the ballade, so that at least the quarter note of the refrain does not change in value. On the other hand, Schrade begins in 9/8 but does not indicate the relationship of note values for the 6/4 and 9/4 of the refrain. Although this failure to clarify the temporal relationship is confusing, he seems to imply that, in his opinion, the change in predominant note values calls for a faster tempo in the refrain. If the semibreve equals a dotted quarter note in 9/8, a semibreve equalling a quarter note in 6/4 or 9/4 would be a one-third increase in tempo. Probably the increase in speed of the refrain would not be in a 2:1 proportion, although a shift from writing in tempus and prolatio to modus and tempus would imply such a change.

The refrain of Ballade 12 also shifts to a writing in augmented note values according to Gunther.¹⁰¹ Ballade 12 is in (III, 2, 3)

⁹⁹Guillaume de Machaut..., 1:9; see also Apel, The Notation..., p. 353, Facsimile 68 or Paris, Bibliothèque Nationale, f. frç. 1584, f. 459v (Mach A)

¹⁰⁰Commentary to Volumes 2 & 3, p. 104.

¹⁰¹"Chronologie und Stil...", p. 104, n. 74.

throughout, however, Although the refrain uses only longs and breves, there has been no shift from tempus to modus, and the text moves only a bit more slowly than in some other parts of the ballade. In this case, the longer notes in the refrain may be a deliberate attempt to emphasize the quotation of words and melody from a French chace.

The rhythm of all of Ballade 16, Dame, comment qu'amez, is similar to the refrain of Ballade 10, as Schrade notes.¹⁰² That is, Ballade 16 is in (III 3, 2) but with only a few pairs of minims. To Günther, it "seems to be a special case of augmented writing throughout, which is occasionally found in order to present [the use of] semi-minims."¹⁰³ Günther is suggesting, therefore, that the use of augmented note values occurred even earlier than in the Ch manuscript. The question seems to be whether Machaut wrote Ballade 16 in modus and tempus (III, 3) as a deliberate replacement of tempus and prolatio (3, 3) and if so, why. The most probable answer is that the ballade is an early, transitional work, in which the addition of smaller notes was slowing down the breve, but the beat had not yet shifted to the semi-breve. Günther's suggestion of a deliberate augmentation to avoid writing note values smaller than the minim seems less likely, since Machaut never used augmented writing or semiminims in any of his later works.

Only a few other niceties of Machaut's notation need be

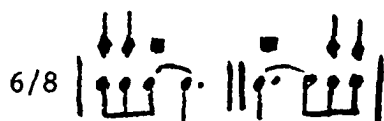
¹⁰²Commentary to Volumes 2 & 3, p. 107.

¹⁰³"(Nr. 16) scheint ein Sonderfall durchgehend aumentierter Schreibung zu sein, die zu weilen angewandt wurde, um Semiminimen zu verhindern." Günther, "Chronologie und Stil...", p. 104, n. 74.

mentioned. On occasion, Machaut applied notational principles with a certain amount of freedom in order to gain rhythmic flexibility, even if some of his practices did not correspond to strict theory. For example, he imperfects a perfect breve of three imperfect semibreves in (3, 2) with a single minim:



Machaut also imperfects an imperfect breve of two perfect semibreves in (2, 3) with two minims together, either preceding or following:



These two examples are true "licences" of notational practice in terms of strict theory, but they "prove to be useful or even necessary extensions of the normal rules of imperfection."¹⁰⁴ On the other hand, such "licences" do not justify the inference that Machaut generally allowed himself licences in his notational practice.

Although copies of Machaut's works rarely use signs to indicate a change of mensuration, such as the O and C in Ballade 4, Biaute qui toutes autres, and the vertical signs in Lais 5, 6 and 12, he occasionally changed mensuration without such signs. Hoppin has shown, however, that Machaut "...almost invariably provided some hint that a change of mensuration was taking place."¹⁰⁵ Many of the changes cause problems for the modern transcriber when attempting to bar by modus, especially

¹⁰⁴Hoppin, "Notational Licences...", p. 14.

¹⁰⁵Ibid., p. 20.

in the motets and mass, but when the secular songs are barred by tempus, most of the difficulties are resolved.¹⁰⁶

One example of a piece that has no mensural signs to indicate changes of mensuration is Rondeau 10, Rose, liz, printemps. The untexted tenor and contratenor move entirely in (3, 2). The texted cantus begins in (3, 2), but in two passages changes to (2, 3). Both changes are indicated by a pattern of rests and note ($\text{—} \downarrow$) characteristic of (2, 3). The untexted triplum, on the other hand, clearly begins in (2, 3), but changes to (3, 2) at the same places the cantus changes. During these two passages, therefore, the top two voices are sounding the different mensurations of (3, 2) and (2, 3) simultaneously.¹⁰⁷ Thus the top two voices of this rondeau resemble, on the tempus level, the simultaneous sounding of different rhythms on the modus level in the two lower voices of Motets 5 and 23 discussed above.

Still another example of the simultaneous use of perfect and imperfect tempus occurs in Rondeau 19, Quant ma dame.¹⁰⁸ Although no mensuration signs are present, both tenor and contratenor of this piece are clearly in (3, 2), but the cantus is just as clearly in (2, 3). Thus the conflicting rhythmic patterns available in (2, 3) and (3, 2) constantly appear together. In later music the same result is most frequently achieved in pieces in (2, 3) by coloration, although a change

¹⁰⁶Ibid., p. 23.

¹⁰⁷Ibid., pp. 20ff and transcription, Example 4, p. 22.

¹⁰⁸Discussed and complete transcription in Günther, "Die Mensuralnotation...", pp. 18-21, including Example 4, which is identical to Schrade, Polyphonic Music of the Fourteenth Century, 3:162; see also Ludwig, Guillaume de Machaut..., 1:67.

from (2, 3) to (3, 2) may also be produced by the respective mensuration signs of 6 and 0. Here one important aspect of Rondeau 19 should be stressed. It is an early indication that minims are of the same duration in both (2, 3) and (3, 2), and a tempus in each mensuration is of the same length. In later music the simultaneous use of different mensurations will become much more common, as will the appearance of mensuration signs themselves. Still, a common factor will be that minims are equal in each of the four primary mensurations.

In summary, the "classical" notation of Guillaume de Machaut presents few problems, so far as actual note values are concerned. The chief task of the modern transcriber is to determine the mensurations and how best to transcribe the music into meaningful modern notation. Machaut employed with elegance and distinction the legacy of notational innovations by Philippe de Vitry, but for the most part he was content with exploring and exploiting the rhythmic possibilities inherent in those innovations. His notation is rarely experimental and is by no means filled with the licences of which he has in the past been accused. Perhaps for just this reason, his younger contemporaries and successors found it necessary to search for new rhythms and new notational means of expressing those rhythms. This search led them to develop the complex style of late fourteenth-century music notated in a sometimes bewildering variety of new note shapes and signs that are still part of the repertory of performers and composers in the early fifteenth century.

CHAPTER II

LATE FOURTEENTH-CENTURY MUSIC

Motets

The rest of the motets of the fourteenth century, like those by Guillaume de Machaut, are conservative in many respects compared to the elaborate mensural difficulties of many secular songs in the Chantilly manuscript (Ch). The Ivrea manuscript (Iv), which is usually dated around 1360, preserves the largest collection of fourteenth-century motets, some 35 or 36 pieces. Three of the motets are by Machaut, and nine are attributed to Philippe de Vitry. Omitting one or two pieces in hybrid forms, Frank L. Harrison has recently published the remaining 22 motets in the Iv repertory.¹ In two of the motets, all voices are in perfect modus and move in longs and breves in the style of the late thirteenth century. One of these, Harrison No. 14, which has a tenor in the form of a rondeau, is even found in the thirteenth-century MS Turin, Biblioteca Reale, Vari 42 (Tu). The other, No. 22, is built on repeated statements of a tenor melody that may also be a secular song.² The remaining 20 pieces must be contemporary with

¹Polyphonic Music of the Fourteenth Century (Monaco, 1968), vol. 5, Nos. 1-22.

²See Ursula Gunther, "The 14th-Century Motet and its Development," Musica Disciplina 12 (1958):36.

de Vitry and Machaut. All are isorhythmic, and most are unipartite, that is, they maintain the same note values in all repetitions of the talea. Six are bipartite, with a single repetition of the color in diminution, usually by one-half. Only one motet is quadripartite, with three repetitions of the color in successive diminution. Portio nature--Ida capillorum--Ante thronum trinitatis (Iv 9, f. 6v, and Ch 102, f. 6lv) has a tenor color divided into two taleae. The color appears successively in perfect and imperfect modus, then in perfect and imperfect tempus, so that, according to the canon, the third repetition is "per semi de primo," or one half of the first and the fourth repetition is one half of the second. By the change of modus, the second repetition is one third shorter than the first statement of the color.

Modus is present in all twenty-two motets, perfect in thirteen and imperfect in nine. Mensurations of (2, 3) or (3, 3) prevail in the upper voices of all except three motets,³ and coloration occurs in the tenor of only one.⁴ Thus, problems of mensuration are at a minimum in the Iv motet repertory.

Mensural complexities escalate considerably when the motets of Ch and Modena (Mod) are taken into consideration. Ch contains thirteen motets, three of which are also preserved in Iv. Mod includes only three motets, one of which is also preserved in Iv and Ch. The

³Harrison, Polyphonic Music of the Fourteenth Century, vol. 5, No. 3 in (2, 2); No. 6 in (2, 2); and No. 20 in (3, 2).

⁴Ibid., No. 8. Motet No. 4 has a different contratenor in Ch, which includes two notes in coloration.

relatively small total of 12 new motets apparently represents the output of the late fourteenth century. The fifteen motets of Ch and Mod⁵ include six that are unipartite. One (Günther, No. 1) has a single statement of a long color divided into six taleae. In four, two statements of a color equal three to five taleae. The most complex unipartite form (No. 6) will be described later.

Although five of the fifteen motets are bipartite, with one diminished statement of the color, the construction of their tenors is generally simpler than that of the "unipartite" No. 6. More complex structures return in the four multipartite motets, which have three, four, or even eight statements of the tenor in various diminished and augmented forms. Thus, these late fourteenth-century motets show an increasing complexity of isorhythmic construction compared to those of Machaut and the Iv manuscript. Modus is always present in the 15 Ch

⁵All 15 motets are published in Ursula Günther, ed., The Motets of the Manuscripts Chantilly, musée condé, 564 (olim 1047) and Modena, Biblioteca estense, a. M. 5, 24 (olim 568), Corpus Mensurabilis Musicae, 39 (Rome: American Institute of Musicology, 1965). However, Günther does not include the first piece in Mod, No. 1, f. 1, Ave sancta mundi by Matheus de Perusio. It is analyzed by Günther in "The 14th-Century Motet...", p. 42, and a transcription may be found in Fabio Fano, ed. Le Origini e il Primo Maestro di Cappella: Matteo da Perugia (La Cappella musicale del Duomo di Milano, Cesari Gaetano, ed.; Istituzioni e monumenti dell'arte musicale italiana, nuova ser., 1; New York: Ricordi, 1957), p. 191; see also the facsimile, Tavola X, opposite p. 240. Perhaps the reason Günther does not include this piece is that she labels it an "isorhythmic Agnus Dei motet" rather than just an isorhythmic motet like the other three in Mod; see her inventory of the manuscript in "Das Manuskript Modena, Biblioteca Estense, a. M. 5, 24 (olim lat. 568 = Mod)", Musica Disciplina 24 (1970):52. The Ch motets are also published in Harrison, Polyphonic Music of the Fourteenth Century, vol. 5. As is customary with two editions of the same music, the numbering of the earlier edition by Günther will be followed by the number in Harrison's later edition in parenthesis.

and Mod motet tenors, perfect in four,⁶ imperfect in six,⁷ of which one, No. 11 from Mod, is in (III, II, 2, 2). Five motets use both perfect and imperfect modus.⁸

Gunther suggests that the three motets in Ch with French texts are among the earliest in that manuscript.⁹ They vary considerably in complexity, however. Motet 1 (12), Tant a souttille pointure--Bien pert qu'en moy n'a--Cuius pulcritudinem (Iv 30 and Ch 112), is in (III, 3, 3) throughout with a unipartite structure of one color with six taleae, some hocket, no coloration, and no mensural problems.

Motet 7 (32), D'ardant desir--Se fus d'amer--Nigra est set formosa (Ch 113), is bipartite, having two colores equal to three taleae in the first section.¹⁰ In the second section, the tenor is diminished in proportio dupla. The two voices with text are in (III, 2, 3), which becomes (3, 3) above the diminished tenor. The tenor has only longs and long rests diminished to breves and breve rests, but their notation is extremely complicated. All notes, dots, and most of the

⁶Nos. 1 (12), 2 (23), 3 (4), and 4 (40).

⁷Nos. 7 (32), 8 (27), 9 (24), 11, 12 (31), and 13.

⁸No. 5 (26), 6 (25), 10 (28), 14 (5a), 15 (29). Gunther's interpretation would bring Nos. 8 (27) and 9 (24) into this group by considering coloration as imperfect modus.

⁹Gunther, Motets..., p. ii, n. 12.

¹⁰Harrison, Polyphonic Music of the Fourteenth Century, 5:178, reads D'ardent. Gunther and Harrison frequently disagree in their description of the number of colores and taleae, with Harrison usually doubling the number found by Gunther, because in bi- and multipartite motets Gunther gives the form of the first section whereas Harrison gives the total form.

accidentals are red, whereas all rests are black. The red longs in the first section are perfect in (III, 2, 3) and become dotted red breves in the second section in (3, 3). The black imperfect long rests in (II, 3, 3) in the first section diminish to breve rests in (3, 3) in the second. Harrison transcribes all voices in the first section in 9/8, as if the mensuration were (II, 3, 3), reasoning as follows:

Although the T is in mod perf tp perf the consistent writing of red l and imp l-rests in the first color and of perf b each followed by a single b-rest in the second color puts it effectively in mod imp throughout. The [two texted voices], however, are in mod perf tp imp.¹¹

On the other hand, Günther's modus transcription of 3 X 6/8 for the texted voices and 3 X 6/8, 2 X 9/8 for the tenor gives the transcription of this motet an entirely different appearance from the other motets. In spite of the complicated notation of the tenor, Günther considers the motet to have been written in the first half of the fourteenth century because of its normal bipartite structure, short isorhythmic periods, simple prolatio maior rhythms and the organization of all voices in modus perfectus in the first part.¹²

The third of the three French motets, Motet 8 (27), L'ardure qu'endure--Tres dous espoir--Ego rogavi Deum (Ch 107), is also bipartite, with a second section in proportio dupla diminution. The use of red notes in the tenor causes frequent changes of rhythm. The contra-tenor is not isorhythmic and is possibly a later addition. Both

¹¹Ibid., p. 200.

¹²Günther, Motets..., p. xxxvi.

Harrison and Gilbert Reaney¹³ transcribe the motet throughout in (II, 2, 3), whereas Günther changes meters in the tenor,¹⁴ even though she explains that "the lower voices are so complicated that the ear can perceive no prevailing modus or tempus arrangement, even though the upper voices in prolatio perfecta are quite without rhythmic peculiarities."¹⁵

If the three French motets in Ch are among the earliest preserved in that manuscript, two other motets that are also found in both Ch and Iv must date from around 1350-1360.¹⁶ Motet 3 (4), Apta caro--Flos virginum--Alma redemptoris (Iv 7 and Ch 101), is very similar to Motet 1 (12), the French motet discussed above.¹⁷ Both are unipartite and in (III, 3, 3), but the tenor of Apta caro has two colores equal to three taleae. The version in Ch has a different contratenor from the one in Iv. It is in (II, 3), but both Günther and Harrison transcribe it by tempus. The last note of each of the three taleae is a red breve in the Ch contratenor.

The third of the motets appearing in both Iv and Ch is Motet 14 (5a), Portio nature--Ida capillorum--Ante thronum trinitatis (Iv 9

¹³"The Manuscript Chantilly, Musée Condé 1047," Musica Disciplina 8 (1954):106, with triplets in the upper voices within duple meter.

¹⁴Motets..., p. 29; also see p. xxxix.

¹⁵"Günther, "The 14th-Century Motet...", p. 43.

¹⁶Die Musik in Geschichte und Gegenwart, s. v. "Ivrea," by Gilbert Reaney.

¹⁷Motet 3 (4) is also found in Mod and two other sources; see Günther, Motets..., p. xxvi.

and Ch 102).¹⁸ Its more complex, multipartite structure has already been described in connection with the motets in Iv. The canon in Iv that rules the two lower voices is lacking in Ch. Since only the first color of the lower voice is written down in both sources,¹⁹ the reader of the Ch version would have found it difficult, but not impossible, to interpret the sign indicating four statements of the color. Except for the formal construction, however, there are no special mensural problems.

Although the five motets just discussed cannot be regarded as late fourteenth-century motets, they show, nevertheless, a tendency towards the complexity that is a hallmark of the period. Of the remaining ten motets, almost every one calls for individual discussion. Motet 6 (25), Alpha vibrans--Coetus venit--Amicum querit (Ch 105), is classed, perhaps undeservedly, as unipartite. It does have a single statement of a color divided into two taleae. Each talea, however, is further divided into two groups of nine notes. The first group is to be read first in its written values, then retrograde and again forward but in diminution. The second group is then performed in the same manner, but it has new rhythms that are nearly a retrograde of the first pattern. This process is then repeated for the third and fourth groups of nine notes that make up the second talea. To complicate matters still further, about half of the tenor is in coloration, with a canon which

¹⁸Harrison, Polyphonic Music of the Fourteenth Century, 5:30, following Iv and Ch, reverses triplum and motetus; but see Gunther, Motets..., p. lix.

¹⁹"Gunther, Motets..., p. lx.

reverses the usual meaning so that red notes are in perfect, black notes in imperfect modus. The complexity of the tenor's construction is counterbalanced by the simplest of all mensurations, (2, 2), in the upper voices, which are strictly isorhythmic. As in the first part of Motet 1 (12), the transcriptions of Motet 6 (25) by Günther and Harrison differ considerably. The piece is complicated and a precise indication of mensural changes in the tenor must necessarily be complicated too. Günther's barring of the tenor makes its mensural organization perfectly clear. Harrison transcribes entirely in 4/4 meter, which seems to indicate (II, 2, 2) and totally obscures the tenor's organization.²⁰

Coloration is also used in the tenor of Motet 9 (24), Pictagore per dogmata--O terra sancta--Rosa vernans (Ch 104), but in its more usual meaning of a change from perfect to imperfect modus, with no change in the tempus values. It causes frequent changes of mensuration, which, even if written between 1370 and 1376 during Machaut's lifetime, show the beginning disintegration of the "previously straightforward and unified arrangement of measures" in motet writing.²¹ In addition, semi-breve coloration in the triplum often produces a measure of 3/4 synco-pated across the barline between two 6/8 measures.²²

One of the most complex tenors is in Motet 15 (29), Inter

²⁰A copy of the tenor is printed by Harrison in Polyphonic Music of the Fourteenth Century, 5:216, No. 2

²¹Günther, "The 14th-Century Motet...", p. 43.

²²See Günther, Motets..., p. 34, mm. 13-14, p. 35, mm. 44-45, etc.

densas--Imbribus irriguis--Admirabile est (Ch 109), which is not truly isorhythmic.²³ Rather, it consists of a short tenor motif of six notes, which increase in value from minim to maxima (). The pattern is stated eight times, each time in a different mensuration as prescribed by a canon. As shown in the listing below, each statement always combines all four levels of mensuration:

1. III, III, 3, 3
2. II, III, 2, 3
3. III, II, 3, 2
4. II, II, 2, 2
5. III, III, 3, 2
6. II, III, 2, 2
7. III, II, 3, 3
8. II, II, 3, 3

Most of the interest in mensural problems of these motets is, as earlier, in the lower parts. Nevertheless, four motets introduce difficulties more often found in the secular music of the period. Motet 4 (30), Multipliciter amando--Favore abundare--Letificat (Ch 110), is dated by Günther in the 1380's or even 1390's because of its long and complicated tenor formula as well as the changes of tempus by coloration, the syncopation, and the conflicting rhythms in the upper voices.²⁴ Each isorhythmic period includes lengthy passages of full red coloration in the usual meaning of a change of tempus from (2, 3) to (3, 2). At the very end of each period, both upper voices have passages of void red notes. With nine void red minims per tempus of (2, 3), the effect is of a measure of 9/8 or a tempus of (3, 3)

²³Harrison, Polyphonic Music of the Fourteenth Century, 5:199, says, however, 8 colores disposed in 8 taleae.

²⁴Günther, Motets..., p. xxvii.

within the time span of a measure of 6/8 or a tempus of (2, 3). This use of void coloration is unique in the motets but is common in the secular pieces in Ch. As Günther points out, in the 35th bar of each period, conflicting rhythms between the differing minim values result from the simultaneous use of red full minims (3, 2) in the triplum and void red minims (3, 3) in the motetus.²⁵ The last three measures of the first period of the motet are shown in Example 2.²⁶

Example 2

The image shows a musical score for three voices: triplum (top), motetus (middle), and bass (bottom). The time signature is 6/8. The notation includes various note values, rests, and coloration symbols (dots and lines) indicating void red and full red notes. A measure number '35' is visible above the first staff.

²⁵ Günther, "The 14th-Century Motet...", p. 44.

²⁶ According to Günther, Motets..., p. xxix, and Harrison, Polyphonic Music of the Fourteenth Century, 5:200, notes 2 through 7 of measure 35 are, in error, all void red semibreves instead of minims. In the example, half brackets of dots indicate void red and half brackets of solid lines indicate full red notes.

The second of the four more complex motets, Motet 5 (26), Rex Karole--Leticie paces (Ch 106), was presumably written around 1375.²⁷ It is unusual in several ways. The vocal introitus begins with imitation between triplum and motetus, a technique that will become more common in later motets. Each of the five isorhythmic taleae opens in (3, 2) and then changes to (2, 2). The change is achieved by coloration in Ch, but the tenor in MS Strasbourg (Str) 10, f. 7v, uses the mensuration sign C for 2, 2, later changing by the sign O back to 3, 2. The mensuration of the top voices does not change, but continues in (3, 2) throughout.²⁸ At the end of each section, lively rhythmic activity is intensified by a long chain of syncopations in the triplum, followed by a rhythmic sequence in all voices.²⁹ Of perhaps greatest significance from a mensural point of view is the further proof of minim equivalence between (2, 2) and (3, 2) when these mensurations occur in different voices at the same time. It is the equivalence of minims, indeed, that make it possible to perform the most complicated motets, such as No. 5 (26), as well as the previously discussed No. 15 (29) and No. 12 (31). As Günther says, all voices are "constantly held

²⁷Günther, "The 14th-Century Motet...", p. 39, and Motets..., pp. xxx-xxxi.

²⁸It should be pointed out that Günther changes the meter of the top voices to correspond to the change of mensuration in the lower voices "according to the musical sense" (Motets..., p. xxxii); Harrison, Polyphonic Music of the Fourteenth Century, 5:141-148, bars throughout in (II, 3, 2), although his notes, p. 198, state that the tenor begins in perfect modus.

²⁹Günther, "The 14th-Century Motet...", p. 44.

together by the regular minim beat."³⁰

The third of the more complex motets is Motet 12 (31), Sub Arturo--Fons citharizantium--In omnem terram, by Jo. Alani. It is found in Ch (No. 111) and was also copied in a fifteenth-century source, Bologna, Civico Museo Bibl. Musicale, Q 15 (olim G. B. Martini) (BL), No. 218. The tenor color is arranged in three taleae and is stated three times in a graduated diminution. The text of the motetus specifies that there are three statements of the tenor (called pes), two of them with hemiola proportion, and that the talea is stated nine times.³¹ Ch has a canon with instructions to read the color successively in (3, 3), then (2, 3), and finally in (2, 2). BL includes three mensuration signs, one above the other, 0, 0, and C. The differing instructions for the second repetition, (2, 3) in Ch and 3, 2 in BL are musically irrelevant, because the tenor has no note values smaller than a breve.³² Although the tenor is in imperfect modus, Günther bars it partly by tempus with changes from 9/8 to 3/4 to 2/4. Harrison, however, transcribes the entire motet in 6/8 or 3/4, with some irregular measures.³³ The motetus has coloration expressed by black void notes in BL. Günther uses the meter of 2/4 when reading the equivalent red breves in Ch, which are unnecessarily marked

³⁰Ibid., p. 46.

³¹See Günther, Motets..., p. liii, lines 25-30.

³²Ibid., p. liv.

³³Harrison gives a second transcription of the tenor according to the canon; see Polyphonic Music of the Fourteenth Century, 5:217, Appendix II, No. 4.

with a reversed semicircle instead of C for tempus imperfectum in the first section. Despite these seeming complications, the motet is fairly straightforward, with some syncopation and little melodic inspiration. Although two or even three mensurations may be going on simultaneously for short passages, there is no conflict of rhythms between the minim values. Considering its possible date of 1358, however, the rhythmic complications of this motet are much greater than the contemporary motets by Machaut.³⁴

To complete this survey of mensural problems in late fourteenth-century motets, the fourth of the more complicated motets, Motet 13, Laurea martirii--Conlaudanda est--Probe me domine (Mod 6), may prove to be a connecting link with early fifteenth-century practice. Indeed, the motet may be an early fifteenth-century piece, possibly by M. de Perusio.³⁵ It is a multipartite work, with a tenor color divided in two taleae. The color is written in (II, 3, 3) and is followed by a sign indicating two repetitions. A canon prescribes that the second statement be reduced by one-half, "per medium," to (2, 3) and the third by one-third of the first to (II, 3, 2). The upper voices are in (2, 3) throughout,³⁶ with occasional passages in

³⁴Gunther, "The 14th-Century Motet...", p. 41.

³⁵Die Musik in Geschichte und Gegenwart, s. v. "M. de Perusio," by Gilbert Reaney. See also Gunther, Motets..., pp. lv-lvi.

³⁶In her isorhythmic analysis, Gunther, Motets..., p. lvi, gives (III, 2, 3) for the first statement and (II, 3, 2) for the third statement, but modus does not seem important in the triplum and motetus.

red coloration, two of which are in broken tempus groups.³⁷ All have the usual meaning of a change as if to (3, 2). The first isorhythmic period of the tenor causes no difficulty. It simply moves in measures of 9/8 (II, 3, 3), against measures of 6/8, (2, 3), in the top voices. The second period is more complicated because of one-half diminution of (II, 3, 3) means that two measures of 9/8 now equal one and one-half of 6/8. An exact indication of these values results in a complicated modern score.³⁸ Günther's solution is to transcribe the upper voices in 9/8 against an equivalent measure of 6/8 in the tenor, with a quarter note of the tenor equal to a dotted quarter of the upper voices. Thus, six eighth notes in the tenor equal nine in the upper voices. This is a reasonable solution, so long as the tempo of the top voices does not change when the performers move from the first to the second isorhythmic period. The third and final period pits (3, 2) or 3/4 meter in the tenor against (2, 3) or 6/8 meter in the upper voices, with minims of the same value. Here the conflict of rhythm is between semibreves. Only in this last section, however, does there occur the unique, if fleeting, appearance of semiminims in these motets. One pair occurs in measure 67 and another in measure 83. In the motets from Ch, as well as those by Machaut, the minim is the smallest note value.³⁹ It is all the more striking that semiminims first occur in a Mod motet,

³⁷Ibid., p. 55, triplum, mm. 56 and 64.

³⁸See the transcription by Fano, Matteo da Perugia, p. 310.

³⁹Günther, "The 14th-Century Motet...", p. 46.

because in 35 out of 99 secular chansons in Ch the minim is divided into semiminims.⁴⁰

As with earlier music, the motets are more conservative and the secular songs more experimental and progressive. Of primary interest from a mensural point of view is the more frequent change of modus and tempus, usually through coloration, in the late fourteenth-century motets. In some pieces, there is also a decrease in regular modus groupings and a corresponding increase in rhythmic complications, especially with the smaller note values. There is always minim equivalence among the primary mensurations. Syncopation and conflicting rhythms, especially in the upper voices, occur with increasing frequency. Most of the problems in the motets arise from the use of proportional diminution of the lower voice or voices, but the problems mainly involve the barring of modern transcriptions rather than difficulties in the notation itself. Only a few upper parts introduce any of the complexities found in abundance in contemporary secular songs.

Secular Works

The exaggerated use of complicated notational methods to achieve rhythmic variety in late fourteenth-century French music is especially characteristic of secular songs. Willi Apel adopted the term "Mannered" to designate the notation of these songs and of any music in the rhythmically complicated category.⁴¹ He apparently felt

⁴⁰Ibid.

⁴¹The Notation..., Chapter IX.

the label was appropriate because, in some cases, "these elaborations of notation are mere tricks of affected erudition, since the effects desired could be represented in much simpler ways. In other cases they are indispensable..."⁴² In discussing the musical style, Apel later modified the label to "Manneristic," to avoid the disparaging meaning usually implied by the term "Mannered."⁴³ Apel includes not only Ch and Mod but also the MS Turin (Tu B) in his listing of manuscripts containing mannered notation.⁴⁴ With regard to some stylistic aspects of the music in Tu B, such as the extended passages of syncopation, Apel is on firm ground for including Tu B in his manneristic grouping. However, Hoppin has shown that "in comparison particularly with Ch and Mod, the notation of Tu B proves to be singularly conservative."⁴⁵

In contrast to Apel's terminology, Ursula Günther has gone to great pains to prove that ars subtilior would be a historically more accurate designation of the style of late fourteenth-century music.⁴⁶ She almost always refers to ars subtilior only in connection with Ch and Mod,⁴⁷ but some of the late fourteenth-century secular pieces in the

⁴²Ibid., p. 403.

⁴³French Secular Music of the Late Fourteenth Century (Cambridge, Mass., 1950), p. 10; see also p. 24.

⁴⁴The Notation..., p. 203 and p. 404.

⁴⁵Richard H. Hoppin, "The Cypriot-French Repertory of the Manuscript Torino, Biblioteca Nazionale, J. II. 9," Musica Disciplina 11 (1957):104.

⁴⁶Ursula Günther, "Das Ende der ars nova," Die Musikforschung 16/2 (Apr.-Jun. 1963):105ff.

⁴⁷Ibid., p. 115.

MS Paris, Bibliothèque Nationale, nouv. acq. frg. 6771, also known as Codex Reina (PR), certainly belong in that category. Furthermore, Günther dates the period of the ars subtilior within the narrow time span between the 1380's and 1400.⁴⁸ The latter date is somewhat questionable, because some of the pieces in Mod seem to belong to the early fifteenth century, especially the works of Matheus de Perusio.

Apel estimates that slightly over 500 French secular compositions remain from the entire fourteenth century, but that number includes the works of Machaut and the 166 pieces from Tu B.⁴⁹ Some 246 pieces are found in the three main sources of manneristic notation: 99 in Ch,⁵⁰ 67 in Mod,⁵¹ 80 in PR,⁵² and 57 in other manuscripts. With the exception of the works of Machaut and those in Tu B, Apel has published what he considers to be all the other polyphonic French secular chansons of the fourteenth century, a total of 303 pieces.⁵³ Not all of

⁴⁸Ibid., pp. 114-115. Günther summarizes her theories in Motets..., p. i.

⁴⁹Willi Apel, ed., French Secular Compositions of the Fourteenth Century (Rome, 1970-1972), 1:ix. Pieces will normally be referred to by the number in this edition.

⁵⁰See Reaney, "Manuscript Chantilly...", p. 62, Table 1.

⁵¹See Günther, "Manuskript Modena...", pp. 19-20.

⁵²See Nigel E. Wilkins, ed., A 14th-Century Repertory (52 Ballades, Virelais, Rondeaux) from the Codex Reina (Paris, Bibl. Nat., Nouv. Acq. Fr., 6671) Corpus Mensurabilis Musicae, 36; (Rome: American Institute of Musicology, 1966), p. iii.

⁵³Apel, French Secular Compositions..., 118 in Vol. 1, 61 in Vol. 2, and 124 in Vol. 3.

these pieces are manneristic or belong in the category of ars subtilior, but it is to those with complicated notation that a survey of the problems of notation naturally gravitates.

A large majority of the pieces remain in one mensuration throughout in all voices, although brief changes may be introduced by coloration or by the use of special note shapes. Apel transcribes only in the four modern meter signatures of 9/8 for Θ , 6/8 for ϵ , 3/4 for O , and 2/4 for C . It is therefore easy to determine the frequency with which the four primary mensurations are used and whether perfect or imperfect prolation was favored. The number of pieces in each mensuration is shown in Table 1. The "Other" column includes pieces in which two or more voices are in different mensurations.⁵⁴

The combined totals of 9/8 and 6/8 equal 143 pieces in perfect prolation, as against 147 in 3/4 and 2/4 or imperfect prolation. To these may be added the 96 chansons of Machaut, 38 in perfect, and 58 in imperfect prolation,⁵⁵ for a grand total of 181 in perfect and 205 in imperfect prolation. The number of pieces in each of the four primary mensurations may be of little importance, but it does show that ϵ was the most popular mensuration for polyphonic secular French chansons of the fourteenth century, although composers wrote more pieces in the imperfect prolations of O and C . Table 1, therefore, is a guide to the relative popularity of the four primary mensurations and provides

⁵⁴Nos. 9, 14, 51, 55, 81, 105, 136, 145, 170, 186a, b, c, 290, 292, 293; also the pieces in 8:1 reductions (Nos. 49, 106); and No. 54 (in II, 2, 2).

⁵⁵See Gunther, "The 14th-Century Motet...", p. 34.

statistical evidence of the slight favoritism for imperfect prolation.

TABLE 1
MENSURATIONS IN FRENCH SECULAR COMPOSITIONS...

	9/8 θ	6/8 €	3/4 O	2/4 C	Other	Totals
Vol. 1	5	50	36	19	9	119 (a)
Vol. 2	2	23	14	19	3	61
Vol. 3	3	60	34	25	4	126 (b)
Total	10	133	84	63	16	306

(a) No. 12 in 3/4 (O) and the same piece, No. 12a, in 6/8 (€) are both counted.

(b) Nos. 291a and 6 in 6/8 (€) and the same piece, No. 291c, in 2/4 (C), are all counted.

Many of the chansons have short passages or even whole sections in which the voices sing in different mensurations simultaneously. Unless otherwise ruled by a Latin canon, however, the one note with the same duration in all four of the primary mensurations is the minim. One of the clearest examples of this common value of the minim may be seen in Apel No. 5, Anthonello de Caserta's Dame d'onour c'on ne puet, Mod, f. 38v. At the beginning of this rondeau three signs are given: € for the cantus, θ for the contratenor, and O for the tenor. In the second half of the piece, the cantus changes to O, the contratenor to C, and the tenor to €. Whereas the measure lengths of the cantus and tenor

voices are the same in both sections, the Θ and C mensurations of the contratenor call for longer and then shorter measures than those in the other voices.⁵⁶ The minim, transcribed in each of the four primary mensurations as an eighth note, always has the same duration. Neither the equivalence of minims nor the employment of more than one mensuration in different voices at the same time is exceptional in the Caserta piece. Its normalcy is stressed here because an understanding of proportions, diminution, augmentation, and other special notational devices will be clear only when related to this standard practice of minim equivalence. Any piece in which minims are not equivalent in the four primary mensurations is exceptional and produces some proportional relationship. This non-equivalence or proportional relationship of minims is usually indicated in some way in the music.

Coloration

In addition to the standard rhythmic patterns available in the four primary mensurations, composers of late fourteenth-century secular music delighted in achieving a wide variety of rhythms by means of coloration. Coloration at this time results primarily from the use of three types of notes: full red, void red, and void black. All three types are used in all voice parts and with much greater frequency than in earlier fourteenth-century sources. The use of full red or void black coloration seems to have been a matter of scribal preference. In

⁵⁶See the transcription in Apel, French Secular Compositions..., 1:14; Apel calls attention to a similar piece, Plus ne puet musique (Ch, f. 33), published in vol. 2, p. 85; see p. xix (No. 168).

Ch normal coloration is by full red notes, whereas in PR void black notes are frequently used with the same meaning.

As has already been shown, the normal meaning of coloration, either in full red or void black notes in otherwise full black notation is a change from one basic mensuration to another. In 3, 3 or 2, 3, change is to 3, 2 (Figure 1).

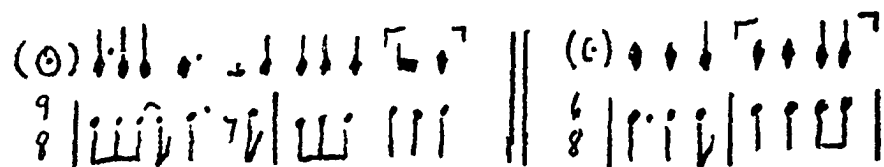


Figure 1

In 3, 2, coloration produces a change to 2, 2 mensuration. Usually the coloration substitutes three breves or their equivalent in smaller notes for two, with the result that three tempora of 2, 2 replace two in 3, 2. Only the perfect breves are reduced by one third, while semibreves and minims keep their same value when they are used (Figure 2).

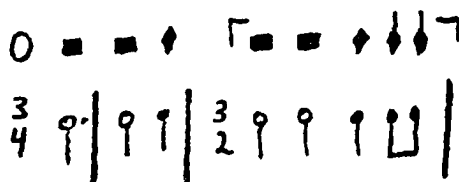


Figure 2

Coloration applied to values that are normally duple results in a proportional relationship of minims as well as a change of mensuration.

The usual proportions are either 3:2 or 2:1, and are used most often in texted voices. Full red or void black coloration of minims, or of semibreves and minims, creates a 3:2 proportion of minims within the basic mensurations of 2, 3 or 3, 2 by substituting a 9/8 measure in the time of a 6/8 or 3/4 measure (Figure 3).

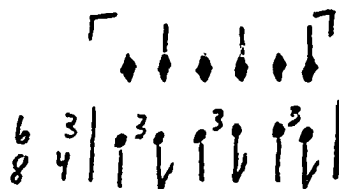


Figure 3

The same rhythm is also occasionally notated by a full red dragma and minim (♩ ♩).⁵⁷ In a similar manner, breves and semibreves in coloration within a basic mensuration of 2, 2 create a 3:2 proportion of semibreves and minims (Figure 4).



Figure 4

Coloration by void black notes may have a meaning different from that of normal full red coloration. This different meaning is mostly encountered in texted voices, probably because they have smaller note

⁵⁷See, for example, Apel, French Secular Music..., p. 28*, cantus, mm. 26 and 36.

values. When only void black minims (ϕ) occur in such voices, the result is a 2:1 proportion to the normal minim. Thus, these minims are not true coloration but a way of writing semiminims.⁵⁸ Similarly, when both void black semibreves and minims are found, six minim values replace three minims of 2, 3 mensuration. The result is a 2:1 proportion of 2, 3 mensuration (Figure 5).⁵⁹



Figure 5

Like void black, void red coloration is common but always indicates a proportional relation of minims. The usual proportion is that of 4:3 on the minim level. All notes in void red are imperfect as in 2, 2, and passages of void red color almost always occur within a basic mensuration of 2, 3, replacing one tempus of 2, 3 with two of 2, 2 (Figure 6).

In all mensurations, individual notes in coloration may occur which either belong to a broken grouping or to no coloration grouping whatever. This is called incomplete or syncopated coloration, and the

⁵⁸Void black minims with the value of semiminims are also found in the Old Hall Manuscript (OH); see Apel, The Notation..., p. 366.

⁵⁹See Ursula Günther, "Die Anwendung der Diminution in der Handschrift Chantilly 1047," Archiv für Musikwissenschaft 17/1 (1960):14, Example 3.

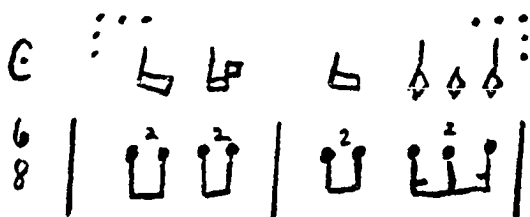


Figure 6

names explain its usage.⁶⁰ In addition, single notes or one or more notes in a ligature may be in coloration. An example would be a half-black, half-red breve in (2, 3), which would equal five minims, three for half of the breve, as if a perfect semibreve, plus two minims for the other half, as if a colored semibreve that loses one-third its value (■ = ♩).

Occasionally, coloration may have unexpected meanings. The use of void black notes in a 2:1 proportion has already been mentioned. An example of full red minims with two different meanings in the same piece may be found in the contratenor of a Kyrie from MS 6 of Cambrai, Bibliothèque de la ville (Ca 6).⁶¹ This manuscript is only slightly earlier than Ox.⁶² Both cantus and contratenor have dotted black minims followed by full red minims that have the value of a semiminim.⁶³ At

⁶⁰Apel, The Notation..., p. 406.

⁶¹Apel, The Notation..., Facsimile 71 (which replaces red with void notes); also see Willi Apel, Die Notation der polyphonen Musik 900-1600 (Leipzig: VEB Breitkopf & Härtel, 1970), Facsimile 71 (which has the full red notes).

⁶²Apel, The Notation..., p. 362.

⁶³The dot is missing after the first black minim followed by a full red minim in Apel, Die Notation..., Facsimile 71.

the end of the Kyrie, however, the contratenor has a coloration passage that changes the mensuration from 3, 2 to 2, 2 and leaves the value of the minim unchanged.

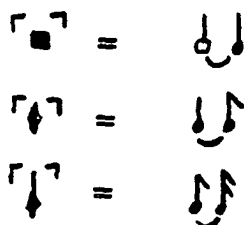
An unusual use of void red coloration occurs in the mensuration of (2, 2). Usually void red coloration is reserved for a 4:3 minim proportion in perfect prolation. However, in Matheus de Perusio's Le greygnour bien (Mod, f. 32), full red coloration, which is in a 3:2 proportion of semibreves and minims to the basic (2, 2) mensuration, is interrupted by two passages of void red semibreves and minims in a 3:2 proportion to the full red, or a 9:4 proportion to the black minims of (2, 2). Thus, whereas the full red color creates a measure of 6/8, the void red creates a measure of 9/8 in the time of 2/4.⁶⁴

A use of coloration that is exceptional in the late fourteenth and apparently disappears in the fifteenth century is to change duple values to triple, so that the color functions as a dot of addition. Apel describes this as "reverse coloration,"⁶⁵ which can only be applied to imperfect notes. Since it is usually used for single notes, it does not produce a change of mensuration. Semibreves and minims in (3, 2)

⁶⁴See Apel, French Secular Music..., p. 2*, cantus, mm. 59-61. The fourth void note, a semibreve in Plate I in some copies of this publication, should be a void red minim, as Apel transcribes.

⁶⁵The Notation..., p. 406.

and all notes in (2, 2) can be increased by reverse coloration:



Anthonello de Caserta uses full red reverse coloration in both O and C in the cantus of his ballade, Du val prilleus.⁶⁶ In contrast, Matheus de Perusio indicates reverse coloration in Le greygnour bien by means of void black notes, probably because he uses full red notes in this piece with a different meaning.⁶⁷

To summarize, normal coloration, using either full red or void black notes, usually produces a change of mensuration, from ̅ or ̄ to ̅, or from ̅ to C. Color reduces perfect notes by one-third but does not change imperfect values. The rules for imperfection and alteration may apply to notes in coloration, especially in extended passages. When only duple values are colored, the result is a proportional relationship that reduces the value of minims. Less common, and found only in (2, 2) and (3, 2), is reversed coloration, in which the notes gain one-half rather than lose one-third of their value. Another less common

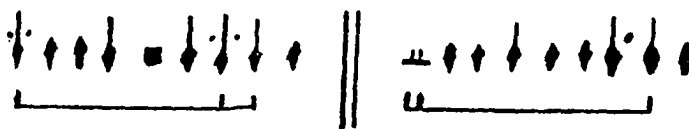
⁶⁶Apel, French Secular Music..., pp. 35*-36*, mm. 24-28 in O and mm. 68 and 70 in C.

⁶⁷Ibid., p. 1*, cantus, mm. 1, 3, 9, etc.; see facsimile, Plate I.

type of coloration is void black semibreves and minims in a 2:1 proportion, so that the void black minims have the value of semiminims. Half-coloration is rather special and somewhat like a new note shape, but the normal meaning is that the colored half of the note is reduced one-third of its value. Void red coloration is almost exclusively used with perfect prolation to produce a 4:3 proportion of minims. Of the various types of coloration, reversed coloration is not found in later sources, but syncopated and half-coloration are common in the earlier pieces in Ox.

Syncopation

As was noted in Chapter I, the technique of syncopation is of two basic types. The first is commonly found in the duple values of 3, 2 and 2, 2, and needs no further explanation. The second type is applied to triple units, especially 2, 3, and is a displacement of perfections. A unit of perfection is broken up by the insertion of one or more units that are displaced by one or two minims from their normal positions:



Usually syncopation is initiated by minim notes (or rests) that are prevented from forming a perfection by dots of division or syncopation. Sometimes, however, single colored notes or special note shapes perform the same function. The point to be stressed is that, between the broken-up perfection, the units are sung in the normal way but are displaced in relation to the units in the other voices. The only real

difficulty created by this type of syncopation is the problem of indicating the displaced units in a modern score. The addition of lines to indicate the broken perfections, as has been done in the above examples, may be helpful in the more complicated passages. Such rhythmic aids are used by Apel, who labelled the technique "displacement" syncopation.⁶⁸ Manfred Bukofzer's alternative suggestion, "durational" syncopation, is much less descriptive of what actually happens.⁶⁹

Machaut used both types of syncopation, of duple values and of displaced perfections, but the latter is exploited by composers of the late fourteenth century. A particularly complex example is Matheus de Perusio's Le greygnour bien (Mod, f. 32), in which extended passages are initiated by dots of syncopation, rests, and colored notes.⁷⁰

Johannes Ciconia achieves syncopation by these same methods in Sus un fontayne (Mod, f. 27), but he adds to the complex rhythmic texture by using as many as three different mensurations or proportions simultaneously.⁷¹

Perhaps the most complicated examples of syncopation are found in Sumite karissimi by Zacharias (Mod, f. 11v).⁷² The piece has no

⁶⁸Apel, The Notation..., pp. 414-418.

⁶⁹Manfred Bukofzer, "'The Notation of Polyphonic Music': A Review," The Musical Quarterly 30 (January 1944):112.

⁷⁰See Apel, French Secular Music..., p. 1* and facsimile, Plate I.

⁷¹Ibid., p. 108*.

⁷²See the copy of the original notation in Johannes Wolf, Geschichte der Mensural-Notation von 1250-1460 (Wiesbaden, 1965), 2:No. LXX, and transcription, 3:168.

mensuration signs and includes both void black and red notes. Syncopation is almost constant because few normal groupings of notes are completed. Instead, they are interrupted by other notes, which may themselves be isolated parts of a grouping in a completely different rhythm. Apel has suggested that "...the rhythmic intricacies of this piece are so involved that a satisfactory rendition in the normal notation of the present day is not possible."⁷³ Günther agrees with Apel that Sumite karissimi may be the most complicated piece in the entire history of music.⁷⁴

Displacement syncopation tends to disappear in the early fifteenth century. Some of the older compositions in Ox, which are also preserved in Ch and Mod, still use it, but it is rarely found in the later pieces. Syncopation of duple values never disappears, although it may not be used as extensively.

New Note Shapes

One of the most striking developments of late fourteenth-century French music was the proliferation of new note shapes. These special notes, called notae caudatae, almost always indicate a rhythmic value different from the normal notes available in the four primary mensurations. Several produce values smaller than the standard minim. The smallest note value used by Machaut was a minim, and even the

⁷³Apel, The Notation..., p. 432; however, see Apel, French Secular Compositions..., 3:216.

⁷⁴Günther, "Das Ende der ars nova," p. 115, quoting Apel, The Notation..., p. 432.

motets in Ch never use a note value smaller than a minim,⁷⁵ although there are a few in one later motet from Mod. However, of the 99 chansons in Ch, 35 divide the minim into semiminims or other notes of smaller value.⁷⁶ Basically a duple value, the minim divides into two semiminims, which quickly became one of the standard note values, although its early use was chiefly limited to pieces in 6 (2, 3).

In so far as later music is concerned, the single most important new note form is the flagged semiminim () , which had long been used in Italian notation. This form normally is in a 2:1 proportion to the minim in either perfect or imperfect prolation. In Ch and Mod, it appears mostly in what seem to be late works by Italian composers such as Matheus de Perusio. Earlier French composers found other ways to indicate subdivisions of the minim into smaller values and made little use of the flagged semiminim.

Whereas the flagged semiminim, when it does appear, is used in a fairly reliable and consistent manner, the many new and unusual note shapes that decorate the pages of such manuscripts as Ch and Mod sometimes defy rational analysis. Most of the new shapes seem to be derived from two basic forms, the semibreve and minim with descending stems ( ). The minim with descending stem is usually called a dragma. The two forms occur in both Italian and French sources. The semibreve with descending stem, which in Italian notation is a semibrevis major, indicated the via artis, that is, longer values at the

⁷⁵Günther, "Das Ende der ars nova," p. 113.

⁷⁶Günther, "The 14th-Century Motet...", p. 46.

beginning or in the middle of a breve grouping. Its value is variable, and depends upon the divisio and the number of other notes within the breve group in which it occurs.⁷⁷ Even more than in the Italian divisiones, the note in French sources has no "normal" value.⁷⁸ Neither, in fact, does the dragma, although it is usually in a 2:1 proportion to the semibreve with descending stem.

Apel has published two tables of some of the special note shapes that often have different meanings, not only in different manuscripts and in the works of different composers, but also within individual pieces.⁷⁹ Only Matheus de Perusio seems to have used a group of special note shapes with any consistency.⁸⁰ Nevertheless, combinations of semibreves and minims with descending tails are most frequently found in works that are in perfect prolation. Within that prolation, they normally indicate a rhythmic change to duple values, either in a 2:1 proportion of semibreves or 4:3 proportion of minims, the same as the most common meaning of void red semibreves and minims. As an example of this normal meaning in Ch and Mod, Par maintes foy by Vaillant (Ch 60, f. 60) may be cited: four semibreves with descending tails (♩) are in a 2:1 proportion with the semibreves of (2. 3); 6/8 | ♩ ♩ |. In the same piece, dragmas (♩) equal half the value of

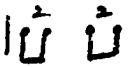
⁷⁷Apel, The Notation..., pp. 371-73.

⁷⁸Gunther, "Das Ende der ars nova," p. 110.

⁷⁹Apel, The Notation..., p. 405, and French Secular Music..., p. 8.

⁸⁰Apel, French Secular Music..., p. 8. See also, Apel, Die Notation..., p. 444 and the chart on p. 455.

the semibreves with descending tails, producing a 4:3 proportion with the minims: $6/8$ | . ⁸¹

On the other hand, in En attendant souffrir (PK, f. 84v), dragmas produce a 2:1 proportion with the semibreves in (2, 3):  = $6/8$ | . ⁸² As has been mentioned above, void red semibreves and minims in Ch are frequently used to produce the same 2:1 and 4:3 proportion of semibreves and minims. ⁸³ In Philipoctus de Caserta's En remirant (Mod, f. 34v), full red semibreves with descending stems and red dragmas are used in one passage, whereas semibreves and minims following the sign of the reversed semicircle, , produce the same rhythmic pattern. ⁸⁴ This last is to become the standard notational method of producing the 4:3 proportion of minims in later music. The minim and semiminim with downward stems are used in the manuscript Tu B, as is the reversed semicircle. Eight of the 64 secular songs in the final section of Tu B use the special note shape, and nine other songs get the same result with the sign  followed by semibreves and minims. Indeed, two of the nine songs use both methods in different voices to achieve the same rhythm. ⁸⁵ By the time of Ox, these special note shapes

⁸¹See Apel, French Secular Music..., p. 114*, cantus, m. 65.

⁸²Ibid., p. 93*, cantus, m. 49; see Plate VII. The  sign from Ch that Apel gives at the beginning of the cantus is in error and belongs with the piece on the other side of the folio.

⁸³See Gunther, "Anwendung...", p. 11.

⁸⁴Apel, French Secular Music..., p. 98*, cantus, mm. 25-26 and 12-15; see Plate III.

⁸⁵Hoppin, "Cypriot-French Repertory," p. 105 and notes 4-5.

disappear completely, but the 2:1 and 4:3 rhythmic change is still frequently used, although always with semibreves and minims under the sign of the reversed semicircle.

Proportions by Canons and Figures

The most common ways of indicating proportional relationships in mannered notation are by coloration, special note shapes, and the sign $\mathcal{J}$, as has been discussed. Proportional relationships prescribed by canons or indicated by figures are the least common. All proportions are of two main types. In the first, normal mensurations are written in larger or smaller note values that must be read in diminution or augmentation. This type is inaudible in performance and invisible in modern transcriptions. This usually results from the use of duple proportion but may also result from triple or quadruple proportion. The second type produces an audible effect by making unequal notes that normally have the same value. This usually happens on the minim level, although it may also be at the semibreve and breve levels. The two most common proportions of this type are the superparticular ratios of 3:2 and 4:3.

The three most common proportions, 2:1, 3:2, and 4:3, are indicated in a variety of ways. In addition to special note shapes and coloration, two ways are sometimes used. The first and certainly the more precise way, is by a Latin canon that defines the proportions. Occasionally, however, units of the four primary mensurations that are unequal in length are made equal without a canon. For example, a piece may have one voice in a tempus of 2, 3 that must, in transcription, be

equivalent to a tempus of 2, 2 in another voice, yet there is nothing to indicate the 3:2 proportion of minims. In such cases, it seems likely that a canon is missing from the manuscript copy, or else the composer simply left a puzzle for the performers to solve. The second way of indicating proportional relationships is by single numbers or fractions. Although this second way is the least often used, it is found in a few pieces in Mod, in the two Cordier pieces added at the beginning of Ch, and in a few pieces in Tu B. By the time of the Ox manuscript, however, numbers and fractions without canons to define their meanings have come into general use.

A few examples of the three most common proportions and the ways they are most frequently indicated will show both the simplicity of the basic principles of proportions and the conflicting rhythms that they produce. These are really the same proportions that have been illustrated by coloration and special note shapes. Now they are indicated in more precise ways. The examples will proceed from the simple to the more complex, from 2:1 to 3:2 to 4:3.

A 2:1 proportion of minims is indicated by the canon of Une dame requis by Fr. Johannes Janua (Mod 16, f. 12).⁸⁶ The basic mensuration is (2, 2), and the part of the canon that refers only to the cantus specifies that red notes are to be performed in a 2:1 proportion (rubee proportio dupla). Red notes in the cantus are chiefly minims and function, therefore, as semiminims. Exactly the same effect is

⁸⁶Apel, French Secular Music..., p. 96*, cantus, mm. 7-8; also see the notes, p. 32 (No. 58). The transcription is unchanged in Apel, French Secular Compositions..., 1:88.

one tempus, without benefit of canonic instruction.⁸⁹

A 3:2 proportion of minims is called for by the canon accompanying Jo Cunelier's Lorsques Arthus (Ch 61, f. 40v).⁹⁰ In simple fashion, the canon reads: Ad terciam in sesquialtera..., meaning at the figure 3, read in 3:2, the proportion that the single figure without canon will normally indicate in later music.

Perhaps the most curious examples of 3:2 proportion occur in pieces with no canon to indicate that something unusual should take place. For example, Matheus de Perusio's Dame que j'aym (Mod 13, f. 10v) begins in C in the cantus and has the usual minim equivalence with the mensuration of the tenor and contratenor, which are in (2, 2) throughout. But three times when the cantus changes to O, a tempus must be performed in the time of a tempus of (2, 2).⁹¹ The 3:2 proportion of semibreves and minims simply lacks an explanatory canon. The same thing happens in the contratenor of another Perusio piece, Le greygnour bien (Mod 61, f. 32). The basic mensuration of the cantus and tenor is (2, 2). However, the basic mensuration of the contratenor is (2, 3), with changes to J and O, all in a 3:2 proportion to the other parts.⁹² Again, a canon to indicate this unusual relationship of normal mensurations may be lacking.

⁸⁹Ibid., contratenor, measure 11.

⁹⁰See the copy of the notation and transcription in Günther, "Anwendung...", p. 19, Example 8. See Apel, French Secular Compositions..., 1:30.

⁹¹Apel, French Secular Music..., pp. 9*-10*, mm. 28f, 51f, and 71f.

⁹²Ibid., pp. 1*-3*.

Apel pointed out a strange use of mensuration signs in Ung lion say (Ch 35, f. 28v).⁹³ The sign C really means C (2, 2), and the sign O means O (3, 2). The unusual sign $\text{C}^\flat$ means C (2, 3), but, as in Le greygnour bien, it is in a proportional relationship to the mensuration of 2, 2 in the other voices. In $\text{C}^\flat$ both full red and void red coloration have their normal meanings in (2, 3). The 3:2 proportion of minims and the use of full red coloration in $\text{C}^\flat$ (2, 3) against the basic mensuration of C (2, 2) are illustrated in Example 3. Certainly a canon to explain these proportional relationships would have been helpful.

Example 3

The image shows three staves of musical notation. The top staff is in treble clef with a key signature of one flat (B-flat) and a 2/4 time signature. It contains a melodic line with eighth and sixteenth notes, some beamed together in groups of three. Above the staff are mensuration signs: a 'C' with a dot, followed by several vertical strokes with flags, and a 'T'. The middle staff is in bass clef with a key signature of one flat and a 2/4 time signature. It contains a lower melodic line with similar rhythmic values. Above this staff are mensuration signs: a 'C' with a dot, a 'C' with a flat, and several vertical strokes with flags. The bottom staff is in bass clef with a key signature of one flat and a 2/4 time signature. It contains a line of minims (half notes). Above this staff are mensuration signs: a 'C' with a flat, followed by several vertical strokes with flags. The entire example is labeled 'T' at the bottom left.

⁹³Willi Apel, "The French Secular Music of the Late Fourteenth Century," Acta Musicologica 18/19 (1964):21; see also French Secular Music..., p. 102*, and French Secular Compositions..., 2:101.

achieved in Amour m'a le cuer mis by Anthonello de Caserta (Mod 62, f. 32v),⁸⁷ but by the use of a $\frac{4}{2}$ sign. Four minims in $\frac{4}{2}$ take the same space of time as two minims in the basic mensuration of (3, 2), and the meaning of the proportion sign is quite clear without a canon.

The proportion of 3:2 is achieved in three different ways, two of which are specified by a canon, in Janua's Une dame requis (Mod 16, f. 12). Part of the canon reads: Traitur sub una omnis cantus huis mensura, which means that the cantus is to perform all mensurations in the same length of time. Thus, against the basic mensuration of (2, 2) in the tenor and contratenor, the cantus must sing units of 0 (3, 2) indicated by the sign, in a 3:2 proportion of semibreves and minims.⁸⁸ In the same way, tempora of 6, also indicated by the sign, last the same length of time as tempora of (2, 2) in the tenor, thereby creating a 3:2 proportion of minims. The third 3:2 proportion is caused by another part of the canon which refers to the red notes. The cantus sings these in a 2:1 proportion, as has already been mentioned, but the canon continues with the instruction: Qui tenet inferius sexquialtera putet. This means that red semibreves in the lower voices are to be performed in a 3:2 proportion, which would, incidentally, be their normal meaning in 2, 2, although they are rarely used in this mensuration. In addition, three dragmas take the place of two semibreves in

⁸⁷Apel, French Secular Music..., p. 37*, cantus, mm. 13-14. The transcription is unchanged in Apel, French Secular Compositions..., 1:3.

⁸⁸Apel, French Secular Music..., pp. 96*-97*; the signs are noted above the cantus.

The common proportion 4:3 is notated in many different ways. For example, in Galliot's Le sault perilleux (Ch 53, f. 37) a canon reads, in part: In proporcione epitriti ad semicirculum cantetur. The meaning is clear, even if the use of a Greek arithmetical term is rare: sing in 4:3 proportion at the semicircle.⁹⁴ The same result is achieved in Cunelier's Lorques Arthus (Ch 61, f. 40v) by the canon: ad figuram binariam in proporcione sesquitertia.⁹⁵ A more complex example of 4:3 is found in Anthonello de Caserta's Amour m'a le cuer mis (Mod 62, f. 32v). There is no canon, yet a 4:3 proportion is achieved in all three voices by three different methods. The basic mensuration is (3, 2), to which three different proportional fractions, including $\frac{8}{6}$, refer. The $\frac{8}{6}$ proportion occurs in the cantus and places eight minims against six of the basic mensuration. The contratenor changes to void red coloration with the common meaning of a 4:3 proportion of minims, and the tenor, after reverse coloration of two semibreves, has four dragmas, which are in a 4:3 proportion of semibreves with the basic (3, 2) mensuration (Example 4).⁹⁶

A survey of proportions in late fourteenth-century secular French music reveals that the most commonly used are 2:1, 3:2, and 4:3.

⁹⁴Facsimile in Die Musik in Geschichte und Gegenwart, vol. 2, Tafel 34, opposite column 1057; but see corrections of this facsimile by Apel, French Secular Compositions..., 1:xxxv (No. 29, and his transcription, p. 57.

⁹⁵See Günther, "Anwendung..." p. 19, Example 8; also see Apel, French Secular Compositions..., 1:30, and critical notes, p. xxxiv.

⁹⁶See Apel, French Secular Music ..., p. 38*, mm. 38-44.

Example 4

The image shows a handwritten musical score for Example 4, consisting of three staves. The top staff is in Treble clef, the middle in Bass clef, and the bottom in Cello clef. Above the staves, there are several groups of rhythmic figures, some with numbers like 8, 6, 4, 3, 2, 1, and 7. The notation includes various note values, rests, and proportional figures such as (0), 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100. The notation is dense and includes many accidentals and ligatures.

These three proportions are usually on the minim level and are indicated in a variety of ways, most frequently by coloration or notae caudatae. Canons are less common but are certainly the most precise method of indicating a proportional relationship. When pieces have non-equivalent minims in the four basic mensurations, it can be assumed that the proportional relationship should be explained by canon, even if such a canon is lacking. In addition, a few single numbers and fractions begin to appear without canonic instructions, especially in Mod, as if their use had become common enough to eliminate the need for canons to define their meaning. Pieces in which these figures occur clearly seem to belong to the latest works of the repertory.

Diminution

One of the most complex and controversial problems of late fourteenth-century music is the determination of whether certain pieces notated in perfect tempus and imperfect prolatio should be considered as being in normal $3/4$ (0) or should be read in diminution as $\emptyset$. The problem is similar to the one of deciding the temporal relationship between Machaut's pieces written in modus and tempus and those in tempus and prolatio. As in earlier periods, when smaller note values were introduced, the tempo of the basic mensurations inevitably slowed down until a shift in writing habits took place. In the late fourteenth century, this shift involved writing in the next higher note values, which then had to be read in diminution. By itself, the word diminution does not specify a proportional relationship. In Anthonello de Caserta's Dame d'onour en qui (Mod 81, f. 40v), a canon calls for the notes to be diminished by half (per medium diminuendo). The passage to be read in this manner is written in note values one degree larger than normal, or twice the required values.⁹⁷ It was the per medium that meant by half, however, not the word diminuendo. Although diminution is usually considered to be by half, it need not mean a 2:1 proportion. In discussing the use of diminution in Ch, Ursula Günther regards any notes with less value than they would have in one of the four primary mensurations as being diminished.⁹⁸ Thus, four minims in C are

⁹⁷See the facsimile in Fano, Matteo da Perugia, opposite p. 432. Transcriptions in Apel, French Secular Music..., p. 33*, and Apel, French Secular Compositions..., 1:7.

⁹⁸"Anwendung..." pp. 1-21.

augmented values to be read in what she calls tempus imperfectum diminutum, a term that perhaps should more properly be reserved for $\emptyset$ or ϕ . Günther's discussion of some types of diminution, therefore, deals with the same effects that are produced by coloration, special note shapes, and other indications of proportional relationships.

Günther is mainly concerned, nevertheless, with diminution that might be applied to entire pieces that seem to be written in larger than usual note values. Her article discusses three such pieces which, she suggests, are to be read in $(\emptyset)$ rather than (0) .⁹⁹ In a second article, she discusses fifteen more chansons in Ch, PR, and Mod, and the two Cordier pieces that open the Ch manuscript.¹⁰⁰ It is to these pieces that the present study of diminution is directed. The first twelve are listed in Table 2 in the order discussed by Günther.¹⁰¹ Eight works are found only in Ch,¹⁰² and four more are found in Ch and

⁹⁹Ibid., p. 10.

¹⁰⁰Ursula Günther, "Der Gebrauch des tempus perfectum diminutum in der Handschrift Chantilly 1047," Archiv für Musikwissenschaft 17 (1960):277-297.

¹⁰¹Ibid., pp. 285-97.

¹⁰²Ibid.; a concordance with No. 6, Ch 49, f. 36v, was added after Günther's article was written, and her figures, therefore, include nine rather than eight pieces uniquely found in Ch. The concordance is from the MS Utrecht, Universitaetsbibliotheek, 6 E 37, f. 21 (Ut); see Gilbert Reaney, "New Sources of Ars Nova Music." Musica Disciplina 19 (1965):63. The Ut version of Prophilias lacks a contratenor.

TABLE 2

GÜNTHER'S TWELVE FOURTEENTH-CENTURY PIECES
WITH DIMINUTION

Manuscripts	Composer	Title
1. <u>Ch</u> 73, f. 46v	Cesaris	Le dieus d'amours
2. <u>Ch</u> 89, f. 54v	Borlet	He, tres doulz
<u>Str</u> , No. 53	---	---
<u>PR</u> 106, f. 53	(Anon.)	Ma tredol rosignol
3. <u>Ch</u> 12, f. 17v	Vaillant	Tres doulz amis
4. <u>Ch</u> 31, f. 16v	Vaillant	Dame doucement
5. <u>Ch</u> 24, f. 23v	Solage	Corps femenin
6. <u>Ch</u> 49, f. 35v	Suzoy	Prophillas
<u>Ut</u> , f. 21	---	---
7. <u>Ch</u> 5, f. 14	Anon.	Tres douce playsant
8. <u>Ch</u> 43, f. 32v	Anon.	En un peril
9. <u>Ch</u> 33, f. 27v	Anon.	Se je cudoie
10. <u>Ch</u> 48, f. 35	M. de S.	
	Johanne	Sans vous ne puis
<u>Mod</u> 26, f. 15v	(Anon.)	---
11. <u>Ch</u> 25, f. 24	Anon.	Je ne puis avoir
<u>Mod</u> 35, f. 20v	Anon.	---
<u>FP</u> , f. 104v	Anon.	---
12. <u>Ch</u> 53, f. 37	Galiot	Le sault perilleux

in other manuscripts as well.¹⁰³ Six pieces found only in Mod and the two Cordier pieces will be considered later.

The selection of these twelve pieces out of the 99 secular songs

¹⁰³The abbreviation Str in Table 2 is for the lost MS Strasbourg, Bibliothèque de la ville, 222 C. 22; see Charles van den Borren, Le manuscrit musical M. 222 C. 22 de la Bibliothèque de Strasbourg (Anvers: Imprimerie E. Secelle, 1924). The numbers of the pieces from Ch are the only designation Günther normally uses and are drawn from the index by Reaney, "Manuscript Chantilly...", pp. 88-95. The numbers for the pieces in Mod are found in Günther, "Manuskript Modena...", pp. 52-67. The abbreviation FP is for MS Florence, Biblioteca Nazionale, Panciatichiano 26; a provisional list of the contents of this manuscript is published in Wolf, Geschichte der Mensural-Notation..., 1: 245-49. For the abbreviation Ut, see n. 102 above.

in Ch was made on the basis of one or more voice parts that often use longs and breves and have few if any minims. Semiminims, special note shapes, or passages that specifically call for diminution are entirely lacking. In none of the twelve pieces is there either a mensuration sign or a canon to indicate diminution.¹⁰⁴

The first piece in Table 2, Cesaris' Le dieus d'amours (Ch 73, f. 46v), has note values from maxima to minim, with full red coloration of longs, breves, and semibreves. The primary motion is in breves and semibreves, and it is on these values that most of the syllables fall.

Gilbert Reaney makes the following remarks about the piece:

An interesting feature of Cesaris' Ballade is the long-breve-semibreve notation which is an anachronism at the time of the ms Ch. Why it is used here is not immediately obvious, since the tempo does not seem to be affected. Possibly the matter is purely one of notation, for the ms Ch was obviously used as a test manuscript for reading the complex late fourteenth century notation, and the musician would be expected to be able to read the older type as well as the newer type notation.¹⁰⁵

Nevertheless, he transcribes the ballade in "diminished equivalent," or as if it were in $\emptyset$, which certainly implies a different tempo than would a transcription in $3/4$ with undiminished values.¹⁰⁶

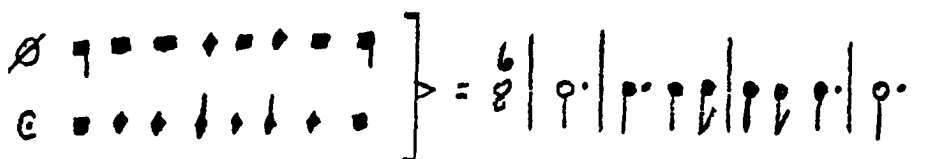
Günther suggests that the rhythm of Le dieus d'amours resembles the normal $6/8$ of works in C in Ch and that the transcription in diminution is therefore vindicated. This is a significant remark, because

¹⁰⁴Günther, "Gebrauch...", p. 285.

¹⁰⁵Gilbert Reaney, ed., Early Fifteenth-Century Music, 4 vols.; Corpus Mensurabilis Musicae, 11 (Rome: American Institute of Musicology, 1955-69), 1:1; quoted in full in Günther, "Gebrauch...", p. 286.

¹⁰⁶Reaney, Early Fifteenth-Century Music, 1:27.

Ø is a way of writing € in the next higher note values. Instead of imperfect tempus and perfect prolation in €, there is imperfect modus and perfect tempus (with minor prolation) in Ø. Units of perfect tempus thus replace units of perfect prolation in €. When both Ø and € are transcribed as 6/8, Ø is in a 2:1 proportion to €, and the rhythmic organizations of Ø and € become identical:



Considering augmented writing in Ø as a new and progressive type of notation, Günther next discusses two versions of the same piece, Borlet's He, tres doulz roussignol (Ch 89, f. 54v), and Ma tredol rosignol (PR 106, f. 53).¹⁰⁷ The cantus and tenor voices of these two compositions are almost identical, except that the breves and semibreves of Ch are semibreves and minims in PR. The Ch version may be read in (3, 2) or in (Ø), whereas the PR version is unquestionably in (2, 3). Neither piece has mensuration signs. Apel transcribes the Ch version as normal (3, 2), but his thoughts on which version is a revision of the other are ambiguous:

There is, of course, no definite evidence as to which of the two versions is the earlier one. Since, on the whole, 6/8 is the meter of the late fourteenth, 3/4 that of the fifteenth century, one would be inclined to consider No. 68 (PR) as the original composition, No. 67 (Ch) as a later version in slower tempo and in

¹⁰⁷Both versions are published in Apel, French Secular Music..., p. 110* and p. 112*, and in French Secular Compositions..., 1:19 and 21; see also p. xxxiv (No. 12), where Apel notes Günther's opinion that the Ch version should be (Ø).

four voice-parts. Artistic considerations, on the other hand, weigh in favor of the opposite conclusion. It is difficult to believe that the charmingly light-footed music of No. 68 should have been remodelled into the cumbersome four-part version of No. 67.¹⁰⁸

In fact, a transcription of Ch diminished to 6/8 meter reveals clearly that it is simply another way of writing the (2, 3) of the PR version. It may be noted that several times the figure $\mu \downarrow$ in (2, 3) appears in the Ch version as $\pi \uparrow$, a figure seldom seen in 3, 2 mensuration. Furthermore, E. de Coussemaker's copy of the lost Str manuscript has the opening of the cantus notated in semibreves with the accompanying words Per diminutionem.¹⁰⁹ All in all, Günther's arguments seem convincing that the Ch version should be read in (0) rather than in a sluggish (0) twice as long and half as fast as the PR version.

Similar to the Borlet virolai is Vaillant's tri-texted rondeau, Tres doul amis--Ma dame--Cent mille fois (Ch 12, f. 17v).¹¹⁰ Apel's transcription in 3/4 meter runs to sixty measures and certainly has a strange appearance in comparison to other pieces in 3, 2. Groups of three breves in coloration appear in all three voices, and the figure of the Ch version of the Borlet piece ($\pi \uparrow$) is used twice. Perhaps the reason for writing in augmented values is to avoid using semiminims,

¹⁰⁸Apel, French Secular Music..., p. 32; quoted in full by Günther, "Gebrauch...", p. 287.

¹⁰⁹Günther, "Gebrauch...", pp. 288-9.

¹¹⁰Apel, French Secular Music..., p. 128*; see also Apel, French Secular Compositions..., 1:229, and notes, p. xliii, which do not mention Günther's suggestion for diminution.

although minims are few.¹¹¹ Everything about the piece suggests that it should be transcribed in the 6/8 meter of (Ø).¹¹²

The fourth piece in Table 2 is Vaillant's rondeau with two different texts, Dame, doucement—Doulz amis (Ch 31, f. 26v). Günther published the rondeau in 1959 transcribed in 3/4 meter.¹¹³ Obviously she changed her mind between 1959 and the article of 1960 in which she suggests diminution.¹¹⁴ It is especially interesting that this rondeau may be in diminution because it is the earliest datable piece in Ch. This dating comes from an accompanying note that the piece "compilatum fuit" in Paris in 1369. It is, therefore, roughly contemporary with late Machaut works and Vaillant's style is in Günther's opinion, only a little more complicated than Machaut's late style.¹¹⁵ If both the date and the assumption that diminution is intended are correct, composers must have begun to experiment with a shift from ϵ to $\emptyset$ as early as 1369. Vaillant's rondeau includes a remarkably large amount of coloration on the long-breve level rather than the breve-semibreve-minim level found in ϵ . The motion of the voices is mostly in breves and semibreves, with

¹¹¹As suggested by Ursula Günther, "Johannes Vaillant," in Speculum Musicae Artes, Festgabe für Heinrich Husmann zum 60. Geburtstag am 16. Dezember 1968, ed. Heinz Becker and Reinhard Gerlach (Munich: Wilhelm Fink, 1970), p. 183.

¹¹²As suggested by Günther, "Gebrauch...", p. 290.

¹¹³Ursula Günther, Zehn datierbare Kompositionen der Ars Nova (Hamburg: Musikwissenschaftlichen Instituts der Universität, 1959), p. 16.

¹¹⁴Günther, "Anwendung...", p. 10.

¹¹⁵Günther, "Gebrauch...", p. 290, and also in Ursula Günther, "Die Musiker des Herzogs von Berry," Musica Disciplina 17 (1963):82.

only a few pairs of minims in the top and tenor voices. Apel's transcription, however, remains undiminished, and his critical notes make no mention of Günther's suggested diminution.¹¹⁶

The fifth piece in Table 2, Corps femenin by Solage (Ch 24, f. 23v), is even more convincingly in $\emptyset$. Once again both of Apel's transcriptions are in $3/4$ meter, and he makes no mention of Günther's suggested diminution.¹¹⁷ Apel does comment in the notes to his earlier transcription that there is a tendency towards increased length in the ballades of the late fourteenth century, and in the same paragraph he refers to the extraordinary length of 152 measures of Solage's Corps femenin.¹¹⁸ His transcription in $3/4$ gives the tenor and contratenor the appearance of slow-moving motet voices in modus, perhaps a sign that ϵ has been written as II, 3 ($\emptyset$). In addition, there are many colored longs in the lower voices, as well as displacement syncopation at the level of tempus rather than prolation, two more indications that Corps femenin might well benefit from a diminished transcription.

Concerning the sixth piece in Table 2, Suzoy's Prophillas (Ch 49, f. 35v), Günther notes that it is the only piece in Ch that uses augmented values without a single minim.¹¹⁹ Apel writes, in the notes

¹¹⁶Apel, French Secular Compositions..., l:xliii, and transcription, p. 225.

¹¹⁷Ibid., p. 181, with notes, p. xli; see also Apel, French Secular Music..., p. 47*.

¹¹⁸Apel, French Secular Music..., p. 6a.

¹¹⁹Günther, "Gebrauch...", p. 291.

to his transcription:

Since this composition is notated in exceptionally long notes, among them numerous longae and several maximae, it is transcribed in a reduction 1:8, so that the brevis becomes the quarter-note.¹²⁰

Apel's normal reduction of note values is 1:4 for the four primary mensurations.¹²¹ He simply declines to say that Prophilius is meant to be read in diminution. Since he transcribes the piece in 6/8 meter, he is obviously reading the piece as if it were in $\emptyset$. Certainly a convincing argument for $\emptyset$ in Prophilius is the passage following C , in which only semibreves and breves are present in their usual meaning after $\emptyset$ of a 4:3 proportion on the semibreve level.¹²²

Nos. 7 and 8 in Table 2 introduce totally new problems. They are the anonymous virelai, Tres douce playsant (Ch 5, f. 14)¹²³ and the anonymous ballade, En un peril (Ch 43, f. 32v).¹²⁴ Günther's own excerpts clearly reveal the mensuration signs of C and O in the contratenor of Tres douce playsant and O in the contratenor of En un peril. Nevertheless, she transcribes both in diminished values.¹²⁵ Indeed, the note values within those mensurations are mostly breves and semibreves,

¹²⁰Apel, French Secular Compositions..., 1:xlii (No. 106).

¹²¹Ibid., p. xxvii.

¹²²See Example 3 of Günther's "Gebrauch...", p. 291.

¹²³Apel, French Secular Compositions..., 3:65.

¹²⁴Ibid., 2:45.

¹²⁵Günther, "Gebrauch...", p. 292, Examples 4a and 4b. Apel, French Secular Compositions..., 2:45 (En un peril) and 3:65 (Tres douce playsant), uses 3/4 meter, and does not mention Günther's suggested diminution in his notes, 2:xvii and 3:xxiv.

but full red coloration is normal, with minim equivalence to 0. One might assume that the tenor of Tres douce playsant is in (II, 3) and that the cantus and contratenor have C and 0 to define tempus values without, perhaps, having found a way to designate Ø. Both pieces are questionably in Ø at best.

The same remarks are valid for No. 9 in Table 2, the anonymous ballade, Se je cudoie (Ch 33, f. 27v).¹²⁶ The dotted full red semibreves are similar to those in En un peril, producing duplet groupings in the space of three black semibreves of 0. The piece should probably be read in 0, as in Apel's transcription.¹²⁷

No. 10 in Table 2 is Sans vous ne puis by Matheus de Sancto Johanne, which appears in both Ch 48, f. 35, and in Mod 26, f. 15v. Even in Günther's two brief excerpts,¹²⁸ there are two signs of C and one of 0 as well as four dragmas to three semibreves in 0 and coloration, which once again means a change to 6, with perfect —and undotted— red semibreves. Apel's transcription in undiminished values seems preferable.¹²⁹

In the same fashion, No. 11 in Table 2, Je me puis avoir (Ch 25, f. 24; Mod 35, f. 20v; and FP 53, f. 104v), is difficult to accept as a piece in diminution. The Ch version is familiar because of the

¹²⁶Günther, "Gebrauch...", p. 292, Example 5.

¹²⁷Apel, French Secular Compositions..., 2:94.

¹²⁸Günther, "Gebrauch...", p. 293, Example 6.

¹²⁹Apel, French Secular Compositions..., 1:134.

facsimile in Apel's notation text.¹³⁰ The dragmas and other notae caudatae all function in their normal relationship to the numerous mensuration signs O and C.

The 12th and last piece in Table 2, Galiot's Le sault perilleux (Ch 53, f. 37), has a canon that quite unusually defines the meaning of three signs in Greek terms. Much of the proportional notation uses notes larger than normal, such as four semibreves to three of the basic O mensuration. So too, the emiolia proportion relates to semibreves rather than minims, as is more normal. Despite these things, a diminished transcription does not seem plausible.¹³¹

In summary, Günther finds twelve pieces from Ch, not including the two Cordier pieces that open the manuscript, which she believes should be read in diminution. Not all of the twelve pieces are completely convincing examples of Ø, however, even though the composers may have been making tentative shifts from the standard € mensuration. Of the twelve pieces, Nos. 7 - 12 in particular are debatable as examples of augmented writing. An alternate explanation might be that pieces in O and C were being sung in a faster tempo than previously and were speeded up even more when longer note values were used. Furthermore, pieces in € could have been slowing down in tempo as semiminims and proportions were being introduced. But the relation

¹³⁰Apel, The Notation..., Facsimile 83, p. 413, with discussion, p. 410.

¹³¹See the excerpt in Günther, "Gebrauch...", p. 294, Example 8; also see the basic 3/4 transcription by Apel, French Secular Compositions..., 1:57.

between faster pieces in O and C and slower pieces in E was probably not a 2:1 proportion.

As a further discussion of diminution, but in manuscripts other than Ch, Günther turns to six pieces found only in Mod.¹³² The six pieces are listed in Table 3.

TABLE 3
GÜNTHER'S SIX PIECES FROM Mod WITH DIMINUTION

Manuscript	Composer	Title
1. <u>Mod</u> 52, f. 28v	A. de Caserta	Tres nouble dame
2. <u>Mod</u> 85, f. 42	M. de Perusio	Belle sans per
3. <u>Mod</u> 83, f. 41	Perusio	Pour Dieu vous pri
4. <u>Mod</u> 12, f. 10	Perusio	Par vous m'estuet
5. <u>Mod</u> 87, f. 43	Perusio	A qui fortune
6. <u>Mod</u> 76, f. 38v	Perusio	Helas merci

The first piece is Anthonello de Caserta's virelai, Tres nouble dame (Mod 52, f. 28v), which does appear to be in Ø, with typical three-breve coloration groups, including one colored long, and augmented writing. However, changes of mensuration are indicated by the signs O and E. When the upper voices change to S, the meaning is 4:3 semi-breves of O, and 4:3 minims of E, both of which are normal. Several times the figure $\pi \uparrow$ is used, whereas it is rare in older O. The writing is neither typically E and O nor yet completely Ø. Perhaps this very lack of clarity identifies the piece as transitional. Perhaps

¹³²Günther, "Gebrauch...", p. 295, especially footnotes 4 and 5.

also a diminished transcription in 6/8 would make it seem just a little fast, just as Apel's basic 3/4 meter makes it appear a little sluggish.¹³³

Pieces 2 through 5 in Table 3 are all by Matheus de Perusio. The first of these is Belle sans per (Mod 85, f. 42). Apel's earlier transcription is in 3/2, an unusual meter for him to use, and unexplained.¹³⁴ There are only a few minims in this piece, and Günther's recommendation for a transcription in diminution seems well advised.¹³⁵ Apel's second, unchanged publication of the piece ignores this advice, but his notes explain the 3/2 meter:

This composition is notated in [III, 2, 2], a mensuration used -- aside from many 14th-century motets -- in Machaut's ballades Nos. 6, 11, 25 and rondeaux Nos. 17, 18.¹³⁶

Composers later indicate this mensuration with the sign 02, (III, 2, 2), as opposed to Ø, (II, 3, 2).

The third piece Günther lists is Pour Dieu vous pri, (Mod, 83, f. 41). There are an unusual number of semiminims in this piece, which would be rare for Ø or even for 0 at this time. Even the first of three passages of coloration, which create a tempus of (3, 3) within a

¹³³See Apel, French Secular Music..., p. 40*. The transcription is unchanged in French Secular Compositions..., 1:12, with notes p. xxxiii, which do not mention Günther's suggested diminution.

¹³⁴See Apel, French Secular Music..., p. 18*. Also see Fano, Matteo da Perugia, facsimile opposite p. 464, and transcription, p. 359.

¹³⁵Günther, "Gebrauch...", p. 295 and n. 4.

¹³⁶Apel, French Secular Compositions..., 1:xxxvii and transcription, p. 107.

tempus of (3, 2), includes a pair of colored semiminims. The arguments for $\emptyset$ are the modus-like writing in the lower voices, and the long in coloration. Perhaps Italian composers were more accustomed to using smaller note values than French composers. A 3/4 transcription like Apel's is surely the best solution.¹³⁷

The fourth piece is Par vous m'estuet (Mod 12, f. 10). It has no mensuration signs nor any special note shapes. Both of Apel's transcriptions are in 3/4 meter.¹³⁸ The piece is not particularly long -- 62 measures in 3/4 meter -- and has several three-breve coloration groupings that are a common feature in $\emptyset$ but are not lacking in pieces in O. It thus resembles a large number of pieces in Ox for which there seems to be no certain clue as to whether the composer intended O or $\emptyset$. It, too, belongs to the transitional stage that is not clearly in the older O, nor yet completely in the new $\emptyset$.

The last two pieces listed in Table 3 mix normal and augmented writing. In each the cantus is in O and the lower voice or voices are in C, but two tempora of the O must be performed in the time of one tempus of C. The fifth piece is Perusio's A qui fortune (Mod 87,

¹³⁷French Secular Music..., p. 26*; see also Apel, French Secular Compositions..., 1:128, and notes, p. xxxviii, which make no mention of Günther's suggested diminution. Also see Fano, Matteo da Perugia, p. 355.

¹³⁸Apel, French Secular Music..., p. 29*, and French Secular Compositions..., 1:124, with notes, p. xxxviii, which do not mention Günther. There is also a transcription in Fano, Matteo da Perugia, p. 333.

f. 43v).¹³⁹ A cantus passage in C functions on the normal 4:3 minim level in relation to C but produces an 8:3 proportion of minims with the lower voices in E . With Apel's first transcription, he noted that "the two lower voice-parts, notated in (2, 3), are to be read in augmentation."¹⁴⁰ He regards this as "an early instance of prolatio perfecta [i.e., E] as a signum augmentationis," even though this "augmenting interpretation...was not generally accepted until the end of the fifteenth century."¹⁴¹ It is only with this piece, however, that Apel chooses to recognize Gunther's suggested diminution in the notes to his second publication:

The Tenor and Contratenor have to be read in augmented values. U. Gunther thinks that it would be preferable to read the Cantus in diminished values, i.e., in 6/8 rather than in 3/4 (See AfMw XVII, 280). However, her statement that "nach Apels Ansicht...das Tempo des Ganzen wird beschleunigt" is not correct. My view is that this piece should be sung in a slower tempo, especially in view of the small notes in meas. 16-17.¹⁴²

The small notes are the minims in the C passage mentioned above. It seems logical that C has its normal meaning in the cantus and that the lower parts must be augmented in order to match that voice. Perhaps here again a missing canon might be assumed, or else Perusio simply left a puzzle -- but not a difficult one -- for the performers to solve.

¹³⁹Apel, French Secular Music..., p. 25*, and French Secular Compositions..., 1:119. Also see Fano, Matteo da Perugia, p. 364.

¹⁴⁰Apel, French Secular Music..., p. 29 (No. 17).

¹⁴¹Ibid., p. 9b; see also The Notation..., p. 164; in Die Notation..., p. 179, Apel refers specifically to this Perusio piece.

¹⁴²Apel, French Secular Compositions..., 1:xxxvii (No. 61).

If O is considered the basic mensuration, it must have speeded up and the E of the lower voices slowed down until they meet in a 2:1 relationship.

Helas merci (Mod 76, f. 38v), is the sixth and last piece listed in Table 3. It has the same relationship between O in the cantus and E in the tenor as A qui fortune, and the same remarks apply.

To summarize the remarks about the six pieces from Mod listed in Table 3, the first four may or may not be diminished or in Ø. Certainly No. 2, Belle sans per, is in (III, 2, 2) and not Ø. In the last two, O must be read in a 2:1 proportion to E, but which mensuration is basic is uncertain.

Concerning the two works by Baude Cordier that open the Ch manuscript, there can be no question of diminution, because they use the sign Ø to indicate tempus perfectum diminutum and may be the first to do so. The two works of Cordier are among the most elegantly notated pieces in all medieval music because of their shapes as a heart and a circle. Reaney has even suggested "that Cordier himself wrote these two works in the manuscript."¹⁴³ The dates of the two Cordier pieces are uncertain, but they were evidently not an integral part of the original manuscript.¹⁴⁴ Reaney's statement that "Cordier must have

¹⁴³Early Fifteenth-Century Music, 1:11.

¹⁴⁴See Reaney, "The Manuscript Chantilly...", pp. 60-61, and Die Musik in Geschichte und Gegenwart, s. v. "Chantilly, MS 1047," by Heinrich Besseler.

flourished between c. 1400 and 1430 at the latest....¹⁴⁵ needs to be reconsidered in light of Craig Wright's recent researches that indicate Cordier's death may have occurred in 1398.¹⁴⁶ Gunther notes that Cordier likely copied the pieces because one of the added texts on Ch, f. 12, begins "Par bonne amour et par dilection / J'ay fait ce rondel...."¹⁴⁷

The piece in the shape of a heart is Belle, bonne, sage (Ch, f. 11v).¹⁴⁸ Once again Apel finds a basic mensuration of (3, 2), with the 6 passages in the contratenor and cantus being yet another remarkable example of augmentation which "was not unanimously adopted until the later part of the fifteenth century...."¹⁴⁹ That all three voices begin in $\emptyset$ ¹⁵⁰ and the tenor remains in that mensuration throughout is proved by the return to $\emptyset$ in the cantus in measure 22. The movement in $\emptyset$ is mostly in longs and breves, with three-breve coloration groups. In the top voice, full red coloration of semibreves and minims functions as it normally would to replace a tempus of $\emptyset$ by one of (3, 3).

¹⁴⁵Early Fifteenth-Century Music, 1:11. See also Die Musik in Geschichte und Gegenwart, s. v. "Cordier," by Heinrich Bessler; in Col. 1665 Bessler dates Belle, bonne, sage 1420.

¹⁴⁶Craig Wright, "Tapissier and Cordier: New Documents and Conjectures," The Musical Quarterly 59 (1973):187, n. 39.

¹⁴⁷Gunther, "Gebrauch....," p. 179.

¹⁴⁸Numerous facsimiles are available, including Apel, The Notation..., p. 427. For a recent transcription, see Reaney, Early Fifteenth-Century Music, 1:9.

¹⁴⁹Apel, The Notation..., p. 425.

¹⁵⁰Gunther, "Gebrauch....," p. 279.

Nevertheless, a transcription of $\emptyset$ in 3/4 may be preferable, although it should indicate a faster tempo than for other pieces in $\emptyset$ but perhaps not twice as fast. The tempo of ϵ at the beginning of the fifteenth century was undoubtedly slowing down but was probably not twice as slow as earlier. The heart becomes somewhat agitated if transcribed in 6/8.

The second Cordier piece is the rondeau, Tout par compas (Ch, f. 12), famous for being written in a circle.¹⁵¹ It is a perpetual canon for two notated voices, with a third voice derived from the cantus, as in an Italian caccia. The tenor is written on the inner staff circle with a mensuration sign of $\emptyset$. It includes one coloration passage of a long and a breve. The problem of deciding whether to transcribe in 3/4 or in reduced values is a difficult one. Reaney transcribes the heart, Belle, bonne, sage, in 3/4, but the circle, Tout par compas, in 9/8, as is suggested by the $\emptyset_1^3$ sign at the beginning of the cantus. Yet both pieces use the same note values and proportions and should undoubtedly be sung in the same tempo. Certainly the heart is not twice as slow as the circle.

In summary, it is apparent that in late fourteenth-century music the tempo of $\emptyset$ is speeding up and composers are using longer note values in that mensuration. At the same time, the tempo of ϵ must be slowing down as composers introduce many shorter note values. In the last two Perusio pieces, A qui fortune and Helas merci, as well as the

¹⁵¹See the facsimile in Carl Parrish, The Notation of Medieval Music (New York, 1959), Plate LXII. For a recent transcription, see Reaney, Early Fifteenth-Century Music, 1:11. All transcriptions should be reconsidered in light of Raymond Meylan, "Réparation de la roue de Cordier," Musica Disciplina 26 (1972):69-71.

two Cordier pieces, the tempos of O and E must be in a 2:1 proportion. Perusio does not indicate this proportion, but it is shown by the sign Ø in the Cordier pieces. In addition to changing tempos, the more complicated French secular songs of the late fourteenth century often show continual changes of mensuration, conflict of rhythms, and long chains of syncopations. New note shapes, various forms of coloration, and proportional signs produce particularly intricate rhythms. These devices lead directly to the earliest works in the Oxford manuscript.

CHAPTER III

THE TURIN MANUSCRIPT

Composers of the late fourteenth century achieved a pinnacle of rhythmic complexity in the works preserved in the Chantilly and Modena MSS, and in MS Paris, Bibliothèque Nationale, nouv. acq. frg. 6771 (PR). It would be foolish to believe that some of the rhythmic complexities did not continue to find favor with performers and composers for at least a few years into the fifteenth century. In the history of music there are occasional sharp breaks in musical habits and styles. Towards the beginning of the fourteenth century a new style and an improved notational method appear in the works of de Vitry. Perhaps a comparison can be made with the new style, if not new notation, at the beginning of the seventeenth century that we now know as Baroque. But no sharp changes in style or notational techniques are to be observed around 1400. Motets, mass movements, and the primary secular forms of the ballade, rondeau, and virelai continue to play an important part in the output of composers still living or just beginning their careers at the dawn of the fifteenth century.

Yet a slow but certain process of simplification takes place in the music of the early fifteenth century. This process, together with remnants of the older manneristic style, can be readily observed in the totally anonymous music preserved in one of the earliest, largest, and most comprehensive manuscripts of the early fifteenth century, the

MS Turin, Biblioteca Nazionale, J. II. 9 (Tu B). Reference has already been made to this manuscript in connection with the complexities of late fourteenth-century music. Because of its special character, however, and because it must have been compiled between 1413 and 1420,¹ a discussion of the notation in Tu B has been reserved for that still-to-be-fully-explored time between Ch, which was probably completed before the turn of the century,² and the Oxford manuscript that is the primary concern of this dissertation. The Turin manuscript also enjoys a special niche in the transitional state of notation in the early fifteenth century because of its probable origin in Cyprus. Nevertheless, Hoppin has shown that the music it contains "must be regarded as a typical product of French musical activity in the years just before and after 1400."³

Tu B also deserves special consideration because all of the 219 different compositions⁴ are anonymous, and none has so far been

¹Richard H. Hoppin, ed., The Cypriot-French Repertory of the Manuscript Torino, Biblioteca Nazionale, J. II. 9, 4 vols. (Corpus Mensurabilis Musicae, 21; Rome: American Institute of Musicology, 1960-63), 1:ii.

²Gilbert Reaney, "The Manuscript Chantilly, Musée Condé 1047," Musica Disciplina 8 (1956):85, says that it is unlikely to have been written before 1400. Ursula Günther has written that it was not completed before 1393 in "Eine Ballade auf Mathieu de Foix," Musica Disciplina 19 (1965):79, and, later, not before 1395 in The Motets of the Manuscripts Chantilly, musée condé, 564(olim 1047) and Modena, Biblioteca estense, a. M. 5. 24 (olim lat. 568) (Rome, 1965), p. ii.

³Richard H. Hoppin, "The Cypriot-French Repertory of the Manuscript Torino, Biblioteca Nazionale, J. II. 9," Musica Disciplina 11 (1957):80.

⁴If each movement of the Gloria-Credo pairs is counted separately, a total of 226 different compositions would result.

discovered in any other manuscript. Furthermore, whereas the earlier collections in Ch, PR, and Mod are less highly organized by species, as are later manuscripts such as Ox and the Trent Codices, the organization of Tu B, like that of the major Machaut manuscripts, demonstrates a high degree of planning. This organization determined the arrangement of the complete edition of the polyphonic music,⁵ which will be discussed in the same order here. Following section I, which consists of monophonic chants, four more major sections are devoted to polyphonic mass movements, motets, ballades, and mixed rondeaux and virelais.

Mass Movements

The collection of mass movements consists of one Gloria, seven Gloria-Credo pairs, and two more individual Glorias. A Mass Cycle was later added after the ballades and seems to be the most recent work in Tu B.⁶ The cycle consists of Kyrie, Gloria, Credo, and Sanctus, but no Agnus Dei.

The entire manuscript is written in black notation, and note values in the twenty-one mass movements are generally limited to longs, breves, semibreves, and minims. Semiminims are found only in the Mass Cycle. The basic mensurations are (2, 3) in ten movements, (3, 2) in six, including the Mass Cycle, and (2, 2) in five. Only in the first section of the first individual Gloria is modus present in the tenor

⁵Hoppin, Cypriot-French Repertory, 1:ii-iii. Pieces are identified by the number they have in this edition.

⁶Ibid., p. vi.

and contratenor, (II, 2, 2), which is then diminished in the second section according to a canon that simply says 2^o per semi de primo.⁷ As the color is not divided into taleae, there is no isorhythmic structure. The tenor of the first Gloria-Credo pair, No. 2a, is the only other voice in all of the mass movements with such long notes that it might be said to be in modus. However, although longs are normally imperfect, occasional dotted longs and groups to the value of three breves suggest that the composer was not concerned with retaining a regular modus. In still other ways the first Gloria-Credo pair has the only notational details of interest outside of the Mass Cycle. Both movements are in basic (2, 3) mensuration, with several brief passages in 4:3 proportion of minims indicated by C .⁸ One unusual feature of the Credo is a long coloration passage in which semibreves must be altered, proving that coloration here is truly a change of mensuration to (3, 2).⁹

The second Gloria-Credo pair is in (3, 2) throughout, with no coloration, which is almost never used in (3, 2) in Tu B. In both movements, four equally active voices, all with text, produce a thick texture in which each voice often has a different rhythmic pattern. A curious feature of this pair is an unexpected and unusual application

⁷Ibid., p. xii (No. 1).

⁸Ibid., Plates I and II; see triplum, middle of 2nd and beginning of 4th staves; duplum, middle of 5th, beginning of 7th, and middle section of 8th stave. The sign and its meaning is marked in the transcription of the Gloria, p. 3, m. 27; see also mm. 28, 51-52, 69, 91, 97, and 123.

⁹Ibid., p. 11, mm. 241ff, upper voices.

of isorhythmic technique. A rhythmic pattern of 28 measures is exactly repeated in all four voices once in the Gloria and three more times in the Credo, always at the ends of sections.¹⁰ The remaining Gloria-Credo pairs are without special notational interest. Beyond a much more extensive use of coloration and displacement syncopation in (2, 3), they have little that is not found in the music of Machaut.

The most interesting notational details of all the polyphonic mass movements in Tu B are found in the Mass Cycle. All four movements are in (3, 2), each movement clearly marked at the beginning by the sign 0 in the two upper voices, but never in the tenor. Frequent broken coloration groupings of three semibreve values are found in the first three movements, although this coloration does not change the values of the notes. Its usual effect is to syncopate a perfect breve. In the Kyrie, Gloria, and Credo, changes of mensuration to 2, 3 occur in two voices while the tenor continues in (3, 2), and each of the 2, 3 passages has many flagged semiminims.¹¹ More rare are the semiminims in 3, 2 mensuration in two of the four movements of the cycle. The Credo has an isolated pair,¹² and the Sanctus has two passages of ten semiminims each.¹³

The rhythmic value of a semiminim is achieved in the Kyrie by

¹⁰Ibid., p. xiii (No. 3a and 3b), and transcription, pp. 12-26. The first measures of each statement are indicated by numbers 1 to 5.

¹¹Ibid., Plates III and IV (Nos. 11b and 11c).

¹²Ibid., Plate III, second staff, near middle, and transcription, p. 89, cantus, m. 10.

¹³Ibid., pp. 94-95, cantus, mm. 7 and 51.

the use of the single proportional sign 2, followed by semibreves and minims. The 2 obviously means a 2:1 proportion to the basic mensuration of 3, 2. The semibreves and minims are therefore read in diminution, becoming minims and semiminims in value. One passage of 0-2 and one of 6 with semiminims are identical in pitch and produce the same rhythm in different ways (Figure 7).¹⁴

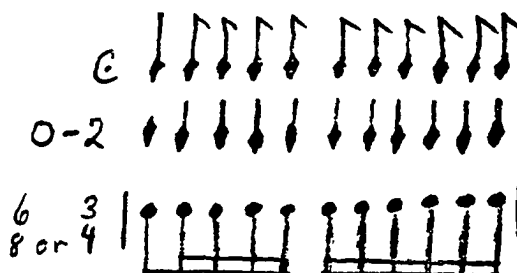


Figure 7

Besides the singular use of 2 in the Kyrie of the Mass Cycle, the proportional sign 3 occurs in the Kyrie, Credo, and Sanctus. Curiously, the notes following the 3 in the Kyrie are full black semibreves, minims, and even flagged semiminims, but in both the Credo and Sanctus the 3 passages are void black notes.¹⁵ Despite the different ways of writing, the voice notes seem to have no special significance. It is simply another example of 3:2 proportion on the minim level which produces measures of 9/8 in the time of 3/4. The proportions are not cumulative. When 2 and 3 appear in succession, both refer to the basic mensuration.

¹⁴Ibid., pp. 84-85, cantus, mm. 16 and 36.

¹⁵Ibid., p. xv, No. 11a, notes to bars 8 and 17, and No. 11c, notes to bars 52-60, and p. xvi, No. 11d, notes to bar 3. The black void notes in No. 11c may be seen in the facsimile, Plate II, staves six and nine.

As may be gathered from the above discussion, the notation of the 21 mass movements in Tu B differs from that of fourteenth-century mass movements chiefly in the greater diversity of rhythmic patterns, which are achieved in part by coloration, displacement syncopation, and the occasional use of proportions. The mass movements of Tu B are equally conservative when compared to the highly complex secular songs of the same manuscript.

Motets

From a notational point of view, the 41 motets in Tu B are only slightly less conservative than the mass movements. The advance lies not so much in notational devices as in an evidently conscious search for rhythmic flexibility and variety within the limits imposed by the four primary mensurations. Hoppin has succinctly summed up the notational features:

The motets . . . use solid black notes for the basic values: Long, Breve, Semibreve and Minim. With the exception of the Maxima, which appears in the tenors of Motets 18 and 36, no other note shapes are to be found, while coloration consists simply of solid red notes. In the vocal parts, moreover, only the four basic mensurations, Θ , O , ϵ and C , are used. Actually, these mensural signs appear only in Motet 36, where the upper voices change freely from one mensuration to another. In every other motet the mensuration, in the vocal parts at least, remains unchanged throughout the entire piece and is not indicated by any sign.¹⁶

The basic mensurations of the upper voices show a slight preference for perfect prolation. Four motets are in (3, 3) and 19 in (2, 3); ten motets are in (3, 2), and 7 in (2, 2) throughout. Finally,

¹⁶"The Cypriot-French Repertory," p. 104.

as mentioned by Hoppin, the upper voices of Motet 36 constantly change mensuration, using all four of the primary mensurations indicated by the signs. The one constant value throughout all these changes of mensuration is the minim.¹⁷ The mensuration of Motet 36 is also unique because it is the only one in the collection to use perfect maximodus in both tenor and contratenor. The mensuration of the lower parts is, therefore, (III, III, 3), recalling two motets from Mod that use this extraordinary organization.¹⁸ The perfect modus of No. 36 is not exceptional but is the rule for all of the other motets except Nos. 11, 18, and 40, which have imperfect modus.

The presence of modus in all 41 motets is a forewarning of isorhythm, and such rhythmic organization is present in all but one motet. Twenty-nine are isorhythmic in all four voices, and nine are partially isorhythmic in the upper voices. Two of the three motets for three voices, Nos. 12 and 16, have rhythmic repetitions only in the tenor, with entirely free vocal parts, and No. 9 is not isorhythmic at all. All of the motets have different texts in the triplum and motetus, with untexted tenor and contratenor, except Nos. 11, 12, and 14, which have no contratenor. Thirty-three are Latin, sacred motets, and eight are French, of which six are addressed to the Virgin Mary. Only Nos. 39 and 40 are secular. All but four of the motets are unipartite. Most of them have a continuous tenor melody divided into two or three taleae. Only four of the unipartite motets combine melodic repetition with

¹⁷Hoppin, Cypriot-French Repertory, 2:xx (No. 36).

¹⁸Gunther, The Motets..., Nos. 11 and 15.

statements of a talea in unchanging note values.

The four motets that are not unipartite have canons that call for diminution of the tenor. Of these four, No. 31 and 40 are bipartite, the second sections being read in half values according to the Latin instruction, per semi. In No. 31 the tenor mensuration of (III, 3) therefore diminishes to (3, 3), whereas the triplum and motetus are in (2, 3) throughout. The first section of Motet 40, in (II, 2, 3), is diminished to (2, 3) in the second section, but the tenor and contratenor are often organized in groups of three breves so that they appear to be in perfect modus, thus causing difficulties in barring a modern transcription.¹⁹

The two other motets with canons are Nos. 12 and 14, both of which are multipartite. According to the canon for No. 12, Primo dicitur perfecte, 2^o semi de primo, 3^o ut prius, the tenor performs first in (III, 3), diminishes by half in the second section to (3, 3), and returns in the third section to the original mensuration. Each section, or color, of the tenor is divided into two taleae. The upper voices are not isorhythmic but continue in (2, 3) throughout. Motet 14 has the most complicated isorhythmic scheme. The tenor color is written once, with a sign for fivefold performance and the following canon: Primo de tempore et modo perfectis. 2^o de modo perfecto et tempore imperfecto. 3^o semi de 2^o. 4^o ut 2^o. 5 ut prius. The mensuration of the first section is (III, 3), of the second (III, 2), the

¹⁹See Hoppin, Cypriot-French Repertory, vol. 2, Plate III, tenor (bottom stave), and notes, pp. xxi-xxii.

third (3, 3); the fourth is like the second (III, 2), and the fifth like the first (III, 3). The tenor color is not divided into taleae but has three statements of breve, altered breve, long, then three of long, long, breve, which make the second half a retrograde of the first.²⁰ The symmetry of the tenor recalls at least one motet by de Vitry and several by Machaut. The symmetry may be seen in Figure 8, which gives the values of the third, or central, section.



Figure 8

The upper voices of Motet 14 also cause difficulties for the transcriber, since the (2, 3) mensuration throughout does not always coincide with the barring of the tenor. Further complications arise from rhythmic sequences and extended passages of syncopation. In the cantus, a series of perfect semibreves displaced by a minim is then followed by a series of syncopated red semibreves. Both series move against unsyncopated semibreves--black, then red--in the motetus.

Only two other motets need some attention to their notation, and both have exceptional features. In Motet 8, each talea ends with a 3:1 diminution of the melody that is created by a change to full red notes in half the original values. The other three voices change from

²⁰Ibid., p. 11 (No. 14).

(2, 3) to red notes at the same time and must be read in (3, 2) mensuration. Thus, the red breve is perfect and may be imperfected, and red semibreves may be altered.²¹

The exceptional isorhythmic feature of Motet 18 is that each of two different colores is stated and immediately repeated in written-out diminution. Both tenor and contratenor are in imperfect modus, (II, 2, 3), reduced to (2, 3).²²

It is curious that all but three of the motets in Tu B are in perfect modus, considering that imperfect modus becomes much more common for motets in Ox and later fifteenth-century manuscripts. In this respect the Tu B motets more closely resemble late fourteenth-century motets than those appearing later in the fifteenth century. The frequent use of syncopation and other rhythmic complexities emphasizes their relationship with the secular music of the late fourteenth and early fifteenth centuries.

Secular Works

The secular music in Tu B is often rhythmically complex, but, with the exception of notae caudatae, it does not use the special note shapes devised by the composers of Ch and Mod. Five introduce unusual proportions that are explained by canons, but the use of the sign $\frac{3}{2}$ without a canon is a progressive feature that will become increasingly common in the music of the fifteenth century. Of the three secular

²¹Ibid., p. ix (No. 8), and transcription, pp. 35-36, mm. 49-64.

²²Ibid., p. xiv (No. 18), and transcription, p. 75.

song forms, ballades are the most numerous. Tu B contains the extraordinarily large number of 102 ballades,²³ but only 21 virelais and 43 rondeaux. The number of rondeaux does not suggest the popularity this form will enjoy in later fifteenth-century music.

The standard texture in the songs consists of three voices, a cantus with text and untexted contratenor and tenor. Of the ballades, only No. 71 departs from this texture by having an additional upper part with a different text. Four virelais and nine rondeaux are for only two voices, usually a cantus and textless tenor. In rondeaux 24 and 39, however, both voices lie in the same tenor range and both have the text. Rondeau 40 has the text in all three voices. The final rondeau, No. 64, is a four-voice canon derived from one notated part. Thus it is only the second secular piece for four voices.

All of the secular songs except one may be classed in one of the four primary mensurations (Table 4). Modus is not present in any of the pieces, but longs are imperfect when used. As may be seen in Table 4, perfect prolation is favored by a large margin, 126 to 39. This is an interesting contrast to the motets, 23 of which are in perfect, and 17 in imperfect prolation. The only piece in the "Other" column is Ballade 3, in which all three voices begin in different mensurations and constantly change from one to another, using all four primary mensuration with the standard signs. In this ever-changing complex, as in the similarly constructed Motet 36, the minim in each

²³The ballades have been studied in some detail by Gerald Feese, "The Polyphonic Ballades in the Manuscript Torino, Biblioteca Nazionale, J. II. 9," 2 vols. (Ph.D. dissertation, State University of Iowa, 1959).

TABLE 4
MENSURATIONS OF SECULAR SONGS IN Tu B

Mensuration		(3, <u>3</u>)	(2, <u>3</u>)	(3, <u>2</u>)	(2, <u>2</u>)	Other
Ballades	102	8	62	10	21	1
Virelais	21	2	18	1	0	0
Rondeaux	43	0	36	1	6	0
Totals	166	10	116	12	27	1

mensuration is the common note value.

Within the four primary mensurations of the secular songs, notational problems with the normal note values from long to minim are minimal. They arise chiefly in perfect prolation when the absence of dots or division, especially in (3, 3), leaves various possibilities for imperfecting the breve or when the scribe has not clearly indicated where the frequent passages of displacement syncopation should end. Most of the notational devices in the secular songs of Tu B are used with considerably greater consistency than is usually found in more miscellaneous collections of medieval music.

Coloration with full red notes is used extensively in Tu B in the standard meaning of a change of mensuration from (2, 3) to 3, 2). All 126 of the secular songs in perfect prolation, plus the perfect prolation passages in Ballade 3, include some coloration. On the other hand, coloration appears in none of the 39 songs in imperfect prolation,

with the exception of Ballade 91, which is in (2, 2) and has a short passage of red semiminims in addition to the rare use of black, flagged semiminims in this mensuration.²⁴

Semiminims suddenly flourish in the secular songs, whereas there were none in the motets and mass movements except the added Mass Cycle. They are normally written as full black minims with flags. Thirty-six ballades,²⁵ sixteen virelais, and thirty-two rondeaux have such semiminims, always in a 2:1 proportion to the minim. Most of the semiminims are found in (2, 3), but they are also introduced in Ballades 73, 81, and 87 in (3, 3), and even in Ballades 79 and 91, which are in (2, 2). None of the ten ballades in (3, 2) has semiminims.

Not only do semiminims appear, sometimes in astonishing numbers, as in Ballades 37 and 99, for example, but red semiminims are found in six ballades, two virelais, and four rondeaux. Of the twelve pieces with red semiminims, eleven are in perfect prolation. No matter what the mensuration is, however, the intention clearly is to substitute three red for two black semiminims. The result is triplets of semiminims to each normal minim (Figure 9).²⁶

²⁴Ballade 79, also in (2, 2), has numerous black, flagged semiminims; see Hoppin, Cypriot-French Repertory, 3:141-2.

²⁵*Ibid.*, p. xi, mentions 35 ballades. In a listing of ballades kindly loaned to me, there are 35 ballades with semiminims, but the list does not include No. 81, which includes one pair of sixteenth notes in 3, 3; see the transcription, p. 146, cantus, m. 63.

²⁶*Ibid.*, Ballade 97, p. 171, cantus, m. 41. See also Willi Apel, Die Notation der polyphonen Musik 900-1600 (Leipzig, 1970), Faksimile 87, p. 478, stave 3, just after the beginning.

Figure 9



There are two exceptional uses of red semiminims in perfect prolation, however. Ballade 38 has a succession of red minims and semiminims. This simply applied proportional coloration to minims and semiminims instead of to semibreves and minims on the prolation level (Figure 10).²⁷



Figure 10

A somewhat analogous situation is found in Rondeau 46, but here the minims are black and are placed so as to create a syncopated effect. The punctus between the first two red semiminims indicates the syncopation and perhaps also serves to show that each minim must be imperfect by a red semiminim (Figure 11).²⁸

²⁷See Hoppin, Cypriot-French Repertory, 3:66-67, cantus, mm. 18 and 45.

²⁸*Ibid.*, vol. 4, Rondeau 36, notes pp. xxi-xxii, and facsimile, Plate IV, stave 9, just after the mensuration sign C. The red semiminims are a light gray.

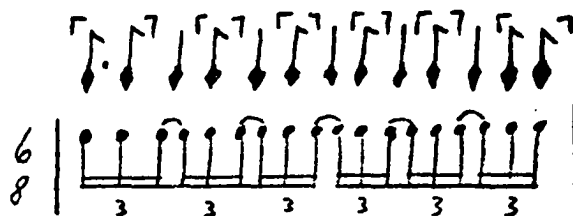


Figure 11

Special note shapes are limited to the *minim* and *semiminim* with downward stems. These forms replace the *semibreve* and *minim* with downward stems most frequently found in *Ch* and *Mod* but have the same musical result. That is, the *semiminims caudatae* are in a 4:3 proportion to minims in perfect prolation, the only mensuration in which these notes are used. Minims with downward stem are in a 2:1 proportion to the perfect *semibreve*. The meaning of the downward stem, therefore, is the same as a dot of addition (Figure 12).

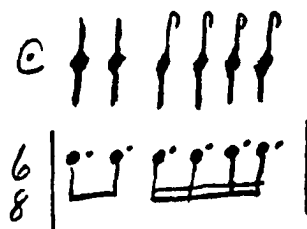


Figure 12

These *notae caudatae* are found in eleven ballades, three *virelais*, and five *rondeaux*, all in (2, 3) except Ballade 74, which is in (3, 3). The same rhythm is expressed in nine ballades, one *virelai*, and five *rondeaux* by *semibreves* and *minims* following the sign $\mathfrak{C}$.²⁹

²⁹Rondeau 54 has the reversed semicircle in error for a normal semicircle; see *ibid.*, p. xxiii (No. 54).

Rondeaux 43 and 46 include both notae caudatae and the reversed semicircle.³⁰

Only one other proportion without a Latin canon is found in the secular songs of Tu B. The proportional sign $\frac{3}{2}$ is used in eight ballades, one virelai, and seven rondeaux. All but one of these sixteen pieces are in a basic mensuration of (2, 3). The one exception is Ballade 91 in (2, 2). In either mensuration, of course, the fraction indicates a 3:2 proportion of minims. The result in (2, 3) is a measure of 9/8 meter in the time of one of 6/8. In (2, 2), a measure of 6/8 replaces one of 2/4. In Rondeau 54, which is in (2, 3), a short passage of coloration within a $\frac{3}{2}$ section creates a measure of 3/4 within the space of four minims.³¹

The ten ballades, one virelai, and one rondeau in (3, 2) throughout deserve special mention. The sign of mensuration is found only in Ballade 66, following a short passage of C. From a notational point of view, these songs are among the simplest in the whole manuscript. They range from 37 to 70 measures in length, and make absolutely no use of coloration, semiminims, notae caudatae, or proportional signs. There can be little question that all are in (3, 2) and not in tempus perfectum diminutum. One passage in Ballade 66 may be worthy of

³⁰See *ibid.*, Plate IV, staff nine, middle, and staff 12, at the end, and transcription of Ballade 46, pp. 54-55, cantus, mm. 7-8, and contratenor, mm. 22-23.

³¹See *ibid.*, No. 54, p. 65, cantus, m. 14.

notice.³² The contratenor has the sign C followed by three black breves, then an O restores the basic mensuration. Thus, the scribe used a change of mensuration instead of coloration to produce three imperfect breves. Short passages of breves in C instead of in coloration are also found in several pieces in perfect prolation.³³ That coloration is not used to produce a succession of imperfect breves is another indication that it was equated with perfect tempus or 3, 2.

The ultimate rhythmic intricacies in the secular songs of Tu B occur in four ballades and one virelai with Latin canons.³⁴ It is only in these pieces that any unusual proportions are used. The canons govern from three to ten different figures or special signs in the cantus or in the cantus and contratenor. Except for changes produced by coloration, the tenors remain in the basic mensuration, which is (2, 3) in all but Ballade 81. The canons all name the proportions in which passages following figures or special signs are to be read. These proportions are always calculated against the basic mensuration of the piece. Thus they may always be read in relation to the tenor, although they frequently may be read in relation to the preceding mensuration in

³²Ibid., 3:118, contratenor, mm. 21-2.

³³Ibid., Ballades 18, 19, 21, 73, 74 (in 3, 3), 86, 89, 94, 96, 98; vol. 4: Virelai 59 (in 3, 3), and Rondeaux 22 and 54.

³⁴Ballades 26, 67, 81, 97, and Virelai 45. Copies of the notation or facsimiles are available only for Ballade 97 and Virelai 45. For Ballade 97, see Johannes Wolf, Handbuch der Notationskunde, 2 vols. (Leipzig, 1913-19; reprint ed, Wiesbaden: Breitkopf & Härtel, 1963), 1:373ff, and Apel, Die Notation..., Faksimile 87, p. 478, and discussion, pp. 477-481. For Virelai 45, see Hoppin, Cypriot-French Repertory, vol. 4, Plate IV.

the same voice as well. The proportions usually apply at the minim level, but several may also be read on the semibreve level. In passages with no minims, the performer would presumably do just that. It is a curious aspect of the use of proportions in these pieces that many can be figured as X units of perfect prolation to Y units in the normal (2, 3) mensuration. Displacement syncopation within the proportions often adds to the difficulties. As an example of a proportion that may be read on both the semibreve and minim levels, a passage of 5:2 in Virelai 45 may be cited (Figure 13).³⁵ The five semibreves in the first measure clearly must be regarded as perfect, since they are replaced by fifteen minims in the next measure.

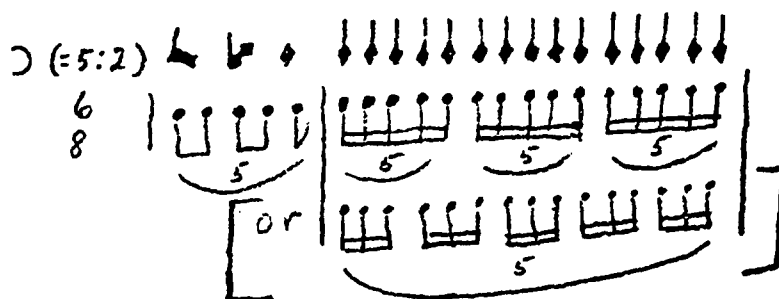


Figure 13

In similar fashion, Ballade 97 includes a passage following the figure 4 in which a sesquitertia proportion must be read on both minim and semibreve levels, a very unusual proceeding. In another short section of the same ballade, a circle with one dot indicates a 2:3 proportion according to the canon. Since there are no minims in the 2:3

³⁵See Hoppin, Cypriot-French Repertory, 4:xxi, and transcription, p. 53, cantus, mm. 28-9.

passage, the semibreve level is obviously intended, although a 2:3 (or 6:9) proportion of minims is at least implied. If semibreves or minims appear alone in proportional passages, then, the level at which the proportion applies need not be questioned. Passages that include both semibreves and minims, however, must be read in perfect prolation when the basic mensuration is (2, 3). In other words, the proportion then applies to both semibreves and minims. This is true even of such unusual proportions in Ballade 97 as 3:4; 5:2; 7:2; 7:3; and 9:8. Passages in all these proportions, it should be noted, introduce syncopation by displacing the units of perfect prolation.

Although semibreves and minims appearing together in proportional passages must be read in perfect prolation when the basic mensuration is (3, 3) or (2,3), as in Ballade 97, a change to imperfect prolation in the basic mensuration will produce a similar change in the reading of the proportions. In Ballade 81, for example, the first section is in (3, 3), and a 4:3 proportion has the expected result of putting four minims in the place of three. As specified in the canon, this proportion is indicated by the figure 4, and the same figure appears twice in the second section of the ballade. Here, however, the mensuration has changed to (3, 2), which is indicated by coloration in all voices instead of the usual mensuration sign. The first passage in 4:3 has only semibreves--curiously they are black--in groups of four against three red semibreves in the tenor. That the black semibreves are nevertheless imperfect is proved by the second passage of 4:3 in

which the note values are one black semibreve and six black minims.³⁶ Thus the proportion still applies on both the semibreve and minim levels, but the prolation has changed to agree with the change in the basic mensuration.

In Virelai 45 and Ballade 67, 4:1 proportions produce the fastest note values in the Tu B manuscript. In Virelai 45, the 4:1 proportion climaxes a progression from 8:6 through 9:6, 12:6, and 18:6 to 24:6 minims, a written-out accelerando.³⁷ In Ballade 67, the canon calls for proporcione quadrupla at the sign of the circulum duplum. Only minims are included in the passage, a total of 24 within one tempus of (2, 3). In addition, the passage shows a meaning of proportional signs that often seems to be intended with proportions in later manuscripts such as Ox. As Hoppin says:

The proportion puts 4 M[inims] in place of 1, but the sequential pattern of 6 notes seems to indicate that the musical intent was to put 4 units of the mensuration (6/8) in place of 1.³⁸

This interpretation also corresponds with the sequential rhythmic pattern in the contratenor (Example 5).³⁹ Thus, when only minims appear in a proportional passage, their rhythmic organization may be in units of tempus or prolation, rather than in the grouping suggested by the stated proportion.

³⁶Ibid., 3:144-6, cantus, mm. 6, 32-4, and 38.

³⁷Ibid., 3:53, cantus, mm. 18-22.

³⁸Ibid., 3:xxx (No. 67).

³⁹Ibid., 3:119, mm. 16-7.

Example 5

The application of proportions to whole units of mensuration is but one progressive feature of the notation in Tu B and is balanced by more traditional features, such as the predominance of perfect modus in the motets. Indeed, the mixture of old and new features in Tu B makes it one of the more interesting manuscripts of the early fifteenth century. In comparison to Ch and Mod, Tu B shows but few inconsistencies in its notation. Unusual proportions in a few pieces should not overshadow the fact that the most common proportions in Tu B are 3:2 and 4:3, as in earlier manuscripts. The methods of notating these two proportions have become much simpler, clearer, and more consistent, however. Indeed, the notation of Tu B as a whole is exemplary for its clarity and precision and in this respect, it foreshadows the notation of the Oxford manuscript.

CHAPTER IV

THE NOTATION AND CHRONOLOGY OF THE MUSICAL FORMS IN OXFORD, CANONICI MISC. 213

In the last 75 years, the music of the manuscript Oxford, Bodleian Library, Canonici Misc. 213, has been discussed, analyzed, and transcribed by a wide variety of scholars. It seems appropriate, therefore, to review chronologically their contributions before embarking upon a study of the notational practice in Ox.

The manuscript was first introduced to scholars and music lovers in 1898 by a splendid volume containing transcriptions of fifty pieces. There were, in addition, eight plates of excellent facsimiles, a lengthy description of the manuscript by E. W. B. Nicholson, and three chapters of information by J. F. R. Stainer, C. Stainer, and Sir John Stainer, concerning the biography of Dufay, the basic principles of mensurable music, modes, musica ficta, "harmony," and cadential formulas. The book was, of course, Stainer's Dufay and His Contemporaries.¹

Almost no new information has been added to Nicholson's material in the Introduction concerning the owners of the manuscript before it was purchased by the Bodley library. His division of the manuscript into two main parts, consisting of fascicles 1 through 4

¹(London, 1898; reprint ed., Amsterdam: Frits A. M. Knuf, 1963).

and fascicles 5 through 10, is based partly on note shapes and partly upon the size of the fascicles. The first fascicles, as presently bound, are large, as if copied from a fair-sized book, whereas the later fascicles are smaller and "...were either derived from extra material, obtained only by driblets, or else were written by other scribes."² This basic division has been accepted by successive scholars. Nicholson also suggested that Ox was probably copied after the middle of the fifteenth century,³ but that "...no composition is found in it which can be placed later than 1436, nor any composer certainly found in it who entered the papal choir after Dufay left it in 1437."⁴ The date 1436 appears on folio 13v of fascicle 1, and is the latest of the nine dates in the manuscript.

Chapter I, by J. F. R. and C. Stainer, and Chapters II and III, by J. Stainer, of Dufay and His Contemporaries, contain much still useful material about the composers and the notation, and Appendix I remains the only published alphabetical index by title of the compositions in the Ox manuscript. The transcriptions are, for the most part, accurate and usable. Except for two sacred works, most of the transcriptions are of secular songs, reflecting the content of the manuscript itself, which includes a far greater number of secular songs than of mass movements or motets.

Only two years after Stainer's Dufay, other compositions of the

²Stainer, Dufay, p. ix.

³Ibid., p. x and again p. xvii.

⁴Ibid., p. xvii.

period, including some from Ox in the versions found in the Trent Codices (Tr), began to appear in the Denkmäler der Tonkunst in Österreich.⁵ The description, inventory, and some transcriptions of the pieces from the seven Trent Codices in the widely known Denkmäler series greatly increased the audience for medieval music of the fifteenth century. Nineteen compositions are found both in Ox and in Tr.

Shortly after Stainer's publication, Hugo Riemann published an article, "Zwei falsch gelöste Kanons in Stainer's 'Dufay'," in Zeitschrift der Internationalen Musikgesellschaft,⁶ which concerned two transcriptions in Dufay and His Contemporaries. The first was O dolce compagno, se tu voy cantare, by Dominicus de Ferrara, No. 316, f. 135, which has two canonic instructions for its performance, one in the text of the top voice and another after the incipit of the contratenor. This piece will be discussed with other Italian secular pieces. The other piece, Rezon's rondeau refrain Ce rondelet je vous en voye--Le dieu d'amours si vous l'otroye, No. 62, f. 35, is for two notated voices, both with text and both with almost identical phrases of the melody. Stainer's transcription included a suggested second performance in which the voices exchange text.⁷ Riemann considered the piece to be a

⁵Denkmäler der Tonkunst in Österreich, 124 vols. to date (Vienna: Österreichischer Bundesverlag, 1890- ; reprint ed., Graz: Akademische Druck- u. Verlagsanstalt, 1959-), vols. 14-15, 22, 38, 53, 61, and 76.

⁶6 (1904-1905):466-69.

⁷Dufay, p. 196.

type of rondelet or rota, similar to Sumer is icumen in. In Riemann's incomplete transcription of Ce rondelet, each voice enters a second time one breve after its initial entrance for a full four-part texture. Unfortunately, this results in many awkward parallels and dissonances, which do not, as Riemann suggests, necessarily correspond to late fourteenth-century style. Without mentioning the notation, Riemann reduces the note values to one-half of those in Stainer. His transcription, therefore, is identical to the "diminished equivalent," or ($\emptyset$), transcription many years later by Gilbert Reaney.⁸ Reaney, however, does not mention Riemann's transcription and includes only the two voices in the manuscript, as did Stainer.

About the same year -- 1904 -- as Riemann's article, the first truly modern study of old notation appeared in Johannes Wolf's Geschichte der Mensural-Notation von 1250-1460, nach den theoretischen und praktischen Quellen.⁹ Wolf was much more thorough in his study of notation before 1400 than after, despite the title. He mentions the Oxford manuscript a number of times, lists concordances with several other manuscripts, but discusses the notation only of the semiminim.¹⁰ His point is that in the early part of the century the form of the semiminim was the flagged minim ($\downarrow$), whereas later the blackened minim ($\blackdown$) became the standard. Furthermore, he suggests that composers made

⁸Early Fifteenth-Century Music. 4 vols. (Rome, 1955-69), 2:105, and notes, p. lili.

⁹ 3 vols. (Leipzig, 1904; reprint ed., 3 vols. in 1, Wiesbaden: Breitkopf & Härtel, 1965).

¹⁰Wolf, Geschichte der Mensural-Notation..., 1:369ff.

a distinction between the types of semiminims by using flagged semiminims in major prolation and black semiminims in minor prolation. Wolf is basically correct in this contention, even when seemingly drawing his conclusions from the limited number of facsimiles in Stainer's Dufay and His Contemporaries. All seven of Wolf's semiminim examples can be found in facsimile in Stainer. It is true that all of the blackened semiminims come from the most recent part of Ox, including some in fascicles 3 and 4 that were substituted for erased flagged semiminims. However, one piece uses colored semiminims in (C) mensuration in Ox, Vide's Vit encore, No. 31, f. 21v. Aside from semiminims, Wolf's only other examples from Ox are of standard coloration patterns and thus are of no special consequence.¹¹

Wolf's second major study of notation, Handbuch der Notationskunde,¹² was first published in 1913. Only the first volume of the handbook mentions the Ox manuscript, and it simply lists the names of the composers and provides one example of a fermata sign.¹³

Twelve years lapsed between the first volume of Wolf's Handbuch and the next significant scholarly attention to Ox. In 1925, Heinrich

¹¹Ibid., p. 400. The example by Carmen, Pontifi[ci decori], No. 40, f. 26v, is transcribed by Wolf incorrectly. Compare the facsimile, No. III, top line, contratenor, beginning, in Stainer, Dufay, with Reaney's correct transcription in Early Fifteenth-Century Music, 1:55, mm. 6-7. Wolf apparently miscopied the three-note c.o.p. ligature. The first two notes are white, and only the final breve is colored.

¹²2 vols. (Leipzig, 1913-19); reprint ed., Wiesbaden: Breitkopf & Härtel, 1963.

¹³Ibid., vol. 1, mention p. 386, composers pp. 456-57, fermata sign p. 385.

Besseler published his "Studien zur Musik des Mittelalters. I. Neue Quellen des 14. und beginnenden 15. Jahrhunderts,"¹⁴ Of course the Ox manuscript was not really a new source after Stainer's publication and did not receive a full-scale analysis and index. Besseler did expand, however, on Nicholson's suggestion that the fascicles were bound in an incorrect order. He argued that fascicles 5 through 8 (ff. 81-126), include the oldest music; fascicles 9-10 (ff. 127-140), a slightly later collection; and fascicles 1-4 (ff. 1-80), the most recent music.¹⁵ Besseler's reasoning was based partly upon the types of music included in the fascicles, partly upon the notation, and partly upon concordances in various other manuscripts. This basic division of the manuscript is still generally accepted.

In 1932, another large collection of music from Ox was published in Charles van den Borren's Polyphonia Sacra, A Continental Miscellany of the Fifteenth Century.¹⁶ Van den Borren chose 51 sacred compositions from Ox as a complement to the secular songs, which had been the primary group in Stainer. This new collection includes the only Mass Cycle in Ox, all but one of the individual mass movements,¹⁷ the only

¹⁴Archiv für Musikwissenschaft 7 (1925):167-252.

¹⁵Ibid., pp. 240ff.

¹⁶(Burnham, 1932; reprint ed., University Park, Pennsylvania: The Pennsylvania State University Press, 1963).

¹⁷No. 126, f. 60v, attributed to Dufay in Ox, but to Hugo de Lantins in the manuscript Aosta, Bibl. del Seminario (without shelf-mark) (Ao), and Bologna, Civico Museo Bibliografico Musicale, Q 15 (BL), and not published by Borren as it had already appeared in a transcription by Rudolf Ficker in Denkmaler der Tonkunst in Österreich, 61:15 (from Tr 90, Nos. 917 and 946, both anonymous).

Magnificat in Ox, twelve of the seventeen isorhythmic motets, sixteen of the twenty-two non-isorhythmic motets, and two compositions with a mixture of Latin and Italian texts. In Polyphonia Sacra, van den Borren achieved a high level of accuracy and clarity in his transcriptions.

In 1937, some thirty secular pieces from Ox were published under the editorship of Jeanne Marix in Les Musiciens de la cour de bourgogne au XVe siècle (1420-1467).¹⁸ Marix included in this collection the works of musicians in the service of Philippe the Good: two of the five pieces in Ox by Grenon, five of the seven pieces in Ox by Fontaine, all seven known compositions by Jacques Vite, and sixteen of the thirty pieces in Ox by Binchois, as well as a frontispiece facsimile of Nos. 167-168, f. 77v.¹⁹

The repertory of Ox was becoming increasingly well known to scholars in the 1930's through such publications as Polyphonia Sacra, by van den Borren, and Les Musiciens de la cour de bourgogne, by Marix. Moreover, the earlier, but more widely circulated and less expensive editions in Das Chorwerk began to make the names of Dufay and Binchois familiar through serviceable, practical transcriptions. In 1932, Heinrich Besseler published twelve works by Dufay, four of which are

¹⁸(Paris: Éditions de l'Oiseau-Lyre, 1937).

¹⁹No. 167 is Binchois' Mesdisans m'ont cuidié desfaire, transcribed in Marix, Les Musiciens, p. 63. No. 168, Au grief hermitage de plours, by Adam, had already been transcribed by Stainer, Dufay, p. 57, and was not included by Marix.

found in Ox,²⁰ and in 1933, Willibald Gurlitt published sixteen secular works by Binchois, three of which are found in Ox.²¹

The Ox manuscript played an important role in Willi Apel's discussion of white mensural notation in the first and succeeding editions of The Notation of Polyphonic Music 900-1600, first published in 1942.²² Currently in its fifth edition,²³ The Notation of Polyphonic Music, the first major textbook on music notation since Wolf's Handbuch, has undergone numerous small revisions, which have continued to be made in the German edition, Die Notation der Polyphonen Musik 900-1600.²⁴

Meanwhile, 201 French and Italian songs from Ox were transcribed without text in 1943, in the second volume of Samuel W. Spurbeck's unpublished dissertation, "A Study of the Canonici Manuscript Misc. 213 (Circa 1400-1440)."²⁵ It was Spurbeck's aim to include all of the secular pieces that had not been published in Stainer, Marix, or

²⁰Heinrich Besseler, ed., Guillaume Dufay, Zwölf geistliche und weltliche Werke (Das Chorwerk, Jahrgang 4, Nr. 19; Wolfenbüttel, Berlin, 1932).

²¹Willibald Gurlitt, ed., Gilles Binchois, Sechzehn weltliche Lieder zu 3 Stimmen (Das Chorwerk, Jahrgang 4, Nr. 22; Wolfenbüttel, Berlin, 1933).

²²(Cambridge, Massachusetts: The Mediaeval Academy of America, 1942).

²³1953.

²⁴(Leipzig: VEB Breitkopf & Härtel, 1970).

²⁵(Ph.D. dissertation, Eastman School of Music, 1932).

other less comprehensive collections.²⁶ The first volume concludes with an alphabetical index similar to Stainer's, and an index by composer, which has several errors. A third index by folio is, in effect, the first complete catalogue of the entire Ox manuscript, but it includes only a few concordances with other manuscripts. A more complete catalogue had to wait nine more years for Gilbert Reaney's inventory of Ox in Musica Disciplina.²⁷ Spurbeck's dissertation has been widely, and perhaps not unwisely, ignored. Reaney does not include Spurbeck's transcriptions in his inventory of Ox, even though he painstakingly included the often brief and incorrect excerpts from Erna Dannemann's Die spätgotische Musiktradition in Frankreich und Burgund vor den Auftreten Dufays.²⁸

Spurbeck's transcriptions are generally accurate. He has halved the note values of the original, with a minim equaling a quarter note, and usually he bars by the breve. Although he uses no meter signatures whatever, it is obvious by the consistently implied 3/2 meter for all pieces in perfect tempus and minor prolation that he did not consider any pieces to be in $\emptyset$, unless a sign indicated that mensuration. Almost all of Spurbeck's information about Ox and the composers represented in the manuscript is drawn from Stainer's Dufay.

²⁶Nevertheless, he did not succeed. No. 262, f. 112, a virelai, Je suy si las venus pour tant attendre by Frater Antonius de Civitate Austrie has thus far never been made available in an edition of any type, so far as is known.

²⁷"The Manuscript Oxford, Bodleian Library, Canonici Misc. 213." Musica Disciplina 9 (1952):73-104.

²⁸(Strassburg: Heitz & Co., 1936).

Also borrowed from Stainer is the idea that many of the anonymous compositions should probably be attributed to the composer whose name is affixed to the composition immediately preceding a group of anonymous pieces.²⁹ Stainer had noted, however, that Se ne prenés de moy pité, No. 64, f. 35v, although anonymous and following a piece by Hugo de Lantins, is attributed to Arnold de Lantins the second time the piece is copied in the manuscript, No. 307, f. 129v. Neither Stainer nor Spurbeck go further than to suggest the probability of attributing compositions to composers according to a preceding piece that carries a composer's name.

The idea of one piece being related to another led Spurbeck to state that "...by the process of transcription...it was found that a 'time signature' holds throughout until changed by the copyist. This is not always consistent, but for the most part is true."³⁰ Unfortunately, it is not possible to show that the copyist or copyists of Ox had any such mensural organization in mind. Efforts to prove Spurbeck's statement have consistently failed. The majority of the pieces in Ox do not have initial mensuration signs, and the mensuration must be determined by examining the notation, as was standard practice from the early fourteenth century. A table of the pieces in Ox would contradict Spurbeck's statement but is too lengthy to include in order to disprove such a minor point. The idea does not affect Spurbeck's transcriptions, however, for they correctly reflect the mensuration of

²⁹Dufay, p. xix.

³⁰Spurbeck, "A Study of the Canonici Manuscript," p. 2.

the pieces.

In 1947, Guillaume de Van began an edition of the complete works of Dufay.³¹ The "Method of Transcription" explained in the first volume³² set the tone and high standard for the Corpus Mensurabilis Musicae series, published by the American Institute of Musicology, as well as for other publications. In the four volumes published before his death, he discussed, dated, and transcribed some eighteen motets and two masses. Unfortunately, his use of the original clefs gave the volumes an old-fashioned air and made them less useful to the average musician.

In 1950, Charles van den Borren's last publication of pieces from Ox was the small volume entitled Pièces polyphoniques profanes de provenance liégeoise (XVe siècle).³³ This collection contains thirty-five pieces, two of which are by J. Franchoyo de Gemblaco and the rest by Arnold and Hugo de Lantins. All of the pieces are secular, either French or Italian, and thirty are from Ox, with the other five from BL.

The continuation of the Dufay edition was undertaken by Heinrich Bessler in 1951 and completed in 1966. Bessler's initial volume continued the publication of Dufay's masses.³⁴ Whereas much of

³¹Guglielmus de Van, ed., Guglielmi Dufay. Opera Omnia, (4 volumes; Corpus Mensurabilis Musicae, 1; Rome: American Institute of Musicology, 1947-49.

³²pp. iv-viii.

³³(Brussels: Éditions de la Librairie Encyclopédique, 1950).

³⁴Heinrich Bessler, ed., Guillelmi Dufay. Opera Omnia (vol. 3, 1951; Corpus Mensurabilis Musicae, 1; Rome: American Institute of Musicology, 1951-66).

the dating of pieces by de Van was based upon texts and historical events in the fifteenth century, Besseler enunciates in his volume 3 his own criteria for dating, which include a subtle and often confusing consideration of mensuration practice. Besseler's criteria are not very clearly expressed in the introductions to his six volumes of Dufay's works, and how much of the lack of clarity may be the result of English translation cannot be known. His basic ideas regarding a change of tempo, which took place around 1430, as well as a change from prolatio perfecta to prolatio imperfecta, had been earlier enunciated in his Bourdon und Fauxbourdon, Studien zum Ursprung der niederländischen Musik.³⁵ The principles expressed in Bourdon und Fauxbourdon and in the introductions to the works of Dufay will be further explored in relation to tempus perfectum diminutum.

Before Besseler's edition of Dufay's works had reached two volumes, Gilbert Reaney had already edited two of the four volumes of Early Fifteenth-Century Music. Many of the pieces in the four volumes so far published and all of the anonymous pieces in volume 4 are from Ox. With the completion of the Dufay edition and Early Fifteenth-Century Music, all of the music in Ox has been published in one or another of the publications discussed, except for a few with Italian texts and Je suy si las, No. 262, f. 112. Reaney's editorial policy leaves much to be desired by the scholar-musician. Aside from the many inaccuracies in the critical notes, the music itself contains no ligature markings and no indication of coloration or mensuration signs.

³⁵(Leipzig: Breitkopf & Härtel, 1950).

The barring is frequently irregular, not based strictly on units of tempus but on Reaney's feeling for phrase structure or other, never explained, reasons. The transcriptions, therefore, approach most nearly a popular or commercial printing, although Reaney writes that his method of transcription differs in only minor details from that of Guillaume de Van's Dufay edition.³⁶

Reaney does follow de Van's idea of transcribing pieces in perfect tempus with imperfect prolation and large-note motion in "diminished equivalent." The meaning of diminished equivalent is, of course, tempus perfectum diminutum without benefit of mensuration sign. Reaney is thereby extending the use of tempus perfectum diminutum backwards into the late fourteenth century, as in Johannes Cesaris' Le dieus d'amours from the Chantilly MS (Ch) 73, f. 46v.³⁷ This is the only example of (Ø) in this volume 1, and curiously enough it is found in the music of a composer whom Reaney considers to be the oldest of the group.³⁸ In volume 2, most of the pieces are from Ox, and tempus perfectum diminutum, both with and without mensuration sign, is prevalent. Before Reaney's volume 3 appeared, Ursula Günther had published, in 1960, two articles about the use of tempus perfectum diminutum in

³⁶Reaney, Early Fifteenth-Century Music, 1:iv.

³⁷Reaney, Early Fifteenth-Century Music, 1:27-30, and notes, p. xiv.

³⁸*Ibid.*, p. 1.

late fourteenth-century music.³⁹ The theories propounded by Günther have already been discussed at some length.

The third and fourth volumes of Reaney's Early Fifteenth-Century Music, in 1966 and 1969, almost complete the publication of all the music in Ox. In fact, volume 4 consists exclusively of anonymous chansons from the manuscript.⁴⁰ In this volume, Reaney has attempted to assign each composition to the composer whom it best seems to represent. The pieces are grouped by form in a chronological order established by Besseler, namely, pieces from fascicles 5-10 followed by those from fascicles 1-4. Further criteria include individual stylistic features and concordances in other manuscripts.⁴¹ Of the 56 pieces in volume 4, Reaney indicates that one anonymous piece is for "Certain" by P. J. (= Presbyter Johannes?) because it and the one ascribed to P. J. are very similar in style.⁴² In attributing the anonymous works to various composers, Reaney classifies 44 other pieces in three "Degrees of Probability": I, almost certain; II, quite likely; III, possible, but uncertain.⁴³ Eleven pieces are not listed in his

³⁹Ursula Günther, "Die Anwendung der Diminution in der Handschrift Chantilly 1047," Archiv für Musikwissenschaft 17 (1960):1-21, and "Der Gebrauch des tempus perfectum diminutum in der Handschrift Chantilly 1047," Archiv für Musikwissenschaft 17 (1960):277-97.

⁴⁰For unknown reasons Reaney omitted one French chanson, Toute bialté et toute honneur, No. 286, f. 122v.

⁴¹Early Fifteenth-Century Music, 4:xix and ix.

⁴²No. 24, f. 19, Douce speranche, a virelai from fascicle 2. See *ibid.*, pp. xiv and xviii.

⁴³*Ibid.*, p. ix and pp. xvii-xviii.

chart, although they receive some discussion in the introductory material. The attributions are often based on the slimmest of evidence. Surely there is no reason why anonymous compositions must be assigned to composers whose names are known. There is enough confusion about many of the composers whose names are known without introducing hunches and degrees of probability. Thus, these attributions will largely be ignored in this study.

After the appearance of only the first volumes of Besseler's Dufay edition and Reaney's Early Fifteenth-Century Music, the chansons of Binchois were published in 1957 by Wolfgang Rehm.⁴⁴ Following the theories of Besseler in Bourdon und Fauxbourdon,⁴⁵ Rehm discovers tempus imperfectum diminutum only in Seule esgarée,⁴⁶ and tempus perfectum diminutum only in Dueil angoisseus.⁴⁷ This last piece contains the mensuration sign Ø at the beginning of the top voice and is unique in having the only mensuration sign in the manuscript Escorial, Biblioteca del Monasterio, V. III. 24 (Esc A). For Jamais tant,⁴⁸ Rehm transcribes in 6/8 the (E) version in the manuscript Paris, Bibliothèque Nationale, nouv. acq. frç. 6771 (PR), f. 96v, and transcribes in 3/4 the two copies in doubled note values, Ox No. 10, f. 9v. and

⁴⁴Die Chansons von Gilles Binchois (1400-1460), (Musikalische Denkmäler, Bd. 2; Mainz: B. Schott's Söhne, 1957).

⁴⁵Ibid., p. 8*, and n. 42.

⁴⁶Ibid., No. 42, p. 37; see p. 8*, n. 43.

⁴⁷Ibid., Nos. 50 and 50a, pp. 45-47; see p. 8*, n. 43.

⁴⁸Ibid., No. 17 (Ox) and No. 17a (PR), pp. 15-16; see p. 8*, n. 43.

and Esc A, f. 47, neither of which have a signature and thus could be read in either O or Ø. Rehm chooses O, suggesting that it shows very clearly the changeover from the earlier E to the later, post-1430, O notation.⁴⁹ In contrast to Rehm's view, it may be well to consider all of Binchois' chansons in Ø rather than O. Nevertheless, his edition is well edited, with accurate critical notes.

Only a few other editions of music need be mentioned since each includes only a small number of pieces from Ox. In 1946, Davison and Apel published Vol. 1 of the Historical Anthology of Music,⁵⁰ which includes a few pieces that had appeared as facsimiles in Apel's notation text of 1942. In 1960, Suzanne Clercx published transcriptions of all of the works of Ciconia,⁵¹ of which four are found in Ox. In 1966, Nigel Wilkins published some of the fifteenth-century pieces from PR,⁵² eleven of which are also found in Ox. Finally, in 1971, Volume 2 of the works of Brassart, edited by Keith E. Mixter, contains Brassart's three pieces in Ox.⁵³

⁴⁹Ibid., p. 8*, n. 43.

⁵⁰Davison, Archibald T. and Apel, Willi, eds., Historical Anthology of Music, vol. 1: Oriental, Medieval and Renaissance Music. Revised ed. (Cambridge, Mass.: Harvard University Press, 1949).

⁵¹Suzanne Clercx, Johannes Ciconia, Un musicien liégeois et son temps (Vers 1335-1411), 2 vols. (Brussels: Palais des Académies, 1960).

⁵²Nigel E. Wilkins, ed., A 15th-Century Repertory from the Codex Reina (Paris, Bibl. Nat., Nouv. Acq. Fr., 6771) (Corpus Mensurabilis Musicae, 37; Rome: American Institute of Musicology, 1966).

⁵³Keith E. Mixter, ed., Johannes Brassart, Opera Omnia 2 vols. (Corpus Mensurabilis Musicae, 35; Rome: American Institute of Musicology, 1965-71).

Two further publications are of special interest in regard to Ox. The first is the 1964 publication of a Ph.D. dissertation by Charles Hamm, A Chronology of the Works of Guillaume Dufay Based on a Study of Mensural Practice.⁵⁴ Many of Hamm's theories are controversial, to say the least, and will receive considerable attention. The second is also a Ph.D. dissertation, published in 1971, Hans Schoop's Entstehung und Verwendung der Handschrift Oxford, Bodleian Library, Canonici misc. 213,⁵⁵ which is the first relatively thorough analysis of some physical aspects of the manuscript. The problems of notation concern Schoop only to a limited extent, but his research tends to substantiate Nicholson's original contention that the Ox manuscript is essentially two separate volumes put together. Of special interest is Schoop's finding that in some cases colored semiminims have been written over erased semiminims with flags. Moreover, his discussion of the relation between the incomplete index that prefaces the manuscript and the pieces which it lists throws new light on several aspects of the manuscript that had not previously been considered.

The publications so far discussed are by no means the only sources of information about, or transcriptions of, the music in Ox. The constantly growing list of publications of medieval music makes it difficult to keep up with the transcriptions of pieces from Ox itself, let alone transcriptions from the thirty-three manuscripts in which concordances are found. Yet despite the fact that all but one of the

⁵⁴(Princeton, New Jersey: Princeton University Press, 1964).

⁵⁵(Publikationen der schweizerischen Musikforschenden Gesellschaft, Serie II, vol. 24; Bern: Paul Hapt, 1971).

325 different pieces in Ox are available in at least one modern edition, there still remain numerous problems regarding the mensural usage of the composers or scribes who wrote or copied the music in the manuscript. It is the primary burden of this dissertation to examine and explain the notational practice of the time as reflected in the repertory of Ox, while remaining cautious about drawing too many general conclusions from the idiosyncracies of the single source itself.

The organization of the discussion of notational practice in Ox must of necessity differ in some degree from the previous discussion of earlier music. Fourteenth-century music rather logically groups itself by composers, such as de Vitry and Machaut, or by species, such as mass movements and late fourteenth-century secular music. A detailed analysis of Ox seems to call for a slightly different organization, not only because of the diversity of composers and species spread over a period of time which may well range from the last decade or so of the fourteenth century until at least 1436, the most recent date in the manuscript, but also because the emphasis is upon notational practice in the complete manuscript. A discussion by species will therefore be followed by a more detailed analysis of particular aspects of the notation. In dealing with the different species, the subject matter of the remainder of this chapter, the mass movements will be discussed first, followed by the motets. After the motets will come surveys of the French secular pieces and those with Italian texts. In Chapter V, an examination of pieces that use only the primary mensurations will lead to an explanation of the use of semiminims, coloration,

and syncopation. Individual pieces within these categories will be mentioned only when they add something of value to the survey of notational problems. For example, each of the motets with Latin canon will be discussed, but a piece such as Binchois' Gloria, which opens the manuscript, will not be considered until each of the individual proportional signs has been discussed.

In considering compositions by species, the general chronological order of the manuscript, as suggested by such scholars as Stainer, Besseler, Reaney, and Schoop, will be adhered to. They all agree that fascicles 5-10 contain the oldest music and that fascicles 1-4 contain the more recent compositions.⁵⁶ In his 1952 catalogue of Ox, Reaney repeated Besseler's three-fold division of the manuscript into fascicles 5-8, the oldest layer, containing the earliest types of compositions, followed by the only slightly later fascicles 9-10, and then the most recent music in fascicles 1-4.⁵⁷ Later Reaney suggests that fascicle 1 was originally separate and the codex began with the present fascicle 2 at folio 17.⁵⁸ This last suggestion is based upon the fact that in the original, but now incomplete, index all but

⁵⁶The idea of the division of the manuscript into two parts seems to have originated by E. W. B. Nicholson, in his introduction to Stainer, Dufay, p. ix.

⁵⁷Reaney, "The Manuscript Oxford...", p. 74. This division is also repeated in Reaney, Early Fifteenth-Century Music, 4:ix. and quoted by Schoop, Entstehung und Verwendung, p. 10.

⁵⁸Gilbert Reaney, "The Italian Contribution to the Manuscript Oxford, Bodleian Library, Canonici Misc. 213," in L'Ars Nova Italiana del Trecento (Secondo Convegno Internazionale 17-22 luglio 1969 sotto il patrocinio della Società Internazionale di Musicologia, vol. 3; Certaldo: Centro di Studi sull' Ars Nova Italiana del Trecento, [1970]): 444-45.

three of the pieces in fascicle 1 are listed below the rest of the pieces and therefore must have been added to the manuscript at a later time.⁵⁹

For the purpose of this study, the threefold division of the manuscript is sufficient as a general guide. Therefore, the general procedure will be to discuss the species in three groups, as they fit into the early, middle, or late fascicles. The slight changes in notational practice tend to bear out this chronology. There are exceptions, however. Just as Reaney noted that the dates in the manuscript cannot be made to follow each other chronologically, in whatever order one may rearrange the fascicles,⁶⁰ so is there no straightforward and consistent chronological development of notational practice.

Mass Movements

H. Ståblein-Harder published transcriptions of 78 mass ordinary movements in Fourteenth-Century Mass Music in France but did not include the Mass Cycles of Tournai and Machaut, each of which include six movements, Kyrie, Gloria, Credo, Sanctus, Agnus Dei, and Ite missa est. In addition, Ståblein-Harder mentions, but does not publish, two Glorias from other manuscripts.⁶¹ Including the five Mass Cycles of Sorbonne, Toulouse, Tournai, Barcelona, and Machaut brings the total number of

⁵⁹Ibid., See also Schoop's analysis of fascicle i, which arrives at similar conclusions, in Entstehung und Verwendung, pp. 11-14.

⁶⁰Reaney, "The Italian Contribution...", p. 444.

⁶¹H. Ståblein-Harder, Fourteenth-Century Mass Music in France. Critical Text. (Rome, 1962), p. 14, n. 22.

mass movements to ninety. Two-thirds of these are found in two main manuscripts, Apt and Ivrea. A brief summary of some notational aspects of these pieces has already been made. Two points may be repeated in order to compare fourteenth-century mass movements with those in early fifteenth-century MSS Tu B and Ox. The first is the frequent use of modus in many fourteenth-century mass movements. By comparison, only one Gloria in Tu B was found to have modus. All of the others are in 2, 3; 3, 2; or 2, 2 in all voices. The second point is the frequent use of isorhythm in fourteenth century mass movements, as compared to its only partial appearance in two of the twenty-one mass movements in Tu B.

When compared with earlier mass movements, those preserved in Ox are more similar to the mass movements in Tu B than to earlier fourteenth-century pieces. Neither modus nor isorhythm is present in the 21 individual movements in Ox. Ciconia's Gloria, No. 242, f. 103v, does have curious inner repetitions, however. After a nine-measure opening, the next thirty-two measures (beginning with "Laudamus te") are immediately repeated for the "Qui tollis" section. A fifteen-measure "Amen" concludes with the final measures identical to measures 8-9 of the opening section.⁶² The Gloria is in C throughout and has the sign in each voice in Ox, whereas there are no signs in the version preserved in BL 149, f. 161v. The original index of Ox includes the term a tribus after the title, composer's name, and mensuration sign of this

⁶²Transcriptions may be found in Borren, Polyphonia Sacra, p. 88; Davison and Apel, Historical Anthology of Music, 1:59 (No. 55); and Clercx, Johannes Ciconia, 2:108 (No. 23).

Gloria. Schoop suggests that a tribus means only that the piece is for three voices,⁶³ but three-voice texture in chanson style is not so unusual for mass movements that it would require comment.

Most of the other mass movements in Ox are either in one of the four primary mensurations throughout or in sections in which all voices change from one mensuration to another at the same time. None of the pieces, other than the Binchois Gloria-Credo pair that opens the manuscript, includes proportional signs or other notational problems of any significance. With this exception, therefore, they may be considered conservative with respect to notational practice in comparison to the secular music.

The 21 mass movements in Ox include eight Glorias, two Credos, three Gloria-Credo pairs, and one complete Mass Cycle. The total is slightly over 6 percent of the 325 different pieces in Ox. Thus mass movements still play a small role in Ox, as they did in Tu B, which also includes 21 movements, or 9 percent of the 226 polyphonic pieces in that manuscript. By comparison, BL, which has the largest number of concordances with Ox, 43 in all, and is of about the same period of time, contains mostly mass movements in its first 17 fascicles. These fascicles include 161 pieces out of a total of 328 in the manuscript, and most of the rest of BL is devoted to motets, Magnificats, and hymns. Ox contains only 37 motets, one Magnificat, and no hymns. The total of some 90 mass movements for the entire fourteenth century is not greatly increased by Tu B and Ox, with 21 pieces each, but the

⁶³Schoop, Entstehung und Verwendung, p. 49.

repertory in BL includes more mass movements than remain from the fourteenth century and the Tu B and Ox manuscripts combined.

This sudden increase in mass movements, although not significant for the overall number in Ox, may be seen within the fascicles of the manuscript itself. In the earliest fascicles of Ox, 5-8, only five mass movements are found, four of them in fascicle 7. Two of these are Glorias by Johannes Ciconia, one already mentioned because of its internal repetition, and the other is No. 240, f. 101v, which is a troped Gloria with alternating duet and chorus sections, with all three voices in (2, 3) throughout. The more recent fascicles 9-10 contain only two, but the most recent fascicles include fourteen mass movements.

Alternation between duet and chorus sections is found in several of the mass movements. In some cases, the technique of alternation is even indicated in the index of the manuscript. In addition to their alphabetical listing, four of the mass movements include the further designation a versi. They are the Gloria, No. 244, f. 104v, by Le Grant Guillaume, listed with the "Et in terra" group on the unnumbered "E" page, and three of the Credo movements, No. 245, f. 105v, by Le Grant Guillaume, No. 2, f. 2v, by Binchois, and No. 319, f. 136v, by Bartholomeus de Bononia, all listed by "Patrem" on the "P" page of the index.⁶⁴ Not all the pieces that have the duet-chorus alternation are so marked in the index, however. Ciconia's Gloria, No. 240, f. 101v, is in the same style, but the index follows the title and his name by Tro Spiritus et alme, indicating the trope included in the text.

⁶⁴See Schoop, Entstehung und Verwendung, pp. 49-50.

Because this indication seems to have taken all the room on the line, the mensuration of this Gloria is not indicated. Mensuration signs are also missing for the three Credos that have the indication a versi after the composers' names. The troped Gloria of Ciconia seems to have undergone some revision, apparently to emphasize the sectional divisions of the movement. At any rate, the revision consists primarily of changing cadence measures from breves or semibreves to longs, as has been discovered by Hans Schoop.⁶⁵ The alternating sections for duet and chorus now stand out as a series of short phrases, each ending with longs in all voices.⁶⁶ The rare -- for Ox -- use of hocket in the "Amen" section is a reminder of an earlier style reaching back into the fourteenth century.

The other two pieces in fascicle 7 are a Gloria-Credo pair by Le Grant Guillaume, Nos. 244-245, f. 104v-107.⁶⁷ These two pieces are also paired in BL, Nos. 50-51, f. 56v-59, but only the Gloria is found in Tr 92, No. 1429, f. 74v. Like Ciconia's second Gloria, No. 240, Le Grant Guillaume's pair alternates duet and chorus sections. In the Gloria, the duets are in C and choruses in $\emptyset$, but in the Credo, the duets are in E and choruses in C. The Credo is dated 1426 in Ox, immediately following the composer's name on folio 105v. Whether this is the date of composition or of copying into the manuscript is not

⁶⁵Entstehung und Verwendung, p. 58.

⁶⁶Except one cadence (See Borren, Polyphonia Sacra, p. 86, m. 130) which the reviser seems to have forgotten, as pointed out by Schoop, *ibid*.

⁶⁷Reaney, Early Fifteenth-Century Music, 3:53-62.

certain.

The fifth piece from the earliest fascicles is an individual Credo, No. 264, f. 113, by Chierisy. This Credo for only two voices is in four sections with the mensurations C, C, C, and C. Perhaps a continuous section in C was subdivided because the Credo begins on f. 113r and ends on f. 113v.⁶⁸ The final 24 measures are a melismatic setting of the "Amen" as a two-voice canon. This canon is indicated by written instructions for each voice. Beneath the upper voice, the phrase Fuga trium temporum prescribes a canonic entry after three tempora. The point of entry is also indicated by a corona. After its double bar, the lower voice is directed to sing the melody of the upper voice as a canon by two phrases: Ut supra fuga, with a custos to indicate the starting pitch, and Amen. Ut supra

In addition to these two canons, the Chierisy Credo is uniquely designated virilas in the index. Schoop has suggested that this word means that the two similar voices are to be sung by men rather than boys, or perhaps an all-vocal performance rather than the usual mixture of voices and instruments.⁶⁹

In the later fascicles, 9 and 10, only two mass movements appear, both in fascicle 10. They are the Gloria-Credo pair, Nos. 317 and 319, f. 135v-138, by Bartholomaeus de Bononia. Both are uniquely found in Ox. Both are for three voices in basic 2, 3 mensuration, with

⁶⁸The continuation on f. 113v is not noted in Reaney's index, "The Manuscript Oxford...", p. 100, and the pagination is incorrectly given as f. 113r-114v in Borren, Polyphonia Sacra, p. 75.

⁶⁹Entstehung und Verwendung, p. 49.

brief interruptions by passages of C . However, the two movements differ in several ways. The Gloria has a texted upper voice and untexted contratenor and tenor. The contratenor is as active as the upper voice. The Credo, on the other hand, is another of those pieces that alternate duo and chorus sections. The Gloria is a parody⁷⁰ of Bononia's Italian ballata, Vince con lena, No. 315, f. 135,⁷¹ found on the recto side of the same folio as the Gloria. The ballata is in a basic mensuration of 3, 3, with two short passages in both superius and contratenor in C , and a combination of 2, 3 and 3, 3 in different voices towards the end of the piece. A glance at the Gloria shows that it, too, might well be in 3, 3 rather than 2, 3. Even the presence in the manuscript of the C sign after each passage of C does not prevent the phrasing and cadences, at least of the first part, from moving as if in 3, 3. The compiler of the original index of Ox must have noticed this because he clearly marked the Gloria with an C sign.⁷² Further proof that the tenor, at least, should be read in 3, 3 instead of 2, 3 is found in the two-note ligature in coloration, long-breve.⁷³ The long is worth twelve minims and the breve worth six. In 2, 3 a colored breve would be worth only four minims, and colored longs are not used in 2, 3 mensuration in Ox. The Credo, on the other hand, seems to be a

⁷⁰See Gustave Reese, Music in the Renaissance, Revised ed. (New York: W. W. Norton & Co., 1959), p. 28.

⁷¹See facsimiles in Apel, The Notation..., p. 143, and Stainer, Dufay, Plate VIII, with transcription pp. 60-63.

⁷²Noted by Reaney in "The Italian Contribution...", p. 453.

⁷³See Borren, Polyphonia Sacra, p. 37, tenor, mm. 9-11.

parody of the Italian ballate that follows it in the manuscript, Morir desio poche fortuna, No. 320, f. 137v, by Bononia.⁷⁴ Like the Credo, the ballata is in a basic mensuration of 2, 3, and has one brief passage of 3 in all voices simultaneously. An unusually large number of flagged semiminims occurs in both Morir desio and in the Credo. In fact, the Credo has the largest number of semiminims of any piece in Ox.

As may be surmised from the previous discussion of the seven mass movements in the earlier fascicles of Ox, few problems of notation have been discovered. More will be encountered in the 14 mass movements in the latest fascicles, 1 through 4. As has been stated, however, most of the notational problems are found in the first two pieces in fascicle 1, as the manuscript is now put together. These two pieces, the Gloria-Credo pair by Binchois, are also found in BL, Nos. 120-121, f. 130v-134; Tr 92, Nos. 1366-1367, f. 3v-6; and in MS 11 of Cambrai, Bibliothèque de la ville (Ca 11), f. 9 and f. 35. Only in the last manuscript are the two pieces not placed together as a pair. The MS 6 of Cambrai, Bibliothèque de la ville (Ca 6), preserves the Gloria, f. 17v, but not the Credo. The Gloria is for three voices in all sources, the superius and contratenor, which have the text, and untexted tenor. The movement is made up of brief sections, alternating the two texted voices in 0 mensuration with all three voices in Ø. The twelfth and final section is an "Amen" which continues in 0, but in which the tenor voice also joins. There are no particular notational problems here,

⁷⁴The only transcription thus far available is the one without text by Spurbeck in "A Study of the Canonici Manuscript," p. 435.

but the 31 flagged semiminims scattered through the sections in O, as well as the one pair of flagged semiminims in the second $\emptyset$ section are sufficient evidence that the piece is one of the most recent in Ox. Flagged semiminims in O are relatively rare until the early fifteenth century, and their introduction in $\emptyset$ is one of the late developments in the evolution of that notation from a proportional sign to a full-fledged, independent mensuration.

The Credo is more complex. It consists of 15 different sections, alternating, duet and chorus sections as in the Gloria, with the tenor observing rests in the duets. The first five chorus sections include conflicting meters, the superius and tenor moving in C, while the contratenor moves in O. Four of the duet sections are in $\emptyset$. But one duet has both voices in $\mathfrak{C}$, with the top voice including a passage in $\frac{3}{2}$. Flagged semiminims are found in C, O, $\emptyset$, $\mathfrak{C}$, and $\mathfrak{O}$. In addition, one group of colored minims is found in one section of C. Because the use of proportional signs and semiminims of various types has yet to be discussed, an analysis of Binchois' Credo will be reserved for Chapter VI in which the question of relative tempos in pieces that change mensuration in all voices at the same time will be explored.

Much less complicated than the Binchois Credo are the other twelve mass movements, all of which are found in fascicle 4 of Ox. Six of the individual Glorias, one Credo, and the Mass Cycle of Arnold de Lantins are scattered among the 58 pieces in that fascicle. Before taking into account the relatively uncomplicated mensuration problems of these pieces, some consideration must be given to their listing in the index. Only the title and page number of most of the pieces in Ox

are listed, but for the mass movements, the composer is given and, in most cases, the basic mensuration. Three of these listings are of special interest. The first is No. 126, f. 60v, a Gloria attributed to Dufay both in the index and in the manuscript. But the same Gloria is found in both Ao 32, f. 30, and BL 35, f. 38v, with the name of Hugo de Lantins. The immediately preceding Gloria, No. 124, f. 59v, is also attributed to Dufay in the index, but the name Ugo de Lantias appears above the music. Unfortunately, this Gloria is found uniquely in Ox, so that there can be no crosschecking with other manuscripts. Schoop has discovered an erasure of the name Dufay on f. 59v and attributes the Gloria No. 124 to him in agreement with the index, whereas the following Gloria, No. 126, he declares to be by Hugo de Lantins.⁷⁵ The matter of attribution is not as important here as the question of the reliability of the index. It would be correct for Gloria No. 124, but both attributions of No. 126 would be wrong. For both Glorias, the index correctly indicates the mensuration of C. It has already been noted that the index indicates Θ for the Gloria, No. 317, by Bononia, whereas the mensuration signs in the piece itself are ϵ — in the upper voices, at least. All of the rest of the mensuration signs in the index agree with the mensuration of the pieces themselves. Only the Gloria, No. 128, f. 61v, by Hugo de Lantins, is of special interest because it is marked with the sign $\emptyset$ in the index, although no mensuration sign is

⁷⁵Schoop, Entstehung und Verwendung, pp. 48-49. Gloria No. 124 is published by Borren, Polyphonia Sacra, p. 115, as by Lantins. Gloria No. 126 is published by Besseler, Dufay, 4:15, in the BL version, along with the following Credo; the notes, pp. xiii-xiv, indicate that the Gloria is by Lantins in Besseler's opinion.

found in the music. However, a Latin canon in the upper left hand margin lends support to the accuracy of the index. The canon reads: Discantus facit tenorem pausando duo tempora et incipiendo in parhy-pathemeson ("The discant makes the tenor by pausing two tempora and beginning a fifth lower"). In this instance, however, two tempora prove to be the value of two longs, so that the long rather than the breve was presumably regarded as the unit of tempus in $\emptyset$. The use of tempora with this meaning is not unique to this Gloria but is also found in a virelai, Je suy si las, No. 262, f. 112, by Frater Antonius de Civitate Austrie. Although it is possible that the canons for both pieces are simple mistakes of tempora for modi, it is more probable that, since two units of $\emptyset$ equal one tempus of 0 in time, composers were thinking of a tempus as the measure of a normal unit of 0 and regarded $\emptyset$ as a 2:1 proportion, thus making the long the unit of tempus. Otherwise, the Gloria has no distinguishing notational features. The canonic part and the contratenor are both notated in long-breve-semibreve movement, with the only two minims appearing in the canon. Both parts make extensive use of coloration in groupings of three breves or their equivalent in longs and semibreves. In light of Charles Hamm's remark that "It is not possible to detect unspecified use of $\emptyset$ by a comparison with other pieces in which the signature is given,"⁷⁶ Gloria No. 128 may be compared to two other Glorias from the same fourth fascicle of Ox. Gloria No. 143, f. 68v, by Richardus Loqueville, is marked

⁷⁶A Chronology of the Works of Dufay, p. 45. A discussion of Hamm's theories and method of note counting appears in Chapter VI.

O in the index and at the beginning of all three voices in the manuscript. Here, unlike Gloria No. 128, two upper voices are both active and alternate phrases of the text in almost identical semibreve-minim movement. The tenor is less active, with few minims and a breve-semibreve motion. Gloria No. 143 has no coloration in any of the three voices, although an added contratenor in Ao 76, f. 93v, includes three colored breves. Gloria 143 is 67 breves plus final long in length, in comparison to Gloria 128, which is 149 breves plus final long.

The other Gloria to be compared with No. 128, No. 123, also by Hugo de Lantins, is for three voices and is marked O in the index, although no signs appear with the music. All three voices are relatively similar in activity, with the top and tenor voices both having text. Minims are the smallest note found in each voice. The top and contratenor voices move primarily in semibreves and minims, whereas the tenor has a slightly greater number of breves. Only four coloration groups are used, two in the top voice, one in the contratenor, and an incomplete group in the tenor. The contratenor group consists of a colored long plus two semibreves in a c.o.p. ligature. This long in coloration is a significant exception to the general rule that pieces in 3, 2 mensuration in Ox do not include such notes. Of the 50 pieces in which the mensuration sign O is found, only one has a colored long, and that piece must be read in diminution.⁷⁷ Gloria No. 123 is 79 breves plus a final long in length, not counting the two short sections of longs with fermatas that provide optional settings for the Amen. It

⁷⁷See the anonymous rondeau, Se j'ay perdu, No. 266, f. 114.

is, therefore, only slightly longer than Gloria No. 143.

Glorias No. 128 in (ø) and No. 123 in (O) are about the same length if the "Amen" section of No. 123 is deleted. If one uses Hamm's method of note counting, the difference between the two becomes clear. To compare only the cantus of each Gloria reveals the breve-semibreve movement of No. 128 and the semibreve-minim movement of No. 123:

	<u>Longs</u>	<u>Breves</u>	<u>Semibreves</u>	<u>Minims</u>	
No. 128	10	102	131	2	(75 mm. of 6/8)
No. 123	4	16	101	113	(80 mm. of 3/4)

Thus, everything points to Gloria No. 128 being read in (ø). Despite the colored long in No. 123, the movement in semibreves and minims clearly points to (O), as the index specifies.

A comparison of the three Glorias would seem to belie Hamm's contention that it is not possible to detect ø when the sign is not present. Even without the canon, Gloria No. 128 presents a different notational picture. Its movement in larger note values and its extensive use of three-breve coloration, with many colored longs, clearly indicate ø and contrast it with the O mensuration of the other two Glorias.

The only individual Gloria to change mensurations is No. 122, f. 57v, by Johannes Franchois. This Gloria probably should be paired with his Credo, which is found later in the same fascicle in Ox, No. 160, f. 74v. Both movements are found together in BL, Nos. 92-93, f. 114v-115v, but are again separated in Ao, No. 74, f. 90v, and No. 86, f. 114v. In any case, both Gloria and Credo are divided into three sections, each voice carrying the signs: O, ø, and C. Only the first

two signs are given in the index for the Gloria, but that probably is only because of a lack of space.⁷⁸ Both the Gloria and the Credo are distinguished by an "exceptionally advanced state of systematic imitation...."⁷⁹

Finally the Mass Cycle of Arnold de Lantins, Nos. 132-134, 149, and 142, should receive brief mention. The five movements of the Ordinary of the Mass do not directly follow one another in Ox. The Sanctus, No. 149, f. 70v, was copied after the Agnus Dei, No. 142, f. 68. Nevertheless, the five movements seem to belong together and are copied directly after one another in the customary order in BL, Nos. 138-142, f. 149-154. The mass is not unified by a head motive or by the same borrowed tenor in each movement. Each movement is for three voices, with text only in the upper voice of the Kyrie and Credo, but for upper voice and tenor in Gloria and Agnus Dei, and for all three voices of the Sanctus. Both Kyrie and Sanctus have tropes. Each movement is written in short sections in which all three voices change mensuration simultaneously. Thus in the Kyrie, the first three acclamations are all in (2, 3), and the three Christe acclamations are in 3, 2. The last Kyrie acclamations are successively marked C, C, and C. The Gloria is in three large sections, with successive mensurations of C, O, and C. The movement begins with a Fuga trium temporum, or canon after three tempora. The Fuga is for the two top voices,

⁷⁸In the same fashion, the index gives only two of the three signs for Arnold de Lantins' Credo, No. 134, f. 65, from his Mass Cycle.

⁷⁹Borren, Polyphonia Sacra, pp. xx-xxi (No. 13, p. 93).

accompanied by a voice marked Tuba sub fuga. The Credo is in four sections: E, O, E, and C. Both the Gloria and Credo have lengthy "Amen" sections, consisting mainly of breves and longs under fermata signs.

Only the last two movements of the mass use sections in Ø mixed with O and C. The Sanctus begins with a long section in Ø, which continues through the "Hosannah." The "Benedictus" is in O, and the "Hosannah" in Ø is repeated. The Agnus Dei is in Ø, O, and C. The final "dona nobis pacem" phrase of the Agnus Dei is also set off by fermatas. The chant intonations for these last two movements are included in the manuscript.

Although the notation of the Mass Cycle by Arnold de Lantins presents no special or unusual notational features, common to all movements is a relatively free use of semiminims. Flagged semiminims are found in the 2, 3 sections of the Kyrie and in both the 2, 3 and the 3, 2 sections of the Gloria. In addition, one pair of flagged semiminims belongs to a coloration grouping in the opening canonic section of the Gloria. The Credo is similar in using flagged semiminims in all three voices in the 2, 3 sections, and in having a dotted minim followed by a flagged semiminim in coloration groupings twice in the top voice. In the Sanctus, black semiminims (♯), rather than flagged, are found in the top voice in both Ø and O. The Agnus Dei has only two flagged semiminims in the top voice in the first Ø section.

Charles Hamm notes the use of Ø and black semiminims in the last

two movements of the mass.⁸⁰ On this basis, he suggests that the Sanctus and Agnus Dei movements were written later than the first three movements. Hans Schoop has shown, however, that a whole series of works in fascicle 4 of Ox, have pairs of black semiminims that were originally flagged. In many cases, the erased flags are still discernable.⁸¹ All black semiminims in both the $\emptyset$ and 0 sections of the Sanctus are in pairs. Moreover, Schoop convincingly argues that the notation of all parts of the Mass is the same and that the last two movements do not immediately follow the first three because of the way in which the fascicles of Ox were put together.⁸² Consequently, although Hamm may have a point that the $\emptyset$ mensuration in the last two movements indicates a later date of composition, it appears that the type of semiminims used in these movements can have little significance in determining their chronology. In the black notation of BL, it may be noted, semiminims in all movements are flagged.

To summarize the notation of the Mass movements, one may see some change in mensuration usage from the older to the more recent fascicles, but the change is slight indeed. In fascicles 5 through 8, the Ciconia Glorias remain in 0 throughout, but the Chierisy Credo has four sections with different mensurations and includes semiminims,

⁸⁰A Chronology of the Works of Guillaume Dufay, p. 40; The Agnus Dei has only the two flagged semiminims.

⁸¹Entstehung und Verwendung, p. 57. Schoop errs in saying that the black semiminims first occur in the Mass Cycle, because they are found earlier in the fascicle, in Binchois' Toutes mes joyes, No. 127, f. 61.

⁸²Ibid.

both progressive features. In the Gloria-Credo pair, by Le Grant Guillaume, both pieces alternate duet and chorus sections. These sections are in C and $\emptyset$ in the Gloria and in ϵ and C in the Credo. In addition, the Credo has the relatively late date of 1426 in the manuscript. From the slightly later fascicles, only the Bononia Gloria-Credo pair is represented in fascicle 10. Although marked θ in the index, which proves to be correct for the tenor voice, the Gloria has mensuration signs of ϵ with passages in γ in the other two voices, and the Credo is very similar. Both are old-fashioned because of their use of θ mensuration. The remaining fourteen movements are all found in fascicle 4, one of the latest fascicles in Ox. Here the Glorias by Franchois, Hugo de Lantins, Dufay, and Loqueville move in one mensuration throughout, either C or O, with the exception of No. 128 by Hugo de Lantins, which has $\emptyset$ in the index and a canon which seems to support the use of that mensuration. Moreover, the newer style of breaking a movement into several sections with different mensurations is represented by the Credo of Franchois, No. 160, and by every movement of the Mass Cycle by Arnold de Lantins. The greater number of semiminims in the Mass Cycle, as well as the use of $\emptyset$ in the final two movements, may well indicate a very late date for the composition of the cycle. Finally, the Gloria-Credo pair by Binchois, opening fascicle 1, is not only divided into many sections with different mensurations, but also introduces some of the most complicated types of proportional signs in the entire manuscript. This pair surely must be among the most recent mass movements in Ox.

Isorhythmic Motets

Seventeen isorhythmic motets are preserved in Ox, twelve of which are isorhythmic in all voices. All but two of the motets are for four voices, but two of the four-voice motets have a Solus tenor that may replace the original tenor and contratenor. Two other four-voice motets have a second version of the tenor, called a Tenor ad longum. Latin canons accompany seven of the motet tenors, usually to define the mensuration of that voice or of all voices. Eight motets are of the simpler, unipartite variety and are scattered through the entire manuscript. Four motets are bipartite, and they too are widely dispersed. The five multipartite motets, however, are all found in the two older fascicle groupings, three in fascicles 7-8, and two in fascicles 9-10. Fascicle 8 has the largest number of isorhythmic motets, six in all, and they are clearly by the older generation of composers, among whom are Cesaris, Ciconia, and Grenon. Two motets by Antonius de Civitate, in fascicles 1 and 8, are dated, however, the former 1423 and the latter 1422. These are the earliest dates in the manuscript, yet one appears in the oldest and one in the most recent group of fascicles.

Perfect modus is called for in at least seven, and possibly eight, motets, all in the earlier fascicles, 7-8 or 9-10. Two of the seven motets with perfect modus in the tenor have an additional Tenor ad longum, one of which is written in imperfect modus. The other has no discernable modus at all.

It is not as easy to see a progression from an older to a newer

type of notational practice in the motets as it was in the mass movements. In general, there is little difference between the motets in the oldest fascicles, 5-8, and the middle fascicles, 9-10. The three complete motets in fascicles 1-4 are scarcely a sufficient number from which to draw conclusions about a presumably late type of isorhythmic writing.

The first isorhythmic motet to be considered is Benedicta viscera--Ave Mater gratie--Contratenor--Tenor: Ora pro nobis by Gilet Velut, No. 241, f. 102v. Very likely the first two titles should be reversed, because the Ave Mater gratie, even though it is on the recto page (f. 103) where the motetus is normally copied, begins and ends on pitches above the Benedicta viscera voice, and has a greater amount of text, as is more common for a triplum than for a motetus.⁸³ Moreover, the two texts form a continuous trope of the Ave Maria. The order of texts, Benedicta before Ave Mater, is given here, since it appears this way in the transcriptions by both Borren⁸⁴ and Reaney.⁸⁵

This four-voice motet is multipartite and isorhythmic in all voices. The two upper voices have three sections, each consisting of a talea repeated once. Both are in (2, 3) until the third section. At that point, the triplum (Benedicta) has a 3, an obvious error, since the section has the same values as the motetus (Ave Mater), which is

⁸³Richard H. Hoppin, "The Cypriot-French Repertory of the Manuscript Torino, Biblioteca Nazionale, J. II. 9," Musica Disciplina 11 (1957):99.

⁸⁴Polyphonia Sacra, No. 33, pp. 217-24.

⁸⁵Early Fifteenth-Century Music, 2:137-45.

marked C. Both the contratenor and tenor are notated once, with a sign indicating three statements of the color, which is divided in two taleae. Following the repetition signs, each voice has a final cadence consisting of one breve and one long. The contratenor is "to be performed in the same manner as the tenor," according to the canon:

Contratenor dicitur ad modum tenoris. The canon of the tenor is a typical list, in slightly abbreviated form, of the modus, tempus, and prolatio to be used in each successive reading of the color: Canon: qui primum dicitur de modo perfecto, temporis imperfecti perfecte, 2^o modo imperfecto perfecti perfecte, 3^o de modo perfecto et de tempore imperfecto imperfecte. Thus the tenor is to be read successively in III, 2, 3; II, 3, 3; and in III, 2, 2. Although Reaney notes that they are written in 2, 3, he transcribes the upper voices in the second section in 3, 3 to correspond to the II, 3, 3 of the canon.⁸⁶

Velut's motet is one of the two that have a Tenor ad longum. This is a completely written-out version of the original tenor with some changes of note values. The Tenor ad longum has an initial C sign, and the purpose of the changes is to keep the part in imperfect modus and tempus throughout. Thus, both color one and color two are in II, 2, 3, and color three in II, 2, 2. It seems probable that the Tenor ad longum was added to the motet as a simple resolutio of the original tenor and its canon. Schoop suggests, however, that the meaning of ad longum may be a writing in imperfect modus.⁸⁷ Yet he proposes a

⁸⁶Ibid., 2:lix; see p. 139.

⁸⁷Entstehung und Verwendung, p. 55.

re-grouping of the notes in color two of the Tenor ad longum to show that it could be done in II, 3, 3, as indicated in the canon of the original tenor.⁸⁸ Reaney's transcription includes the Tenor ad longum, but it is barred like the tenor with canon, thus in III, 2, 3; then II, 3, 3; and finally II, 2, 2. It seems likely that the notation of the tenor had been revised for the convenience of performers who were no longer used to reading in perfect modus. Without the Tenor ad longum, the motet is certainly one of the earliest pieces in Ox, as evidenced by its use of simple hoquet patterns. Reaney suggests a date before 1417,⁸⁹ but even this date may be a little late.

Salve virgo virginum--Vita via, veritas--Salve regina, No. 267, f. 114v, an isorhythmic motet by Billart, is the only piece in Ox by this little-known composer. Like the Velut motet just discussed, it is multipartite in structure. It uses modus perfectus and includes a considerable amount of syncopation, as well as several proportional signs in the upper voices. The contratenor has an incipit of the first two words of the motetus and the notation that it is to be sung in the same manner as the tenor (Et dicitur ut tenor). According to Schoop, this note was added by a different hand and in different ink from the rest of the text.⁹⁰

The contratenor and tenor are isorhythmic, but the upper voices

⁸⁸Ibid., p. 54 and n. 45, and p. 55.

⁸⁹Early Fifteenth-Century Music, 2:11x.

⁹⁰Entstehung und Verwendung, p. 53. The same phrase is added to the contratenor of Grenon's isorhythmic motet, No. 303.

only partially so. The continuous tenor melody is divided into four colores, of which the first and third are identical rhythmically and almost identical melodically. The second and fourth are also rhythmically identical but their melodies differ considerably. Both the first and second colores are repeated in diminution, but the third and fourth are sung only once. The tenor canon reads: Primus color dicitur bis: primo de modo perfecto antequam reincipiat sequens color. 2^o de imperfecto in semibrevis secundae non emiolia observant. 2us color ut jacet et reiteratur de modo imperfecto et de tempore. Tertius color de modo perfecto et de sua prolatione. 4us ut jacet. The talea of the first color is to be read in modus perfectus and repeated in modus imperfectus, both times in 6, the basic mensuration of the upper voices. The second color, with the sign 0, is to be performed as written (III, 3, 2) and repeated in II, 2, 2. The third color is to be performed once in modus perfectus and "de sua prolatione," which is indicated by the sign 3. The fourth color, with the sign 0, is also to be sung once as written (III, 3, 2).

The one difficulty with this canon lies in the direction in semibrevis secundae non emiolia observant for the repeat of the first color. The phrase refers to a passage of six semibreves which occupy one of the nine perfections of modus in the first statement of the tenor. For the first statement, the upper parts have the necessary equivalent of 27 breves, but they have only 20 breves for the repetition of the color. If the six semibreves of the tenor and contratenor are still perfect and the dot after the following long makes it a triple value, the lower voices then have 21 breve values in their statement.

Two solutions to this difficulty are possible. The semibreves may keep their original value and the dot of addition may be ignored, as is done in Example 6. The alternative is to perform the semibreves in hemiola and to keep the long a triple value. Van den Borren chose this alternative, which is also given in Example 6. His solution rests on one of two assumptions about the canon. Either the non is an error, or the phrase means that the hemiola should be overlooked. The harmonic results are rather odd in both solutions and give little assistance in deciding which is correct (Example 6).

Example 6

The image shows a handwritten musical score for Example 6, consisting of six staves. The notation is in a historical style, likely from a 16th-century manuscript. The staves are labeled with letters: 'C' (Canto), 'I' (Instrumental), 'ct' (Cello), 'T' (Tenor), and 'Borren' (Borren). The notation includes various note values, rests, and accidentals. The first staff (C) begins with a treble clef and a common time signature. The second staff (I) begins with a bass clef. The third staff (ct) begins with a bass clef. The fourth staff (T) begins with a bass clef. The fifth staff (Borren) begins with a bass clef. The notation is dense and includes many accidentals, particularly flats. The score is written in a single system, with the staves connected by a brace on the left.

The canon for the second color of Billart's motet says ut jacet, which is in III, 3, 2. Van den Borren apparently assumed that the 0 signs in the tenor and contratenor at the beginning of the second and fourth colores are no more than cues to the change to this mensuration in the upper voices. He continued to transcribe semibreves in the tenor and contratenor as if they were in 6. This led him into difficulties with the various dots that occur in this color.⁹¹ If transcribed in III, 3, 2, the dots simply indicate perfection and the syncopation of one perfect long. In the repetition in II, 2, 2, the dots now indicate addition and only the dot after the first single semibreve becomes meaningless and unnecessary. The rhythmic transcription in both mensurations is given in Figure 14.

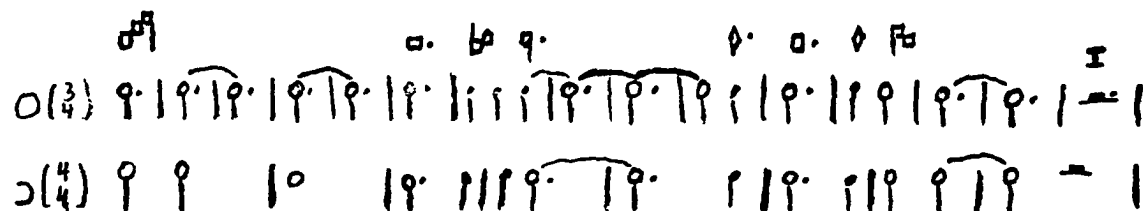


Figure 14

One further notational peculiarity in Billart's motet must be mentioned. Above the two statements of the first color, the upper voices introduce a 2:1 proportion by means of the sign $\emptyset$ and a 4:3 proportion by two different signs, the figure 4 in the triplum and the sign $\mathcal{O}$ in the duplum. This latter sign returns in the upper voices above the repeat of the second color, but here it is equivalent to the

⁹¹Borren, Polyphonia Sacra, pp. xxxiii-xxxiv and transcription, pp. 163-64.

normal mensuration sign C. The $\mathcal{C}$ has the same meaning when it appears in the tenor and contratenor as the mensuration sign of the third color. The $\mathcal{C}$ is sometimes used in other pieces with the meaning of C, but its use with two different meanings in the same piece is unusual.

The Billart motet is important for its use of three proportions that will be more fully discussed later. Tempus perfectum diminutum, as used in this motet, is another way of writing 2, 3 and uses the typical rhythms of 2, 3, but in augmented values. With the modus of the lower voices clearly indicated by the canon, there can be no question but that a tempus of 2, 3 occupies the same length of time as two tempora of $\emptyset$. In addition, the sign $\mathcal{C}$ in the upper voices of the first color has the same meaning as in late fourteenth-century sources, with a breve of $\mathcal{C}$ equivalent to a semibreve of the basic 2, 3 mensuration. The proportional sign 4 here means exactly the same thing as $\mathcal{C}$, and there seems to be no logical reason for using one instead of the other, or for using both in the same piece, as is done in this motet.

Much simpler than the previous isorhythmic motets is A virtutis ignitio--Ergo beata nascio--Benedicta filia by Cesaris, No. 272, f. 116v-117. The motet is isorhythmic in all four parts and unipartite in structure. One talea is stated four times. There is no canon. The tenor is marked at the beginning with the sign O and continues throughout in that mensuration. Van den Borren bars all voices by tempus,⁹²

⁹²Ibid., No. 26, pp. 174ff.

whereas Reaney bars the tenor and contratenor by imperfect modus.⁹³ Barring by tempus may be a little easier to read and possibly to perform, but Reaney follows the traditional method of barring lower voices of isorhythmic motets in modus units.

The only notational problem in the motet arises in a $\frac{3}{2}$ passage that is in a 3:2 proportion to the previous 0 mensuration. Van den Borren emends each of the passages, which are copied out four times, by adding a dot of addition to the final semibreve.⁹⁴ On the other hand, Reaney apparently alters a minim but still has too few minims to equal nine perfect semibreves.⁹⁵ The motetus begins with nothing but minims, which seem to replace a measure of $\frac{3}{4}$ with one of $\frac{9}{8}$. When the tripulum changes to $\frac{3}{2}$, the contratenor changes to C, and the proportion seems to be that of three imperfect semibreves to two. The continuation of the motetus also seems to shift to a 3:2 proportion of semibreves, but the value of one minim is lacking. However it is considered, the motetus is missing something. The most likely error is that the second minim of measure three of Example 7 should be a semibreve (Example 7). The conflicting rhythms, syncopation, and hocket sections at the close of each talea point to the older type of isorhythmic motet in Ox.

⁹³Reaney, Early Fifteenth-Century Music, 1:32ff.

⁹⁴Polyphonia Sacra, pp. 174-79, mm. 5, 23, 41, and 59.

⁹⁵Early Fifteenth-Century Music, 1:32-39, mm. 5, 26, 47, and 68.

Example 7

The musical score for Example 7 consists of six staves. The top staff is a vocal line with a treble clef and a 3/4 time signature, featuring a series of notes and rests, with a '3' above a group of notes. The second staff is a lute line with a treble clef and a 3/4 time signature, showing a series of eighth notes. The third staff is a lute line with a treble clef and a 3/4 time signature, showing a series of eighth notes. The fourth staff is a lute line with a treble clef and a 3/4 time signature, showing a series of eighth notes. The fifth staff is a lute line with a treble clef and a 3/4 time signature, showing a series of eighth notes. The sixth staff is a lute line with a treble clef and a 3/4 time signature, showing a series of eighth notes. The score includes various musical notations such as notes, rests, and time signatures, and is labeled with '3' and '4' above the staves.

The anonymous motet Clarus ortus--Gloriosa mater ecclesia--
Justus non conturbabitur, No. 274, f. 117v-118, is isorhythmic in all
 voices, except for the canonic opening, a two-voice prelude of twelve
tempora. Like No. 241, the Velut motet discussed earlier, No. 274 also
 has a Tenor ad longum but does not have a canon for the regular tenor.
 The motet is not easily classified as unipartite, since a final section
 uses diminished values, but neither is it bipartite, since that dimin-
 ished section is not a repetition of the first color and talea. The
 form is thus something of a hybrid. Nevertheless, the construction is
 simple and easy to follow. In the first period, a talea is stated
 three times, and in the second, a different talea is also stated three
 times. The first section is marked C and the second section is marked

3 in all five voices copied in the manuscript. Borren's transcription⁹⁶ uses only the Tenor ad longum, and bars by tempus, "...because of the parallel contratenor wherein the tempus prevails."⁹⁷ By barring in this fashion, the imperfect modus of the Tenor ad longum is not easily seen, and many tied notes are necessary.

Borren's choice of the Tenor ad longum is perfectly understandable, however, because it "only adapts itself without difficulty to the other parts."⁹⁸ Despite Borren's remark, the original tenor does adapt itself to the other voices. It begins in III, 2, but each of the first three taleae is divided into two parts. A rhythmic pattern equal to 12 breves is repeated in coloration, which changes the modus to imperfect and reduces the number of breve values to 10 (Figure 15). The first dot functions as both a dot of perfection and a dot of addition, and the breve after the semibreve rest must be altered.

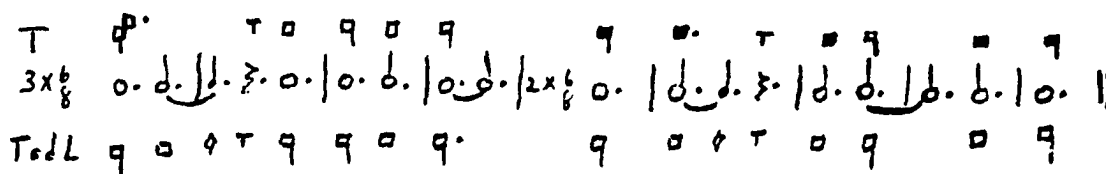


Figure 15

A long could not have been used, since it would have had to be perfect, being followed by another long. The longs in coloration are imperfect,

⁹⁶Borren, Polyphonia Sacra, No. 23, pp. 150-58.

⁹⁷*Ibid.*, p. xxxiii.

⁹⁸*Ibid.*

as is normal in coloration, and the dot following the first breve in coloration must be read as a dot of addition. The values of the Tenor ad longum are added in Figure 15 to show the simplified notation that confirms the interpretation of the original tenor.

Antonius de Civitate is represented in Ox by three pieces, a virelai and two isorhythmic motets, one incomplete. The complete motet is from fascicle 8, Strenua quem duxit--Gaudeat et tanti, No. 275, f. 118v-119. The motet is dated 1423, which Reaney says must be the date it was copied in Ox.⁹⁹ It seems equally possible that it was the date of composition. The other motet of Antonius, Inclita persplendens, No. 8, f. 8v, also bears a date, 1422, the earliest date in Ox. In this case Schoop believes it is the date of composition and not of copying in the manuscript.¹⁰⁰ There is no way of knowing the truth of the matter. Both motet No. 275 and the virelai show the influence of the Italian caccia. The motet opens with a prelude of eighteen tempora before the isorhythmic tenor enters. In the prelude, the triplum is imitated after nine tempora by the motetus. Both voices are accompanied by an untexted contratenor. However, the motetus is written out and has its own text. The contratenor carries an incipit of the motetus text, whereas the tenor carries an incipit of the triplum.

In the main body of the motet, the contratenor continues as a free voice, not divided into isorhythmic taleae. The two texted voices and tenor are strictly isorhythmic, except for a few changes in the

⁹⁹"The Italian Contribution...", p. 444.

¹⁰⁰Schoop, Entstehung und Verwendung, p. 12.

texted voices to accommodate different words.¹⁰¹ The isorhythmic construction is a simple, unipartite form, with one talea repeated in the same mensuration, III, 2, 3.

Another motet from fascicle 8 is also simple and unipartite in structure. It is Ciconia's Ut te per omnes coelitus--Ingens alumnus Paduae, No. 277, f. 119v-120.¹⁰² In BL the motet is for only two textured voices and tenor, whereas in Ox the motet has a contratenor, which Clercx suggests is a later addition and of doubtful authenticity.¹⁰³ Another minor difference between the manuscripts is that Ox has the mensuration sign 0 in both triplum and tenor, whereas there are no signs in BL.

The motet is divided into two periods, identical in length, with all voices isorhythmic, including the added contratenor in Ox. There is no canon, and although the mensuration is clearly II, 3, 2, both Borren and Clercx have barred their transcriptions by tempus. One reason for not barring by modus is that the motet has a sectional phrasing in which the upper voices end together on breves followed by breve rests or on longs that do not coincide with the units of modus in the lower parts. The older hocket technique, used to climax the end of each talea, is balanced by the more progressive feature of almost

¹⁰¹See Borren, Polyphonia Sacra, p. xxxviii, and pp. 188-93.

¹⁰²The triplum title is Ut per te omnes coelitus in BL 259, f. 260v; see Guillaume de Van, "Inventory of Manuscript Bologna, Liceo Musicale, Q 15 (olim 37)," Musica Disciplina 2 (1948):252; and facsimile of f. 260v in Clercx, Johannes Ciconia, vol. 2, Plate VII.

¹⁰³Clercx, Johannes Ciconia, 2:35 and transcription pp. 160-63.

constant imitation between the two texted voices. From a notational standpoint, it is a simple and uncomplicated motet.

The final motet from the earlier fascicles 5 through 8 is No. 279, f. 120v-121, Grenon's Prophetarum fulti suffragio--Ave virtus virtutum caritas--Infelix, propera. The untexted contratenor carries an incipit of the motetus text. All voices are organized isorhythmically, but with the addition of a free "coda." The multipartite structure is more complicated than any of the other motets, and the tenor is written in an entirely different manner. The other three voices have simultaneous changes of mensuration for each isorhythmic period, indicated by appropriate signs. The tenor is written entirely in semibreves and minims, with the exception of the final long, and has no mensuration signs. At the end of the single tenor talea signs indicate six statements before the free "coda." The canon, which refers only to the tenor, is written in four pairs of phrases. Each pair ends with words using the same suffix, which is copied to the right of the two lines of text to which it belongs. The canon is thereby a subtle play upon the paired lines of a sequence, from which the tenor is borrowed.¹⁰⁴ The tenor canon reads:

<u>Crescit in oc</u>	}	<u>tuplo</u>	<u>semel hic tenor incipie</u>	}	<u>ndo.</u>	}	<u>CANON</u>
<u>Fac in six</u>			<u>Crescat semel in decane</u>				
<u>Postea bis ca</u>	}	<u>nitur</u>	<u>In duplo cum bene cr</u>	}	<u>escit.</u>		
<u>Sed bis concii</u>			<u>Tandem velut hic requi</u>				

¹⁰⁴ Both lines of its sequence text appear beneath the tenor: Infelix, propera, crede vel vetera. Cur damnaberis, gens misera? Quem docet littera natum considera, ipsum quem genuit puerpera.

This means that this tenor is first sung once in octuple augmentation and once in sextuple. It is then sung twice in duple augmentation and finally twice as it stands.

Because the isorhythmic structure is so complicated, a diagrammatic scheme may clarify the construction. The two upper voices and the contratenor follow the same organization and are reduced to one line showing the four different taleae by capital letters, with Arabic numerals indicating first and second presentations. Below this line, the mensuration and proportion signs are shown where they occur. The six statements of the tenor color are indicated by Roman numerals.¹⁰⁵

Tr, Mot, Ct :	A1	A2	B1	B2	C1	C2		D1	D2	Coda.
Tr. mot :	C		€		O			2		
Ct :	C		€		O			€		
T :	I		II		III	III bis	IV	IV bis		Coda.

As may be seen from the above scheme, the upper voices and contratenor have eight sections made up of four different taleae, each repeated once, whereas the tenor has only one color performed six times.¹⁰⁶

As a result of the canon, this is one of only two pieces in Ox in which a voice must sing in augmentation rather than in diminution.¹⁰⁷

¹⁰⁵The scheme is similar to that devised by Borren, Polyphonia Sacra, p. xxxix.

¹⁰⁶As Borren notes, *ibid.*, the contratenor is not exactly isorhythmic in B2 and D2. It is, unlike the tenor, written out completely.

¹⁰⁷The other is Sarto's non-isorhythmic motet, Verbum patris hodie, No. 13, f. 12v.

From the opening two-minim rests followed by a minim on the same line, and from the occasional dots of division, it may be asserted that the tenor is written in (2, 3) mensuration.¹⁰⁸

In its first statement, a minim of the tenor is equivalent to a long of the 2, 2 in the other voices; thus it is eight times its normal value in 2, 2. In its second statement, the minim of the tenor is equivalent to a breve of the 2, 3 in the other voices; thus it is six times its normal value in 2, 3. In its third and fourth statements, the minim of the tenor is equivalent to a semibreve of the 3, 2 in the other voices; thus it is twice its normal value in 2, 3. In its fifth and sixth statements, the minim of the tenor is equivalent to a semibreve of the proportion 2 of the upper voices and to a minim of the contratenor, which is in 2, 3; thus the tenor is in integer valor. The voices in 2 are in augmented writing with the same organization as in $\emptyset$. The "coda" completes the motet with the mensuration of the final two statements. The proportional sign 2 obviously functions as a full-fledged mensuration sign, and the passage includes a full range of notes from breve to minim.

The seven isorhythmic motets from the earliest fascicles do not differ significantly from the six motets in the slightly later fascicles 9-10. In fact, Grenon's second isorhythmic motet, Ad honorem sancte Trinitatis--Celorum regnum sepiternum, No. 303, f. 127v-128, is copied in fascicle 9, only a few folios removed from No. 279. No. 303, also

¹⁰⁸Thus Borren, Polyphonia Sacra, No. 30, pp. 194-202, is justified in barring the tenor in each talea as if in six measures of 2, 3; the tenor note in m. 24, p. 195, is misplaced, and should be in m. 23.

found in BL 209, f. 216v-218, but in black notation, is for four voices, including untexted tenor and contratenor, both of which carry incipits from the triplum. The motet has a simple bipartite construction. It opens with a written-out canonic prelude between the two texted voices, which lasts for 48 tempora before the entrance of the tenor and contratenor. From that point on all four voices are isorhythmic. In the tenor and contratenor a lengthy color divided into two taleae is repeated in diminution. There are no mensuration signs with any of the voices in Ox; however, BL has the tenor notated twice, the second time exactly like the first but with the sign $\emptyset$ and marked Tenor residuum. In Ox both tenor and contratenor colores are notated once with a repeat sign at the end. As is not uncommon, the repeat would not include the initial rests for the opening prelude, although the contratenor would have to remember to observe a two-breve rest when starting the repeat.

The canon of the tenor is partially illegible in Ox because of an ink blot, but reads: Canon. Dicitur bis. 1^o ut jacet. 2^o cise pe... (?). The final part of the canon probably was "per medium," thus calling for the repeat to be cut one half. This interpretation is verified by the written out repeat of the tenor with the sign $\emptyset$ in BL, which establishes the relationship between the two statements of the melody. The contratenor in Ox has the instruction Ad modum tenoris, which Schoop has found to be in different writing and ink color from the incipit and therefore probably a later addition.¹⁰⁹ In BL the

¹⁰⁹Schoop, Entstehung und Verwendung, p. 53.

contratenor is written only once, with a repeat sign and the notation ut jacet. Thus it lacks the necessary indication of diminution for the repeat.

The tenors in both manuscripts are written throughout in III, 3, with all longs imperfected, but with some altered breves. However, in the first color of both tenor and contratenor, a breve equals an imperfect long in motetus and triplum. In the second color, breves are equal in all voices. Van den Borren assumed that the upper voices are in 0 and that the tenor and contratenor must therefore be read in augmentation despite the canonic instruction ut jacet.¹¹⁰ If the canons in both manuscripts are assumed to be correct, and there is really no reason to doubt their accuracy, the upper voices must then be read throughout in 0. Then both the initial rests in tenor and contratenor and the 0 sign in BL are correct. This reading is also substantiated in the upper voices by the frequent three-breve and long-breve coloration and by other rhythmic patterns typical of 0 mensuration.

Both of Grenon's motets in Ox use tempus perfectum diminutum without the mensuration sign. In No. 279 the figure 2 was used, and No. 303 has no sign whatever. Yet by the context, both are really 0. Schoop discusses the mensuration of motet No. 303 as an example of indirect proof of 0 as a mensuration.¹¹¹ Schoop's point, which cannot

¹¹⁰Borren indicates II, 3 in augmentation for the first color and II, 3 without augmentation for the second, but bars both colores in perfect modus; see Polyphonia Sacra, p. xl, and transcription, No. 31, pp. 203-214; the first bar line is incorrectly printed at the end of measure 5 rather than at the end of measure 6.

¹¹¹Schoop, Entstehung und Verwendung, p. 53.

be too firmly stressed, is that Charles Hamm's restriction upon the use of $\emptyset$ is too limiting. Hamm is disinclined to find $\emptyset$, except in those pieces which have a signature "...and those in which it is demanded by the context."¹¹² He does not qualify the statement to refer only to Dufay, although he may well mean that. However, in all Dufay's works that he considers early, Hamm does not find the mensuration $\emptyset$ before 1426.¹¹³ Whether or not Dufay used $\emptyset$ mensuration earlier but without any indication, it is certain that other composers did use it before 1426. Schoop's opinion is therefore a more reasonable approach to the problem of discovering $\emptyset$ mensuration: "It appears much more likely that $\emptyset$ was at the time a normal mensuration which required a special indication just as little as the remaining usual mensurations."¹¹⁴

The second motet in fascicle 9 is Celsa sublimatur victoria--Sabine presul dignissime, No. 306, f. 129v-130, by Hugo de Lantins. Five voices are notated in Ox, the only source in which the motet is found. Besides texted triplum and motetus, there are untexted tenor, contratenor, and Solus Tenor. The tenor and contratenor have incipits from the triplum. Van den Borren believed that the regular tenor was copied inaccurately, and only the Solus Tenor and contratenor equal the

¹¹²Hamm, A Chronology of the Works of Guillaume Dufay, p. 45.

¹¹³Ibid., p. 37.

¹¹⁴Schoop, Entstehung und Verwendung, p. 53: "Es scheint vielmehr, dass das $\emptyset$ in der Zeit eine übliche Mensur war, die ebensowenig wie die übrigen gebräuchlichen Masuren eines speziellen Hinweises bedurfte."

length of the upper voices.¹¹⁵ After a short canonic prelude of only six tempora by the two texted voices, the structure is unipartite, with one talea repeated once without diminution. There is no canon. Each talea is 24 tempora in length, for a total of 48 tempora in (3, 2). The Solus Tenor matches this exactly and makes a perfectly acceptable three-voice motet, which is isorhythmic in all voices after the prelude. Like the other voices, the Solus Tenor moves mostly in breves and semibreves with a few minims and with no indication of modus. One interesting feature, from a notational point of view, is the coloration in the top voices that produces a tempus of (3, 3) within a tempus of the basic mensuration of (3, 2).

Despite Van den Borren's note that Lantins' motet is a three-part rather than four-part motet, the notated tenor and contratenor parts can be adapted to the upper voices, with only slight adjustments, thereby providing the four-part version that must have been the original. The only difficulty in transcribing the contratenor is that the rests are missing at the beginning for the six-tempora prelude. If these are editorially added, the contratenor fits the upper parts perfectly. It is this voice that the Solus Tenor most nearly resembles. For one thing, the movement, primarily in breves and semibreves, is similar. For another, the syncopation, created by semibreve displacement, occurs in exactly the same measures.¹¹⁶ In addition, many

¹¹⁵ See Borren, Polyphonia Sacra, p. xli (No. 32); his transcription, pp. 215-16, is for triplum, motetus and Solus Tenor only.

¹¹⁶ Measures 16-18 and 40-42 in Borren's transcription, *ibid.*, pp. 215-16.

measures are identical in pitch and rhythm.¹¹⁷ In contrast, the tenor has only a few measures that are the same as the Solus Tenor.

Adapting the tenor to the other voices also becomes easy when it is realized that it is in a different mensuration. The three perfect long rests at the beginning provide the first clue that the tenor must be read in perfect modus but imperfect tempus and prolation (III, 2, 2) against the perfect tempus and minor prolation (3, 2) of the other four written parts. The nine measures of rests in 2/4 thus equal the six-measure prelude in 3/4. Syncopation in the tenor raises some questions as to the correct alteration of breves and imperfection of longs, but after the rests at the beginning, the tenor is clearly 72 breves in length. As in the prelude, then, the 36-measure taleae of the tenor match the 24-measure taleae of the other parts. The beginning of the first talea is transcribed in Example 8.

¹¹⁷Ibid., mm. 2, 3, 9, 14, 15, 17, 21, 22, 29, 30, and corresponding measures in the second talea.

Example 8

Guillaume Dufay's motet, O gemma, lux et speculum--Sacer pastor Barensum, No. 308, f. 130v-131, is also found in BL 263, f. 263v-264. It is bipartite and almost completely isorhythmic in all voices. The contratenor has no incipit, and the incipit of the tenor, Beatus Nicolaus, indicates the saint for whom the motet was written as well as the chant from which it is borrowed.¹¹⁸ After a canonic prelude by the triplum and motetus of twenty-four tempora in 2, 3, all four voices have two statements of a talea that equals eleven units of III, 2, 3 in the tenor. A second period then begins with new melodies and rhythms in triplum, motetus, and contratenor; but the tenor repeats the first half

¹¹⁸See de Van, Dufay, 2:xxii-xxiii.

of the color in (III, 2, 2). The tenor is ruled by the following canon: qui dicitur sic: primo de modo perfecto et tempore imperfecto maioris prolacionis et 2^o tantummodo primus color resumitur de minori imperfecto, servando modum, primis pausis demptis. "The performer will sing the first part in III, 2, 3 and, in the second part, resumes only the first color in 2, 3, keeping the modus and ignoring the first rests." The upper voices change frequently from the basic 2, 3 to passages in 3 and in 2. The 3 passages are the usual proportional writing, with two semibreves or four minims replacing one perfect semibreve or three minims in 6, thus producing a change from compound duple to simple duple meter in modern transcription. Some syncopation occurs in the 3 passages, as has been found in most pieces from the late fourteenth century that use this proportion. The sign 2 in relation to (2, 3) is simply another way of indicating $\emptyset$. At the beginning of the second period, the triplum, motetus, and contratenor have the mensuration sign C to correspond with the tenor. Coloration is used in 2, 2 to produce a tempus of 2, 3 in the time of a tempus of 2, 2. There are four pairs of flagged semiminims in the two passages of 2 in the triplum, a rather progressive feature for a motet which, although dated before 1436 by de Van,¹¹⁹ is dated even earlier by Besseler, ca. 1425.¹²⁰ Charles Hamm places it between 1423 and 1429,¹²¹ but he views the sign 2 as indicating only a 2:1 proportion of minims, not as a

¹¹⁹Ibid.; transcription pp. 36-41.

¹²⁰Besseler, Dufay, 1:xiv-xv and transcription pp. 29-33.

¹²¹Hamm, A Chronology of the Works of Guillaume Dufay, p. 28ff.

substitute mensuration sign.

A second isorhythmic motet by Dufay is Vasilissa, ergo gaude--
Concupivit rex, No. 310, f. 132v-133. Copies of this motet are also
 found in BL 244, f. 247v-248, and Tr 87, No. 37, f. 57v-58. The
 contratenor carries the name Cleophe [Malatesta], for whose marriage
 the motet may have been written.¹²² Both upper voices sing the same
 text, in which Cleophe is also named, and the tenor melody is identified
 as Concupivit rex decorem tuum. Vasilissa is much less complicated
 than O gemma, being a simple, unipartite structure with all voices
 isorhythmic. A two-voice prelude is canonically derived from one
 notated voice after three tempora, as indicated, not by canon, but
 only by a signum congruentiae. The untexted tenor and contratenor
 then enter, and all voices perform two statements of a talea of 39
tempora. The second statement is followed by a breve-plus-long
 cadence. No mensuration signs are given in any of the three manu-
 scripts, but all voices are in (3, 2) throughout, without even so much
 as one coloration grouping. Guillaume de Van dates the motet by the
 text as before January 19, 1421,¹²³ whereas Besseler suggests August 20,
 1420 at the latest.¹²⁴ Because of its notational simplicity and de
 Van's dating, Charles Hamm places it in his group of the earliest works
 of Dufay, ca. 1415-1423.¹²⁵ Nino Pirrotta, however, recommends a date

¹²²Van, Dufay, 2:x-xi.

¹²³Ibid.

¹²⁴Besseler, Dufay, 1:xiii and transcription pp. 21-24.

¹²⁵Hamm, A Chronology of the Works of Guillaume Dufay, p. 4.

of 1426 or later because of rhythmic and stylistic features of the motet. Unfortunately, he does not define these features.¹²⁶

The tenth fascicle of Ox preserves two isorhythmic motets, both of which are similar in construction. The first is No. 321, f. 138v-139, Venite adoremus dominum--Salve sancta eterna trinitas. This motet is anonymous in Ox but is attributed to Carmen in BL 217, f. 224v-225.¹²⁷ It has five notated voices: triplum, motetus, tenor, contratenor, and Solus Tenor. The last three are untexted, and both tenor and Solus Tenor carry incipits of the triplum. As in the previously discussed Hugo de Lantins motet, the Solus Tenor of Carmen's motet is composed primarily of the lowest sounding notes of the tenor and contratenor parts. All of the voices of this multipartite motet are isorhythmic except the Solus Tenor. The texted upper voices are divided into three periods, each with a talea repeated once. The periods are set off by the following mensuration changes: (C)-O-C. The signs also occur at the proper place in the Solus Tenor, which has the sign C for the first section. The Solus Tenor, like the tenor and contratenor, is written entirely in longs and breves, and the signs function both as cues to the changes of mensuration in the upper voices,

¹²⁶Nino Pirrotta, "On Text Forms from Ciconia to Dufay," in Aspects of Medieval and Renaissance Music, ed. Jan LaRue (New York: W. W. Norton & Co., 1966), p. 678, n. 34.

¹²⁷The motet is also found in the duplicate folio of BL, as No. 327, f. 331v-312. Borren, Polyphonia Sacra, p. xxxiv, suggests that the name has been added by a later hand to the first version in BL.

and to warn of the reduced value of the breve in (2, 2).¹²⁸ The modus of all three untexted parts is clearly imperfect, but both contratenor and tenor have canons that confuse the picture. The contratenor has a different canon in each manuscript copy. In Ox, it is notated once, with a repeat sign and the instruction Contratenor cantandus ad modum tenoris. In BL 217, the contratenor is also notated once, but with the instruction Contratenor dicitur bis substituted for the repeat sign. BL 327 is the same as Ox, with the exception of the word cantandus, which does not appear. Therefore, two of the three copies of the contratenor are shown to depend upon the tenor and its canon for proper execution.

A performer of the original tenor, however, must have faced certain difficulties. It is notated once with a repeat sign at the end. The written tenor consists of two statements of a color and three statements of a talea. With the indicated repetition, the complete tenor then has four colores and six taleae. Although the canon of the tenor is not entirely clear and differs in details in the Ox and BL versions, it explains how the six taleae (which it calls colores) are to be performed in three pairs. In Ox the canon reads: Tibi color cantus bis pronunciandus unde duo primi¹²⁹ colores de maiori in

¹²⁸Borren, Polyphonia Sacra, No. 25, pp. 167-73, transcribes only triplum, motetus and Solus Tenor. His remark, p. xxxv, that there is really no question of a motet in four or five parts in inexplicable, as the parts are correct and can be performed.

¹²⁹This word is not in BL 217, but is in BL 327.

tempore imperfecto. Ultimus cum primo de minori¹³⁰ in tempore perfect
fecto.¹³¹ Item¹³² secundus et ultimus de eadem in tempore imperfecto.
The first two taleae are thus in C (2, 3), the third and fourth in O
(3, 2), and the fifth and sixth in C (2, 2). The canon proves to
indicate only tempus and prolation, and the modus remains imperfect
throughout.¹³³

Immediately following the Carmen motet in Ox is Tapissier's
Eya dulcis adque vernans rosa--Vale placens peroratrix, No. 322, f.
139v-140. Also for four voices, all of which are isorhythmic,¹³⁴ the
motet is unipartite. In the upper voices each period changes from (C)
to C and back to C. However, the contratenor begins in O for two
tempora, a substitution for coloration often found in late fourteenth-
century music, then changes to C and has simultaneous changes with the

¹³⁰Maiori in BL 217. Borren, Polyphonia Sacra, p. xxxv, says
the word is not clear in BL 327, but Reaney, Early Fifteenth-Century
Music, 1:xvii, reads it maiori.

¹³¹Borren, Polyphonia Sacra, p. xxxv, reads imperfecto, but
Reaney, Early Fifteenth-Century Music, 1:xvii, reads perfecto, as it
most clearly seems to be in the manuscript.

¹³²The word is not in BL 217 or 327.

¹³³Compare Borren, Polyphonia Sacra, pp. 167-73, with Reaney,
Early Fifteenth-Century Music, 1:39-48. Borren's perfect modus looks
odd, and his indication on p. xxxv that the Solus Tenor is entirely in
III, 2 cannot be explained. Perhaps he accepted the reading de maiori
in both parts of the canon and regarded it as a reference to modus and
not to prolation. Reaney's imperfect modus is clearly preferable.

¹³⁴The contratenor differs slightly in mm. 19-21 with the
corresponding passages, mm. 57-59, and 95-97; see Reaney, Early Fif-
teenth-Century Music, 1:72-78. Stainer's transcription in Dufay,
pp. 187-93, bars by tempus in all voices, but is otherwise identical.

other two voices to C and back to E within each talea. The continuous tenor melody is divided into three taleae. It has no mensuration signs or canon and is written entirely in longs and breves. The first part of the talea, 21 tempora in length, consists of a perfect long rest followed by six units of perfect modus; this is followed by an imperfect long rest and a repetition of the previous note values in coloration. Thus the tenor moves within the talea from perfect to imperfect modus. The passage in imperfect modus matches the changes of mensuration in the other voices to C and then back to E. References, admittedly somewhat vague, to the Papal schism in both Tapissier's and Carmen's motets, which are placed together in Ox, have prompted Reaney to suggest a date before 1417.¹³⁵ Craig Wright suggests an even earlier date in the 1390's.¹³⁶

One minor notational detail of interest in Tapissier's motet, other than isorhythm, is the use of dotted minims. Each two dotted minims are equivalent to three minims in 2, 3, and produce a duplet in the prevailing duple compound meter.¹³⁷ When four dotted minims are used, as occurs in the motetus, the resulting rhythm is identical to that produced by four semibreves after the sign C .¹³⁸ This is but one of many ways medieval composers found to produce the same rhythm by

¹³⁵ Reaney, Early Fifteenth-Century Music, 1:111.

¹³⁶ Craig Wright, "Tapissier and Cordier: New Documents and Conjectures," The Musical Quarterly 59 (1973):185.

¹³⁷ Reaney, Early Fifteenth-Century Music, 1:72-78, triplum, mm. 36, 74, and 112.

¹³⁸ Ibid., motetus, mm. 20, 58, and 96.

different means.

To move from the thirteen motets so far discussed to the remaining four in the most recent fascicles in Ox is not a large step in notation practice, although all four are presumably later in date than the previous thirteen. They are, comparatively, simpler in construction than the other motets. The first is No. 8, f. 8v, Inclita persplendens, by Antonius de Civitate. Only one voice is notated, and it is incomplete. Evidently it is a triplum, because it is written on the verso of a folio where that voice is usually copied. Although it is incomplete, there is sufficient music to suggest four different taleae which, following Borren's analysis,¹³⁹ may be labelled a, b, c, and d. These are repeated in a different order: b, a, d, c. Apparently a second isorhythmic period with the same structure was to follow because the first four taleae are repeated in their original order before the scribe broke off copying the work. The only long is imperfect, and occurs at the end of the first phrase. This single voice is in (3, 2), has no coloration, no notes smaller than a minim, and no notational problems. Just as the other motet by Antonius de Civitate was dated,¹⁴⁰ so this incomplete motet carries the date 1422, the earliest date in the in the manuscript. Schoop's suggestion that the date is one of composition, not of copying in the manuscript,¹⁴¹ is conjectural at best.

¹³⁹Polyphonia Sacra, p. xxxvii; transcription No. 28, pp. 186-87.

¹⁴⁰No. 275, f. 118v-119, from fascicle 8.

¹⁴¹Schoop, Entstehung und Verwendung, p. 12.

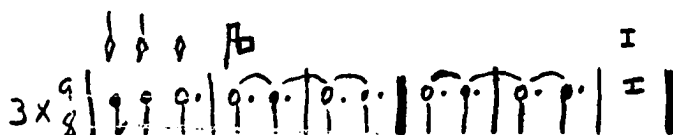
The second of two isorhythmic motets by Carmen in Ox is found in fascicle 2, Pontifici decori speculi, No. 40, f. 26v-27. The triplum and motetus have the same text, and contratenor and tenor are untexted. The motetus is canonically derived from the triplum according to the indication Fuga trium temporum. Except for having two accompanying lower voices instead of one, then, the motet resembles a caccia. However, the triplum consists of five statements of a tales, plus a short coda. The contratenor and tenor are freely composed and non-isorhythmic. Thus it is, for Ox at least, a unique example of an isorhythmic motet with isorhythm in the upper voices only. All voices move without modus in (2, 3), with some semibreve coloration. Only two pairs of flagged semiminims are employed. If it were not for the canonic upper voices and Latin text, the motet would resemble a secular song. Like Dufay's motet, O gemma, lux et speculum, No. 308, f. 130v, the text honors St. Nicholas, and the two motets may be from about the same time, circa 1425-1430.¹⁴²

Of the two isorhythmic motets in fascicle 2, Dufay's O sancte Sebastiane--O martir Sebastiane--(Contratenor:) O quam mira refulsit gratia, No. 51, f. 31v-32, is by far the more elegant and musically satisfying. The tenor has an incipit, Gloria et honore, but no further text. The motet begins with a two-voice canonic prelude of 27 tempora plus final long. The second canonic voice is derived from the triplum by entering after four tempora, as is indicated by a signum congruentiae

¹⁴²Reaney, Early Fifteenth-Century Music, l:iii, dates the Carmen motet not later than 1430; his transcription is found pp. 54-61. A facsimile of f. 26v-27 is published in Stainer, Dufay, Plates II-III, and transcription, p. 88.

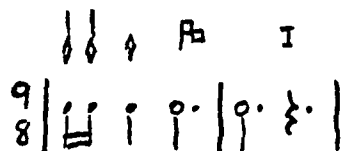
over the breve of the fifth tempus. The end of the second voice is marked by a sign in the twenty-fourth tempus. The motetus, which probably sings this canonic prelude with the triplum, has initial rests of nine perfect longs in its written part. Each of the upper voices also has the mensuration sign of €. On the other hand, both tenor and contratenor begin with six perfect long rests. These two voices are in ̢, and both are so marked with the sign in the BL copy, No. 211, f. 218v-220. Thus the 18 tempora rests of ̢ in the lower voices are equivalent to the 27 tempora rests in the motetus and the written triplum in €.

Following the prelude, the structure of O sancte Sebastiane, is strictly isorhythmic in all voices and bipartite, with the first talea repeated twice and then diminished for three more presentations. The tenor and contratenor are written differently, however. The contratenor, in ̢ throughout, is like the upper voices in having two different taleae, each stated three times, whereas the tenor has a color extending through the first three statements of its talea in III, 3, 3. The color is then repeated for three diminished repetitions of the talea. The diminished repetitions of the tenor are in ̢, to which the upper two voices change at this point. An interesting exploitation of perfect mensuration at all levels occurs in the tenor passages in which three successive notes are altered, a minim, a semibreve, and a breve:¹⁴³



¹⁴³See Besseler, Dufay, 1:25, tenor mm. 3-4.

In the diminished color with imperfect prolation, the minim remains unchanged, but the semibreve and breve are still altered:¹⁴⁴



Rhythmic interest in the upper voices is provided by short sections of C within the talea in C . However slight, the only significant syn-copation occurs within these passages.

The dating of Dufay's motet has received attention from three scholars. De Van¹⁴⁵ suggested 1437, whereas Besseler¹⁴⁶ once suggested 1429 and later¹⁴⁷ revised the date to between 1420 and 1426. Hamm accepts the 1429 date,¹⁴⁸ which helps him to establish a period between 1426 and 1431 for the earliest use of tempus perfectum diminutum by Dufay.

The last isorhythmic motet, and the only one in fascicle 3, is Regina seculi--Reparatrix Maria, No. 68, f. 37v-38, for five voices, four of which have texts. Unfortunately the composer's name is missing, although the pieces immediately preceding and following are by Brollo. The motet has one of the simplest unipartite structures in the entire manuscript. All voices are isorhythmic, repeat one talea once in the

¹⁴⁴Ibid., p. 28, tenor mm. 3-4.

¹⁴⁵Van, Dufay, 2:xiv-xvii.

¹⁴⁶Heinrich Besseler, "Neue Dokumente zum Leben und Schaffen Dufays," Archiv für Musikwissenschaft 9 (1952):165.

¹⁴⁷Besseler, Dufay, 1:xiii-xiv.

¹⁴⁸Hamm, A Chronology of the Works of Guillaume Dufay, pp. 40-41.

same mensuration, (2, 3), and close with a brief "Amen" cadence.¹⁴⁹ The voices of the motet are carefully, but oddly, named. The two upper voices have different texts, are called Cantus and Triplus (sic), and frequently cross, although the Triplus generally ranges lower, as is more usual for a motetus. The Triplus, however, has the only pair of flagged semiminims, as well as one passage of broken coloration. The tenor carries incipits of both the Cantus and the Triplus. The two other texted voices are both similar to a normal contratenor and are named Primus Contra and Contra Secundus, but they have the complete texts of the Cantus and Triplus, respectively. In addition to the writing for four vocal parts plus a tenor, these names, and not the notation, are the only unusual aspects of the motet.

The seventeen isorhythmic motets in Ox introduce little that is new, either in the way of notational devices or in isorhythmic structure. A preference for isorhythm in all voices continues from late fourteenth-century motets, but the increased predilection for canonic preludes may be a later development. Perfect modus is less frequently found in the Ox motets than in earlier motets, and it might be said that imperfect modus is becoming standard. However, motet No. 40 from the most recent fascicle 2 shows no evidence of modus whatsoever. Prolatio perfecta is used in a large majority of the motets, but with a relatively small quantity of flagged semiminims, unlike the secular songs. Numerous motet sections are ruled by a proportional sign, mostly

¹⁴⁹The cadence consists of two semibreves with fermatas and a finalis long in all five voices. Borren, Polyphonia Sacra, No. 22, pp. 146-49, notes that four breves in the tenor should be longs; see p. xxxi.

3 or 2, and several employ tempus perfectum diminutum, either with the sign or implied. The only new proportional signs are in No. 267, in which the sign 4 is used with the same meaning as 3, and in No. 272, in which the full fraction $\frac{3}{2}$ is used instead of the single numeral 3. However, both of these signs had been used in earlier music by fourteenth-century composers.

In summary, the isorhythmic motets of Ox may fairly be classified as conservative in comparison to the secular music with which they are intermingled. This comes as no surprise, since mass movements and isorhythmic motets have, from the middle of the fourteenth century, been conservative in rhythmic style and notational practice in comparison to the experimental and "progressive" secular songs.

Non-Isorhythmic Motets

In addition to the seventeen isorhythmic motets in Ox, there are 21 non-isorhythmic motets. Of the twenty that have Latin texts other than the Ordinary of the Mass, one is a Magnificat and two are antiphons. The twenty-first motet is Dufay's Vergene bella che di sol vestita, No. 312, f. 133v, a "Lauda motet" with Italian text by Petrarch. Only five motets have four voices, the rest have three, often, but not always, with only one texted voice. Unlike the isorhythmic motets, which are scattered throughout the manuscript, the non-isorhythmic motets are found mostly in the first four fascicles. Only one is found in the oldest fascicles, No. 179, f. 81, by Psalinis, and three in the later fascicles 9-10: No. 305, f. 128v, No. 309, f. 131v, and No. 312, f. 33v, by Ar. de Ructis, Brassart, and Dufay,

respectively. Fifteen of the motets are in one mensuration in all voices throughout, with no changes or proportional signs. Modus is rarely evident in any of the motets. Six have passages in which one or more voices change mensuration or have proportional signs, such as C or 3. Ten of the motets have mensuration signs, leaving the mensuration of the other eleven to be determined by the performers. Only one of the twenty-one motets has a Latin canon, No. 13, f. 12v, by Johannes de Sarto.

As mentioned above, only one non-isorhythmic motet is preserved in the oldest fascicles of Ox, Psalinis' Jesu salvator--Quo vulneratus, No. 179, f. 81. The two upper voices have different texts, and the tenor is instrumental. The motet probably does not belong chronologically to the earliest fascicles of Ox, but it opens fascicle 5 on what may have been a blank page that was filled in¹⁵⁰ before or after the two major sections of Ox were put together. The brief canonic opening between the two upper, texted voices and the lengthy melismatic sections of sequential patterns hint at early fifteenth-century style. Only minor syncopation in the (2, 2) mensuration provides some rhythmic interest.¹⁵¹ The black notation of the Psalinis motet is not carried over into any other pieces in fascicle 5. However, two other non-isorhythmic motets are preserved in black notation in fascicle 2.

Although the placement of the Psalinis motet in Ox may have no relation to the chronology of the fascicles, it is not an isolated case.

¹⁵⁰Reaney, "The Italian Contribution...", p. 447.

¹⁵¹See transcription by Borren in Polyphonia Sacra, No. 45, pp. 276-77.

Three other motets are preserved in the more recent fascicle 9; of these three, one is by Ar. de Ructis,¹⁵² about whom almost nothing is known, one is by Brassart, one of the younger composers in Ox, and one is by Dufay. All three motets are found in at least one other manuscript, which is some indication of their popularity. From the viewpoint of notational practice, all three could be grouped with the 17 motets in the most recent fascicles 1-4, so that they are problematic in regard to chronology.

The Ar. de Ructis motet, Prevalet simplicitas, No. 305, f. 128v, has three voices; Cantus I and Cantus II with the same text and instrumental tenor. The simple (2, 3) mensuration includes many flagged semiminims, even a few in coloration.¹⁵³

In contrast to the Ar. de Ructis motet, Brassart's motet, Fortis cum quevis actio, No. 309, f. 131v, has four voices. The upper two have the same text, but the tenor and contratenor are instrumental. Mixer dates the motet "1422-1428?" and transcribes as if all voices were in $\emptyset$ throughout.¹⁵⁴

¹⁵²Possibly the name should be read as Fuctis or Futtis. The BL version may be Ruttis, according to Van, "Inventory of Manuscript Bologna," pp. 252-53 (No. 261, f. 262v).

¹⁵³See the transcription in Borren, Polyphonia Sacra, No. 46, pp. 278-79.

¹⁵⁴Keith E. Mixer, "Johannes Brassart: A Biographical and Bibliographical Study II," Musica Disciplina 19 (1965): 106; see his transcription in Brassart, 2:19 and a facsimile (Ox) in 2:xxii. The motet is also found in Tr 87, No. 50, f. 79v, a transcription of which is in Denkmäler der Tonkunst in Österreich, 14-15:97.

The third motet in fascicle 9, Dufay's Vergene bella che di sol vestita, No. 312, f. 133v, shows characteristics quite as advanced as the motets of fascicles 1-4. This well-known piece is also preserved in BL 201, f. 208v, and in MS Bologna, Biblioteca Universitaria 2216, No. 52, f. 35v (BU).¹⁵⁵ All three voices change mensurations simultaneously in the pattern (ø)-0-ø, and the top voice has an additional change to 3 and back to 0 in the central section. With text only in the top voice, Vergene bella resembles the nine other song-like motets in fascicles 1-4. However, no other motet uses such a famous text as this one from Petrarch's Canzona 49.

The first two motets in fascicle 1 are by Feraguti. Excelsa civitas Vincentia, No. 3, f. 4v, is also preserved in BL No. 217, f. 269v.¹⁵⁶ With text in the upper voice only, all three voices carry the mensuration sign ø at the beginning and remain in that mensuration throughout the motet. Indeed, it is in the augmented writing that Besseler specifically calls a typical picture of tempus notation.¹⁵⁷ The dating of this motet is problematic. One reason, of course, has

¹⁵⁵Of the numerous transcriptions, the most recent is in Besseler, Dufay, 6:7.

¹⁵⁶A facsimile of Ox f. 4v may be found in Besseler, Bourdon und Fauxbourdon, Tafel IV, opposite p. 136; the same folio is also found in facsimile in Die Musik in Geschichte und Gegenwart, vol. 4, Tafel I, facing columns 31-32. A facsimile of the BL version may be found in Alberto Gallo and Giovanni Mantese, Ricerche sulle origini della cappella musicale del duomo di Vicenza (Venezia-Roma: Istituto per la collaborazione culturale, 1964), p. 56, and transcription, p. 69. A transcription may also be found in Borren, Polyphonia Sacra, No. 38, p. 249.

¹⁵⁷Besseler, Bourdon und Fauxbourdon, Tafel V, opposite p. 136.

been the reluctance of scholars to date pieces in tempus perfectum diminutum as early as the first years of the fifteenth century. On the other hand, in the text of the motet in BL, Petrum Emilianum in the original hand is crossed out and replaced by Franciscum Malipetro. The text in Ox has only the latter name. Thus, it appears that Feraguti composed the motet for the installation of Pietro Emiliani as bishop of Vicenza in 1409, and that the name was changed to Malipiero in 1433.¹⁵⁸ If 1409 is the date of composition, as it seems to be, the motet becomes one of the earliest datable pieces in tempus perfectum diminutum with the sign present in all voices. Nothing distinguishes the writing except the larger-than-usual note values, moving primarily on the long-breve-semibreve level, and the use of coloration on the breve level, three blackened breves, or a long and breve, taking the place of two white breves. No notes smaller than a minim are used, but two-note c.o.p. ligatures with dotted first or second note followed by a minim are frequently found.

Feraguti's second motet is very similar to Excelsa civitas Vincentia. It is Ave Maria, No. 5, f. 5v, which has three voices, each marked $\emptyset$ at the beginning. The primary difference is that no breve coloration is used in the Ave Maria, but one passage in the top voice has colored minims in a 3:2 proportion to normal minims.¹⁵⁹

¹⁵⁸See Stainer, Dufay, p. xiii; and Borren, Polyphonia Sacra, p. xlv. Gallo and Mantese, in Ricerche, discuss the date, pp. 21-22, and give a transcription p. 69. Ursula Günther accepts 1409 as the date of composition in "Das Manuskript Modena, Biblioteca Estense, a. M. 5, 24 (olim lat. 568 = Mod)," Musica Disciplina 24 (1970):47-48.

¹⁵⁹See Borren, Polyphonia Sacra, p. 254, m. 28.

Two of Brassart's motets are copied in fascicle 1. The first is Summus secretarius, No. 6, f. 6v, for four voices, the two upper with the same text. Mixter transcribes all voices as if in $\emptyset$.¹⁶⁰ The second of the two Brassart motets makes use of colored minims and also includes one pair of black, rather than flagged, semiminims. This motet, O flos fragrans, No. 7, f. 7v, is also found in Tr 87, No. 129, f. 143v, which however, does not include the semiminims.¹⁶¹ They are found in BL 264, f. 264v. Although not so marked in either Ox or Tr 87, the mensuration of all three voices must be in $\emptyset$ throughout.

Johannes de Sarto has two motets preserved in fascicle 1, which are separated by a rondeau of Binchois, an anonymous motet, and by the third motet of Feraguti. The first Sarto motet is O quam mirabilis, No. 9, f. 9v, for three voices, with text only in the upper voice. Although without mensuration signs, the voices clearly move in ($\emptyset$) throughout.¹⁶²

The next motet in Ox also moves in ($\emptyset$). It is the anonymous Gaude Dei genitrix, No. 11, f. 10v, for four voices, the upper two with

¹⁶⁰Mixter, Brassart, 2:32; the motet is also found in BL 275, f. 203v.

¹⁶¹See facsimile in Mixter, Brassart, 2:xxi, and transcription, p. 3 (from BL). A transcription of the Tr version is found in Denkmäler der Tonkunst in Österreich, 14-15:102. There is also an octavo edition by Paul Boepple in the Desoff Choir Series (MC 28; New York: Mercury Music Corporation, 1945).

¹⁶²The determination of the mensuration ($\emptyset$) when no sign is given is discussed below. Transcription of the copy in Tr 92, No. 1528, f. 174v, is available in Denkmäler der Tonkunst in Österreich, 14-15:115. The motet is also preserved in BL 276, f. 274v.

the same text.¹⁶³ Except for the different number of voices, the two motets are alike in many ways. Gaude Dei genitrix is preserved in Tr 92, No. 1527, f. 173v, and is placed just before Sarto's O quam mirabilis. Thus, the two motets appear together in both manuscripts. Gaude Dei genitrix is anonymous in both, but nevertheless it may be by Johannes de Sarto.¹⁶⁴

Immediately after the anonymous Gaude Dei genitrix is a three-voice motet by B. Feraguti, Francorum nobilitati, No. 12, f. 11v. This motet is divided into two sections, in the first of which all voices are in $\emptyset$. After a full cadence, all voices change to O until the end, except for a brief passage in the cantus marked 3. The 3 indicates a 3:2 proportion of minims, or a tempus of $\emptyset$ in the time of a tempus of O.¹⁶⁵

The second non-isorhythmic motet clearly attributed to Johannes de Sarto is Verbum Patris hodie, No. 13, f. 12v. It is found only in Ox and is one of the song-like motets for three voices with only the upper voice having the text. The motet has the distinction of including the only Latin canon of all the non-isorhythmic motets. In fact, there are two canons. The contratenor has the short direction Primo pars hujus incrementum in proportione dupla, meaning that the first part

¹⁶³See transcription in Borren, Polyphonia Sacra, No. 34, p. 225.

¹⁶⁴Reaney, Early Fifteenth-Century Music, 4:xiv.

¹⁶⁵See the transcription in Borren, Polyphonia Sacra, No. 40, p. 257; the 3 passage is in the top voice, p. 261, mm. 121-24. The motet is also found in BU No. 41, f. 29v; the many differences between Ox and BU are listed, *ibid.*, pp. xlvi-xlviii, but do not concern the mensuration.

increases in duple proportion. Written in normal 2, 3 mensuration with the sign ϵ ,¹⁶⁶ one tempus of 2, 3 in the contratenor lasts two tempora of 3, 2 in the top voice. This is one of the few instances in Ox when written values must be read in augmentation.

The canon for the tenor of the Sarto motet, on the other hand, requires the opposite interpretation. The canon reads: Canitur per terciam figurae allego-nis (?). Ponuntur pro modis necnon circuli pro temporibus. That is, the values of the tenor are to be only a third of the figures presented, which indicate modus. Tempus and prolation are shown by normal mensuration signs. The canon rules both Prima pars and Secunda pars of the tenor, and the figures above the mensuration signs in the tenor -- 9 and 3 over $\emptyset$ for the Prima pars and 2 over $\emptyset$ for the Secunda pars -- indicate modus.¹⁶⁷ The singer must read III, III in the Prima pars, in which only maximas, longs, and breves are used. In the normal relationship to $\emptyset$ mensuration, a breve in III, III would occupy one measure of 3/4 meter, but it now equals one semibreve, as stipulated by the canonic instruction to sing by a third of the normal value. Thus, 11 perfections of maximodus equal the 33 tempora of $\emptyset$ in the top voice.

In the Secunda pars of the Sarto motet, the contratenor has the sign C, which is in integer valor. The cantus changes to $\emptyset$, and the tenor has a 2 over $\emptyset$. The 2 indicates imperfect modus, and

¹⁶⁶The circle with dot printed *ibid.*, No. 47, p. 280, is in error for a semicircle with dot.

¹⁶⁷Borren, Polyphonia Sacra, p. liv, says the signification of the canon is not very clear.

the circle with dot means, as usual, perfect tempus and prolatio. Although the indication of prolation seems superfluous, it is necessary in order to obey the instruction of the canon that the notation must be reduced to one-third its written value. Thus an imperfect long in Θ equals 18 minims but reduces to 6; a perfect breve equals 9 minims but reduces to 3; and a perfect semibreve equals 3 minims but reduces to one. The ultimate result of all this subtlety is that the tenor performs in a mensuration similar to the $\emptyset$ of the cantus. The $\emptyset$ of the cantus and the C of the contratenor are in normal relationship to one another. That is, a semibreve of $\emptyset$ is equivalent to a minim of C. Furthermore, despite the C mensuration in the contratenor, its rhythms suggest the same 6/8 meter as $\emptyset$.

The succession of combined signs in all three voices provides a good indication of the relative tempo relationships between the two parts of the motet. Given the equality of minims in the primary mensurations, both the semibreves and minims of Θ and C must be equal. Both parts of the tenor must be calculated in relation to the integer valor of these primary mensurations. Therefore $\emptyset$ must be a 2:1 reduction of Θ , and not some other possible proportion, such as 3:2.¹⁶⁸ The use of flagged semiminims in both Θ and $\emptyset$, as well as the placement of the motet in fascicle 1, indicate that it is relatively late. Charles Hamm dates Dufay pieces in $\emptyset$ with flagged semiminims during the period 1426-33, although he concedes that other composers had used $\emptyset$ before

¹⁶⁸Such a proportion is insisted upon by Hamm, A Chronology of the Works of Guillaume Dufay, p. 66.

Dufay.¹⁶⁹

The only Magnificat in Ox is Et exultavit spiritus meus, No. 14, f. 13v, by Johannes de Quatris. In motet style, the Magnificat is for four voices, of which the one on the recto page is oddly marked Triplum instead of the usual Motetus. Only the two upper voices carry the text of the even numbered stanzas, 2, 4, 6, 8, and 10, and the final part of the lesser doxology. No chant is given in the manuscript for the odd numbered stanzas. Each stanza is sung in the same mensuration by all four voices, changing together in the order O-C-C-C-O-C-C-C. The last three sections are the final part of the lesser doxology. The O sections include flagged semiminims but no coloration. The C sections have neither semiminims nor coloration, but flagged semiminims are scattered through the C sections, the first of which even includes a pair in a coloration pattern. Otherwise, there are few distinguishing features in the notation of this early polyphonic Magnificat.¹⁷⁰

The date of the Magnificat may be established with some degree of certainty. On the top of f. 13v is the following note: 1436, mensis maij venec(iis), the latest date in Ox. According to Schoop, the piece is the last to be copied into the manuscript and the most recent composition.¹⁷¹ Several things, besides the manuscript date, point to a relatively late date for the piece. These include imitation

¹⁶⁹Ibid., pp. 57 and 74.

¹⁷⁰Borren, Polyphonia Sacra, No. 21, p. 137.

¹⁷¹Schoop, Entstehung und Verwendung, p. 12.

between the two texted voices, the fairly short sections with changes of mensuration in all voices at the same time, and the use of semiminims in O as well as flagged semiminims in coloration.

Four motets are preserved in the second fascicle of Ox. Two in black notation appear on folios 22v-23 and 28v-29. These folios form one of several inserted sheets that seem to belong to an earlier period. Thus the first motet is O felix templum iubilā, No. 33, f. 22v, by Johannes Ciconia.¹⁷² The upper two voices have the same text, and the tenor is instrumental. The motet is a mixture of French and Italian notation, and thus capable of being read in (O), or in senaria perfecta. It is the only composition in Ox that uses two note shapes which belong to Italian notation, the semibrevis major, or semibreve with downward stem (↓), and the semibreve with an oblique stem on the left (↙). Although semiminims in this motet have flags to the right of the note stem, they equal one-third the value of a minim. In BL these triplets are notated as white void minims. Reaney has suggested that the motet was written around 1400.¹⁷³

Two motets by Guillaume Dufay follow the Ciconia motet in fascicle 2: Flos florum, fons ortorum, No. 38, f. 25v,¹⁷⁴ and Anima mea

¹⁷²The motet is also found twice in BL, No. 216, f. 115, and No. 326, f. 311 (without tenor). Transcriptions of the Ox version may be found in Borren, Polyphonia Sacra, No. 37, p. 243, and of BL in Clercx, Johannes Ciconia, 2:169.

¹⁷³Reaney, "The Italian Contribution...", p. 447.

¹⁷⁴The motet is also preserved in BL 234, f. 238v, and in MS Modena, Biblioteca Estense, a. x. I, 11 (olim VI. H. 15 and lat. 471), f. 56v (ModB). Transcriptions may be found in Besseler, Guillaume Dufay, Zwölf geistliche und weltliche Werke, No. 1; Van, Dufay, 1:11; and Besseler, Dufay, 1:6.

liquefacta est, No. 42, f. 27v.¹⁷⁵ Both move in larger note values, implying (Ø) mensuration.¹⁷⁶ Flos florum has a few passages of colored minims, as is found in both O and Ø mensurations. According to Besseler, Flos florum originated a few years before 1430,¹⁷⁷ although Hamm dates it much earlier, ca. 1415-23.¹⁷⁸ Both agree more closely on Anima mea, which may have been written between 1423-33.

The last motet in fascicle 2 is the second in black notation and evidently belongs with the earlier Ciconia motet. It is Nicolaus Zacharie's Letetur plebs fidelis--Pastor qui revelavit, No. 44, f. 18v, for four voices with a different text in each of the upper two.¹⁷⁹ The mensuration is (2, 3), with many flagged semiminims, some in white void coloration. In many ways, the style is similar to the Ciconia motet, and the piece may belong to approximately the same time period, the very early years of the fifteenth century.

Only two motets are preserved in fascicle 3. The first is Tota pulcra es, amica mea, by Arnold de Lantins, No. 80, f. 42v, for three voices, the upper voice with text. This popular motet is

¹⁷⁵The motet is also preserved in BL 235, f. 239v, and Tr 87, No. 142, f. 157v. Transcriptions may be found in Denkmäler der Tonkunst in Österreich, 53:20, and Besseler, Dufay, 5:113.

¹⁷⁶Nevertheless, Hamm, A Chronology of the Works of Guillaume Dufay, p. 6 and p. 35, considers them to be in (O). Both de Van and Besseler (see preceding two footnotes) consider the motets to be in (Ø).

¹⁷⁷Besseler, Dufay, 1:ix.

¹⁷⁸Hamm, A Chronology of the Works of Guillaume Dufay, p. 12.

¹⁷⁹Borren, Polyphonia Sacra, No. 48, p. 284.

preserved in five other manuscripts. It is provided with a second upper voice in BL 202, f. 209v, and in MS Munich, Staatsbibliothek, mus. 3232 a (MuO).¹⁸⁰ The added voice in BL begins in unison with the top voice in Ox but ends above it and often ranges above the voice in Ox so that it is in essence an added triplum.¹⁸¹ The basic mensuration is 0 and is so marked in all three voices in Ox. Both upper voices have colored minims. As Van den Borren has pointed out, both the repetition of words and the use of Scriptural texts for polyphonic music is very rare,¹⁸² evidently a new development of the fifteenth century.

The second motet in fascicle 3 is Imera dat hodierno, No. 96, f. 48v, by Grossim. This motet, too, must have been quite popular, since it is found in many of the same manuscripts as Arnold de Lantins' motet.¹⁸³ Imera is divided into two unequal sections, of which the first in (2, 3) includes brief changes in tenor and contratenor to 2 .

¹⁸⁰The other three manuscripts are BU 48, f. 33v (the tenor in BU has text); MS Paris, Bibliothèque Nationale, nouv. acq. frç. 4379, f. 65 (PC) (tenor only and incomplete); and MS Strasbourg, Bibliothèque municipale, M 222 C. 22, No. 23 (Str) (two voices).

¹⁸¹See the transcription by Borren, Polyphonia Sacra, No. 41, p. 262. The slight differences between BL and MuO are listed p. xlix (the manuscript there called Munich, 2332 a; the manuscript is also described by the siglum Em by some scholars).

¹⁸²Ibid., p. 1.

¹⁸³BL 203, f. 210v (tenor has text); BU 66, f. 44v; MuO 156, f. 80 (contratenor has text); PC f. 63v (tenor only); and Tr 92, No. 92, f. 124v. A transcription of the BL version may be found in Reaney, Early Fifteenth-Century Music, 3:59, and of the Tr version in Denkmäler der Tonkunst in Österreich, 14-15:209.

The second section is divided in two parts, with all voices moving in O and then changing simultaneously to C. There are a number of flagged semiminims in the C sections, but nothing in the notation is unusual or distinguishing.

Finally, there are two non-isorhythmic motets in fascicle 4 of Ox. Both are for three voices. The first is Dufay's Ave regina celorum, No. 129, f. 62. This is one of the simpler pieces in which all three voices have text and move in approximately the same note values, mainly breves and semibreves. All voices include an initial mensuration sign of O. There is no coloration, and nothing helps to date the motet. It must have been popular, since it has been preserved in four other manuscripts.¹⁸⁴

The second and last non-isorhythmic motet is O pulcherrima mulierum, No. 178, f. 80v, by Arnold de Lantins. This motet is divided into three sections of approximately equal length, with the basic mensuration scheme of C-O-C. A short passage of 3 is found in the top voice of the first section only. Both flagged semiminims and a flagged semiminim in one coloration pattern are found in C. There are otherwise no interesting aspects of the notation and nothing to assist in dating the piece precisely. It did, however, find its way into two other

¹⁸⁴Facsimiles of Ox may be found in Apel, The Notation..., p. 119, and Apel, Die Notation..., p. 126. Other manuscripts preserving the motet are BL 225, f. 232v; PC, f. 61v (tenor only); Tr 87, No. 138, f. 154v; and Venice, Biblioteca Marciana, ital. IX, 145, No. 15, f. 19v (Ven). Transcriptions may be found in Besseler, Dufay, 5:120 (BL), and in an octavo edition by Manfred Bukofzer, Guillaume Dufay, Ave Regina Celorum, Two Motets A Cappella (MC 116; New York: Mercury Music Corporation, 1949).

manuscripts.¹⁸⁵

Relatively few meaningful conclusions can be drawn from the notational practice of the non-isorhythmic motets in Ox. Perhaps it is that, with few exceptions, they are all located in the most recent fascicles of Ox and are relatively simple and uncomplicated. The Psalms motet in fascicle 5 may be misplaced and perhaps belongs with the more recent pieces, despite its black notation. The Ciconia and Zacharie motets in black notation in fascicle 2, however, must be among the earliest fifteenth-century motets, despite their preservation in the latest fascicles. By their notation alone, many, if not most, of the other motets offer few clues to their dates. Fifteen of the twenty-one motets are in one mensuration in all voices throughout, whereas only six change from one mensuration to another, with occasional passages in C . Only two motets include the proportional sign 3 within a basic mensuration of O or ϕ , but coloration in some pieces produces the same result. In great contrast to the isorhythmic motets, only one of the non-isorhythmic motets has a canon. Perhaps the most progressive feature of the non-isorhythmic motets is the fact that 12 of the 21 are in part or entirely in ϕ . Presumably, the motets in C with flagged semiminims are older than those in ϕ .

French Secular Music

Ballades

Mass movements and motets, both isorhythmic and non-isorhythmic,

¹⁸⁵BL 178, f. 200v; and BU 50, f. 34v. Transcribed by Borren, Polyphonia Sacra, No. 43, p. 269, with the texted tenor and different conclusion from BU published as No. 43 bis, p. 272.

constitute a relatively small percentage of the pieces in Ox in comparison to secular musical forms. Both Italian and French secular songs are mixed in with the sacred music, but the largest percentage of music in Ox consists of French ballades, virelais, and rondeaux. Some of these range backwards in time to the late fourteenth century, but most are in the simpler, rhythmically less complicated style that was to become the hallmark of the new fifteenth-century style.

With the exception of two problematic pieces by Lebertoul in fascicle 3, the ballades in Ox tend to confirm the thesis that fascicles 5-8 are the oldest part of the manuscript. Fifteen of the 39 ballades are found in this older layer, and some are by composers such as Hasprois whose careers range back into the fourteenth century. Furthermore, two of the ballades (Nos. 273 and 287) have concordances in Ch, which is a late fourteenth-century manuscript. From a notational standpoint, the ballades are frequently complicated by changing mensurations and by the use of proportional signs and numbers. In addition, three ballades with Latin canons (Nos. 273, 285, and 287) are clearly among the oldest pieces in fascicle 8.

On the other hand, the only ballade in the slightly younger fascicle 9 (No. 314) is by Dufay. In its three-fold division with changes of mensuration and its use of figures to indicate proportions, this ballade strongly resembles the last one in fascicle 8 (No. 301), which is also by Dufay. In contrast, 17 of the 19 ballades in the most recent fascicles 1-4 tend to be much simpler and are usually in one mensuration throughout. However, within this group is No. 21, f. 18, by Dufay, with the date of 1425, and No. 50, f. 31, also by Dufay, in

which the top voices frequently have a 2:1 proportion in 2, 3.

A comparison of the ballades in the different fascicles shows a slight shift in the use of perfect and imperfect prolation. Even in the older fascicles 5-10 in which the mensurations may change with some frequency, one basic mensuration usually prevails. If only that mensuration is considered, 13 of the 20 ballades in those fascicles are in perfect prolation. In the most recent fascicles 1-4, 11 of 18 ballades are in imperfect prolation (See Table 5).

TABLE 5
PROLATION OF BALLADES IN OX

Fascicles	Perfect prolation	Imperfect prolation
5-8	Nos. 190, 196, 201, 223, 228, 236, 246, 271, 273, 282, 300, 301	Nos. 200, 239, 247, 249, 252, 285, 287
9-10	No. 312	(None)
1-4	Nos. 21, 29, 50, 82, 83, 101, 148, 159	Nos. 46, 70, 74, 77, 81, 111, 113, 115, 116, 167, 173
	TOTAL 21	18

Few of the individual ballades call for special consideration. In the older fascicles 5-8, only two ballades fall into the group of pieces that may be read either in 0 or ϕ . The first is Velut's Un petit oyselet chantant, No. 200, f. 89v. With a primary movement of breves and semibreves, and with numerous three-breve coloration

groupings, it rather obviously would be sung in $\emptyset$ and has been so considered by Besseler¹⁸⁶ and by Reaney.¹⁸⁷

On the other hand, J'aim. Qui? Vous. Moy? by Paullet, No. 249, f. 108v, moves primarily in semibreves and minims, with only one three-breve grouping in coloration. Reaney has transcribed it in O,¹⁸⁸ which is at least as probable as $\emptyset$.

In the most recent fascicles 1-4, five ballades in tempus perfectum have no mensuration sign. The first is the anonymous Qui le sien vult bien maintenir, No. 70, f. 38v, which uses only breves and semibreves. The piece immediately preceding it is a rondeau in (O) by Brollo, Nulx ne pouroit ymaginer, No. 69, f. 37v, with only breves, semibreves, and a few minims. Brollo's other rondeau, Entrepris suis par grant lyesse, No. 73, f. 39v, is in (O); but it too uses only breves, semibreves, and minims. Partly for these reasons Reaney suggests that Qui le sien may also belong to Brollo, and transcribes it in O.¹⁸⁹ Hans Schoop finds it difficult to accept such a slow tempo for the several Brollo works and the intermingled anonymous pieces.¹⁹⁰ Indeed, eight of the first eleven works in fascicle 3 could be read just as well in O as in $\emptyset$. Because these pieces appear in the most

¹⁸⁶Bourdon und Fauxbourdon, p. 131, n. 4.

¹⁸⁷Early Fifteenth-Century Music, 2:119, and notes, p. lvii, indicating "dim. equiv."

¹⁸⁸Ibid., p. 102.

¹⁸⁹Ibid., 4:53, and notes, p. ix.

¹⁹⁰Entstehung und Verwendung, p. 53.

recent fascicles, one is inclined to accept $\emptyset$, although some of them lack the rhythmic devices common to ϵ and $\emptyset$ but unusual in O.¹⁹¹

Further along in fascicle 3 is Tout mon desir et mon vouloir, by Arnold de Lantins, No. 111, f. 53. With a full range of notes from longs to ten pairs of flagged semiminims and colored notes from long to minim, there seems to be no question that $\emptyset$ was intended.¹⁹² Curiously enough, the piece just preceding the ballade is a rondeau by the same composer with a range of notes from breve to flagged semiminim and no coloration. The primary movement is by semibreves and minims, and in this piece O, rather than $\emptyset$, seems more appropriate.¹⁹³

On the verso of the folio on which Tout mon desir is copied is Dufay's Se la face ay pale, No. 113, f. 53v. The widespread popularity of this piece is attested to by its inclusion in nine other manuscripts. In only one of these manuscripts is there a mensuration sign, an O in the Laborde Chansonier, f. 64v (Lab).¹⁹⁴ In Ox only breves, semibreves, and minims are used, along with one three-breve coloration grouping in the contratenor, and one grouping of colored minims, in this case two minims separated by a minim rest, in the top, texted voice. The same type of coloration is found only a couple of

¹⁹¹See Chapter VI for a discussion of the factors which determine ($\emptyset$) mensuration.

¹⁹²See Borren, Pièces polyphoniques, No. 7, p. 19.

¹⁹³The rondeau is Puis que je voy, No. 110, f. 52v; see *ibid.*, No. 6, p. 18.

¹⁹⁴For a transcription of this version, see Helen E. Bush, "The Laborde Chansonier," Papers of the American Musicological Society (1940):68. A transcription of Ox No. 113 may be found in Besseler, Dufay, 6:36.

folios later in fascicle 3 in another ballade by Dufay, C'est bien raison de devoir essaucier, No. 116, f. 55. This ballade is divided into three sections, with mensuration signs only in the cantus for the last two sections. The mensuration of all voices for the three sections is (Ø)-0-Ø. The colored minims occur in the first section, in the top voice. Typical three-breve coloration passages are found in all voices in the (Ø) sections, with the curious exception of the top voice in the third section, which is the only one to be marked specifically with the sign Ø. Flagged semiminims are used in both top and contratenor voices only in Ø. No coloration is found in the central section in 0.¹⁹⁵

Two more ballades in the fourth fascicle have no mensuration signs, but both are probably meant to be read in Ø. The first is Mesdisans m'ont cuidie desfaire, by Binchois, No. 167, f. 77v.¹⁹⁶ The second is Dufay's Ce jour le doit, aussy fait la saison, No. 173, f. 79.¹⁹⁷ This is one of the numerous pieces in fascicle 4 which employ black semiminims (♩), some of which have been found to be inked

¹⁹⁵See the transcription in Besseler, Dufay, 6:31.

¹⁹⁶A facsimile may be found opposite the title page of Marix, Musiciens, and transcription No. 41, p. 63. The piece is also transcribed in Rehm, Chansons von Gilles Binchois, No. 54, p. 51.

¹⁹⁷To the concordance of Tr 87, No. 121, f. 134v, may be added MS Vienna, Österreichische Nationalbibliothek 5094, f. 148v (Via), which is anonymous, in score and with no text; for a facsimile, see Frederick Crane, "15th-Century Keyboard Music in Vienna Ms 5094," Journal of the American Musicological Society 18 (Summer 1965), opposite p. 239. For a transcription of the Ox version, see Besseler, Dufay, 6:34

in over erasures of flagged semiminims. One oddity of this piece is Schoop's discovery that Dufay's name is written to the left of the incompletely erased name of Arnold de Lantins.¹⁹⁸ Presumably a mistaken attribution was corrected in this case.

In summary, of the seven ballades for which neither 0 nor Ø is specified, four may be read in 0, the other three are most probably in Ø.

The three ballades with Latin canons in the older fascicles call for special consideration. All three are found in fascicle 8, which seems to be the repository of the very oldest music in Ox, ranging well back into the fourteenth century, as evidenced by concordances in Ch, the MS Modena (Mod), and MS Florence, Biblioteca Nazionale, Panciatichiano 26 (FP). The first ballade is No. 273, f. 116v, the anonymous Medée fu, which is also found in black notation in Ch 26, f. 24v, and without text in FP, f. 107v.¹⁹⁹ As in many late fourteenth- and early fifteenth-century pieces, the tenor in Medée fu remains in 2, 3 throughout and moves chiefly in breves and semibreves. Against this, the cantus and contratenor indulge in a moderate amount of syncopation and change from one mensuration to another. In addition, three different figures mark short passages in which the note values must be read in proportions according to a canon that reads: Ad

¹⁹⁸Entstehung und Verwendung, p. 48.

¹⁹⁹Two transcriptions are published, of which the one in Willi Apel, ed., French Secular Compositions of the Fourteenth Century, 3 vols. (Corpus Mensurabilis Musicae, 53; Rome, 1970-72):2:78, is especially useful because although the basic source is Ch, variants in Ox are published above the lines; also see Reaney, Early Fifteenth-Century Music, 4:51.

figuram .3am. in proportione sesquialtera. Ad figuram .2am. in proportione sesquitertia. Ad figuram .4am. in proportione dupla. All of the proportions relate to the minim of the basic 2, 3 mensuration of the tenor.

Only one sesquialtera passage occurs.²⁰⁰ Shortly after the opening, the cantus substitutes three minims in place of two in the basic 2, 3 mensuration. As a result, one tempus of 3, 3 replaces one of the basic 2, 3. Numerous passages of sesquitertia occur in both cantus and contratenor. The substitution of four minims for three in the basic 2, 3 mensuration has exactly the same meaning as passages ruled by a reversed semicircle. Two tempora of 2, 2, with all notes imperfect, occur within one tempus of 2, 3

Curiously, the passages in duple proportion are the most ambiguous. The problem lies in deciding whether the passages are to be read in ♩ or in ♩ . The first passage consists only of 12 minims and only the melodic pattern suggests groups of three rather than two notes. The second passage is notated in Ch as shown in Figure 16. The note values in Ox are the same, but the dots of syncopation are omitted. The characteristic pattern of displacement syncopation in the older version proves that the duple proportion was originally conceived as ♩ , as indicated by Apel's transcription.²⁰¹ Since all of the semibreves are imperfected, omission of the dots does not change any of the notes

²⁰⁰See Apel, French Secular Compositions..., 2:78-79, mm. 5-11.

²⁰¹Ibid., 2:80, m. 34.

values, but it does indicate a change of concept. By the time of Ox, evidently, the passage was thought of as being in $\emptyset$, as Reaney's grouping of the note values suggests (Figure 16).²⁰²

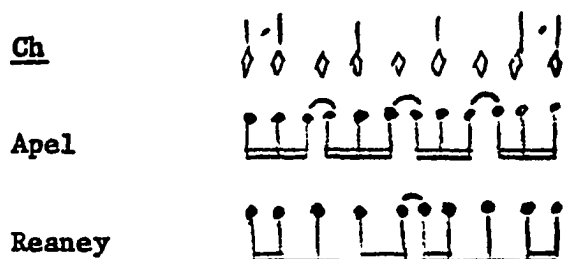


Figure 16

The third and last passage confirms this change of concept. In Figure 17 the fifth minim in Ch must be altered. Apparently to compensate for the missing minim value when the passage is read in $\emptyset$, the scribe of Ox changed the fifth minim from the end to a semibreve. For both rhythmic and harmonic reasons, it seems obvious that the version in Ch represents the composer's original intent (Figure 17).

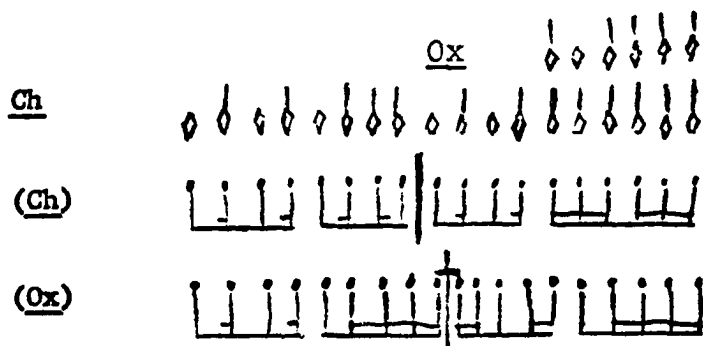


Figure 17

²⁰²Early Fifteenth-Century Music, 4:52, m. 34.

Charles Hamm includes a partial and very inaccurate transcription of Medée fu with his discussion of its use of proportions.²⁰³ The burden of his argument is that the practices of "certain other composers" do not exhibit the uniformity found in the works of Dufay. It is unclear why Hamm is disturbed by the fact that 4 is, by canon, 2:1 and 2 is 4:3, whereas 3 is, by canon, its normal 3:2. It must be remembered that the piece first appears in Ch at a time when figures by themselves were not being used as proportional signs. Hamm is inaccurate in stating that the figure 2, defined by canon to indicate 4:3, refers to the semibreve instead of the minim level. It is true that the relation of semibreves is 2:1, as always when sesquitertia proportion is used with 2, 3. But the sign 2 has no intrinsic meaning, and the prescribed 4:3 relationship applies to minims exactly as in the works of Dufay. If Hamm were following the notation in Ox, he is also wrong in saying that the duple proportion indicated by the figure 4 replaces a perfect semibreve in 2, 3 with two semibreves of three minims each. As is shown in Figures 16 and 17, this statement is true only in the notation in Ch. As notated in Ox the duple proportion differs in no way from Hamm's description of its use by Dufay. It might be questioned, however, whether Hamm is correct in saying that the figure 2 as used by Dufay following € indicates "an organization of three semibreves per breve and two minims per semibreve, with a semibreve of (€)2 equivalent to a minim of €."²⁰⁴ Several passages in Dufay's works contain

²⁰³A Chronology of the Works of Guillaume Dufay, pp. 30-31.

²⁰⁴Ibid., p. 28.

only minims or minims and imperfect semibreves and the rhythmic organization does not clearly suggest either C or C .

None of the proportions in Medée fu, in short, deviates from "Dufay's simple, consistent usage." The canonic instructions merely specify what later composers -- including Dufay -- indicated by more or less precise proportional signs with canons.

The second ballade with a Latin canon is Franchois Lebertoul's Depuis un peu un joyeux parlement, No. 285, f. 122v. The basic mensuration in all three voices is (C). Only the cantus has changes to O and C . It is to these signs that the canon refers: Ad circulum perfectionis cantetur in emiolia proportione; ad semicirculum percussum in proportione dupla. The meaning is clear that the circle indicates hemiolia (3:2) proportion and the semicircle with stroke, duple (2:1) proportion. Because the basic mensuration is (C), the canon applies on both the minim and semibreve level. To indicate hemiolia by the sign O is unusual, but it may have been done to create a 3:2 proportion on the semibreve level. The figures 3 or $\frac{3}{2}$ would normally operate at the minim level and substitute a tempus of 2, 3 mensuration with perfect semibreves.

There may be a logical explanation for Lebertoul's extending the canon to explain the C sign as dupla, which is its normal relationship to C. One passage of C follows directly after a hemiolia section in O.²⁰⁵ The canon prevents a possible misreading of the C in relation to the previous O section, which would result in a 2/4

²⁰⁵Reaney, Early Fifteenth-Century Music, 2:44, m. 48.

measure of $\emptyset$ equalling two-thirds of a $2/4$ measure of C. As always, however, proportions stipulated by canon apply to a basic mensuration, rather than to each other.

The canon with Depuis un peu may be taken as corroboration of the proportional relationship indicated by the sign $\emptyset$. If the accepted meaning of $\emptyset$ were a diminution by one-third instead of one-half, as has been suggested, Lebertoul could have used $\emptyset$ without a canon to produce a tempus of O in the time of a tempus of C. At some time in the later fifteenth century, it seems clear that for some composers and theorists, at least, a slash sign indicated the loss of one-third value. In the early part of the fifteenth century, however, and specifically in the music preserved in Ox, every piece in which comparisons can be made indicates that $\emptyset$ was always in a 2:1 proportion to O.²⁰⁶ Consequently, Charles Hamm's theory that $\emptyset$ indicated a speeding up by one-third,²⁰⁷ rather than one-half in the period 1426-33, cannot be sustained by examples from Ox.

The third of the ballades with Latin canon is Ma douce amour, No. 287, f. 123.²⁰⁸ Anonymous in Ox and in Mod 51, f. 28, the ballade is attributed to Hasprois in Ch 46, f. 34. The basic mensuration is O, as is marked in the cantus and tenor in Ox, but not in the other two manuscripts. A series of figures — 2, 3, and 4 — occur in the top voice only, and their meaning is determined by the following Latin

²⁰⁶See the discussion of tempus perfectum diminutum in Chapter V.

²⁰⁷A Chronology of the Works of Guillaume Dufay, pp. 64ff.

²⁰⁸See Apel, French Secular Compositions..., 1:80 (ch).

canon: Canon: ad figuram .3am. cantetur in proportione sesquialtera;
ad figuram .2am. in dupla; ad .4am. in tripla. Here, the figures 3
 and 2 have their usual later meaning of 3:2 and 2:1 proportions, but
 the figure 4 does not. This piece therefore proves to be another
 arbitrary use of figures to indicate proportions that must be explained
 by a canon. Because the figures sometimes follow each other without an
 intervening 0 sign, the canon may have been designed to avoid any con-
 fusion as to whether the figures relate to an immediately preceding
 proportion or to the basic mensuration of 0. Like most of the canons
 in Ox so far discussed, the proportions refer to minim values.

In the two passages of 3, only semibreves and minims are found
 and the 3:2 proportion produces one tempus of 0 within one of 0. On
 the other hand, passages of 2 have a range of notes from long to minim
 and the organization of these notes in duple proportion is III, 2, 2.
 This organization of dupla within a basic mensuration of 0 is unique in
Ox. The triple proportion puts three tempora of 0 in place of one.

In contrast to the early pieces in which proportions are speci-
 fied by canonic instructions, as in Madée fu and Ma douce amour, later
 practice simply uses figures with a proportional meaning. Such figures
 are used in two of Dufay's ballades, Resveillies vous et faites chiere
lye, No. 301, f. 126v, and Mon chier amy, qu'avés vous empensé, No.
 314, f. 124v. The former is found in fascicle 8, one of the oldest
 group of fascicles, and has been dated 1423 by Besseler.²⁰⁹ The second
 is in fascicle 9, one of the middle-period fascicles. Of the second,

²⁰⁹"Neue Dokumente zum Leben und Schaffen Dufays," pp. 162-63.

it has been said that "The florid passages at the end of the various sections as well as the somewhat complex cross rhythms characterize this composition as belonging to Dufay's earlier period."²¹⁰ Charles Hamm places Resveillies vous in his earliest grouping, ca. 1415-29, and Mon chier amy in his Group 2, ca. 1423-29.²¹¹ In both ballades, all three voices change mensuration at the beginning of each of the three sections in the pattern (C)-O-C. Furthermore, the upper, texted voice of each ballade includes passages in 2 and 3. It is in these passages that a subtle difference may be noted. In Resveillies vous, the C-2 passages use semibreves and minims, but the C-3 passages use only minims. In O-2 only minims are used, whereas passages in O-3 have both semibreves and minims. In older pieces employing single proportional numbers such as 2 and 3, often only one or two note values are used, and the proportions seem clearly to mean only a relationship between minims. On the other hand, in Mon chier amy the C-2 passages have a full range of notes from long to minim, with the organization of II, 3, 2, which is the same as Ø. In O-3, however, only semibreves and minims are used with the usual meaning of a tempus of C equal to one of O.²¹²

Resveillies vous and Mon chier amy may be compared with yet

²¹⁰Davison and Apel, Historical Anthology of Music, 1:223 (No. 67).

²¹¹A Chronology of the Works of Guillaume Dufay, pp. 13 and 34, respectively.

²¹²Both ballades are transcribed in Besseler, Dufay, 6:15 and 30. The Notes to No. 11, p. xxix, misprint C for C for m. 54 of the top voice.

another ballade of Dufay from fascicle 2, supposedly one of the most recent fascicles in Ox. In La belle se siet au pie de la tour, No. 50, f. 31, passages of 2 appear six different times in the two upper, texted voices. Here, as in the possibly earlier ballade, Resveillies vous, only semibreves and minims are used. In the version of La belle se siet preserved in BU 77, f. 52v, flagged semiminims are used instead of the proportional passages.²¹³ Quite clearly flagged semiminims and minims in 2 have the same meaning. When a wider range of note values is used in 2, they take on the organization of ϕ , which thus becomes a means of writing ϵ in augmented values.

Another ballade by Dufay, Je me complains piteusement, No. 21, f. 18, is dated in the manuscript 1425 a di 12 Luio. This is only two years later than Besseler's date for Resveillies vous. The notation of Je me complains is much simpler, however, being completely in 2, 3 in all three voices, with only a scattering of flagged semiminims. Besseler places it fourth in his grouping of ballades.²¹⁴

Two ballades of Lebertoul are copied in fascicle 3. The first is O mortalis homo que moventur--O pastores quibus committuntur--O vos multi quibus honor datur, No. 77, f. 41v. Although the Latin texts give the impression of a motet, and the piece was published as such by Van den Borren,²¹⁵ the music and the stanzas with a one-line refrain

²¹³The cantus of BU is transcribed, *ibid.*, p. xxx; the Ox version is transcribed as No. 12, p. 27. Another misprint of ϕ instead of ϵ occurs for the cantus, m. 1, in Besseler's notes for this piece, p. xxx.

²¹⁴*Ibid.*, No. 41, p. 60.

²¹⁵Polyphonia Sacra, No. 44, p. 273.

are in ballade form.²¹⁶ The piece begins in tempus perfectum, moving mostly in longs, breves, and semibreves, with short sections of the tenor marked with the sign C. These two sections are the endings of the first and third parts of the ballade, which form a musical rhyme. There are only a few minims in the whole piece, and a reading in O would be exceedingly slow. Besseler suggested Ø for the ballade²¹⁷ and Reaney has transcribed it in "diminished equivalent." If the notes in the C sections were in coloration, they would be perfectly normal in O or Ø. The scribe made several mistakes in copying the work, not the least of which was his failure to return the tenor to its original mensuration after the first section in C.²¹⁸ Had he done this, we would know for certain whether the ballade was intended to be in O or Ø.

The second ballade by Lebertoul is Au pain faitich ne me vueil plus tenir, No. 81, f. 43.²¹⁹ Three of the primary mensurations are used, O, C, and E, plus short sections of C. All three voices change from one mensuration to another with some frequency, although not

²¹⁶Reaney, Early Fifteenth-Century Music, 2:xxix; the transcription begins p. 47.

²¹⁷Bourdon und Fauxbourdon, p. 40, n. 1.

²¹⁸Neither Borren nor Reaney mention this omission, but the tenor must change back either to O or Ø after the section in C. See Polyphonia Sacra, p. 274, m. 22, and Early Fifteenth-Century Music, 2:48, m. 35.

²¹⁹A facsimile is printed in Die Musik in Geschichte und Gegenwart, vol. 4, Cols. 629-30.

always at the same time. In the three primary mensurations, minims are equivalent, although they are not frequently used until the second half of the ballade. The sections in C are also in the normal 4:3 proportion. There should, therefore, be no difficulty. However, the motion, especially in the first part of the ballade, is in such large note values that it is inconceivable the piece would move so slowly. On the other hand, if the opening section is diminished, despite the normal mensuration signs, the more frequent minims of the last part, and especially those in C , would have to move at a great speed. The reasons for Lebertoul's choosing to use primary mensurations and yet write in note values one step larger than normal cannot be explained. Both Besseler²²⁰ and Reaney²²¹ over-ride the signs and transcribe in diminished values. Reaney is certainly to be commended for inserting the warning that the piece should be performed at a relatively slow speed, since "a slow first half is in any case essential to provide the contrast with the lively second part."²²²

It may be observed that all five of Lebertoul's known pieces are found in Ox, including the three ballades, which have been discussed, and two rondeaux. Of these five pieces, three have errors, as Reaney calls them, which suggest that Ox may not be a first-hand source

²²⁰Bourdon und Fauxbourdon, p. 39 (first part only).

²²¹Early Fifteenth-Century Music, 2:45.

²²²Ibid., p. xxviii.

for Lebertoul's compositions.²²³ In any event, Lebertoul's music contains some unusual notational devices. For example, in the O sections of Au pain, pairs of semibreve rests followed by a semibreve occur several times. This is rarely found in O but is a hallmark of Ø. Another unusual and theoretically impossible procedure is the imperfection by one semibreve of a maxima worth eight semibreves.²²⁴

Virelais

In contrast to the 39 ballades in Ox, the number of virelais is quite small, only ten in all. The only composers to whom virelais are attributed are Haucourt (1), Guillaume le Grant (3), and Fr. Antonius de Civitate (1). One more virelai has only the initials P. J., and four are anonymous. Eight of the ten appear in the oldest fascicles, 5-7. There are none in fascicles 9-10, and only two in the most recent fascicles. A curious fact is that all of the virelais are found only in Ox. Not one concordance of these pieces has so far been discovered in any other manuscript.

The ten virelais include four that are in C throughout. Three others are in C, but the mensuration is specified by sign in only one. Two virelais are either in O or Ø, and both have Latin canons. Finally, one virelai has several changes of mensuration, using C, C, and O.

In the oldest fascicles, the first virelai to appear is Se j'estove aseurée, No. 183, f. 82v, by Haucourt. Without mensuration

²²³Ibid., p. iv. The three pieces are No. 199, f. 89, a rondeau; No. 81, f. 43, and No. 77, f. 41, the two ballades just discussed.

²²⁴See *ibid.*, p. 45, top voice, m. 18, and p. 46, m. 35.

signs and without normal coloration, the primary movement is in semi-breves and minims in the cantus and contratenor, and in larger values in the tenor. A Latin canon reads as follows: Canon: Nigre cantantur in proportione sexquialtera. According to this canon, the blackened notes are to be sung in 3:2 proportion. The only blackened notes are semibreves and minims in the top voice. The proportion refers to the minim level, substituting three black minims in place of two. The effect of the canon is to cause the blackened notes to be read as if in 3, 3, one tempus in the time of the basic mensuration of the virelai, which is most reasonably in 0, as Reaney transcribes.²²⁵

Exceptionally, the canon to Se j'estove appears after the composer's name at the head of the page, and not following the tenor or at the bottom of the folio. Perhaps it was added because coloration of semibreves and minims was unusual in 0 mensuration at the time, and the scribe felt that a warning was needed to assure their correct interpretation.

Reaney suggests, without substantiating evidence, a date around 1400 for Se j'estove.²²⁶ However, Reaney's date may have been influenced by his attempts to trace all of the works of Haucourt. Only one other piece, a rondeau from one of the most recent fascicles, is found in Ox.²²⁷ It is entirely in (2, 3) and without distinguishing features for an attempted dating, unless the octave-leap cadence can

²²⁵Ibid, 2:36.

²²⁶Ibid, p. iv.

²²⁷Fascicle 2, No. 18, f. 17, Je demande ma bienvenue.

be dated in the 1420s, as suggested by Besseler.²²⁸ For the rondeau, Je demande, Reaney suggests only the vague date of "early fifteenth century."²²⁹

It is likely that Reaney is influenced in his dating by his assumption that the Haucourt of the virelai, the Acourt of the rondeau, and the Johannes de Alte Curie of an isorhythmic rondeau in Ch, are the same person. Because Reaney dates this last piece around 1380,²³⁰ and some known dates of this composer are from the last decade of the fourteenth century, it is necessary to assume that the pieces in Ox are rather early. Reaney may well be correct, and if he is, the mensuration of the virelai in Ox is even more likely to be 0 than Ø. The isorhythmic rondeau in Ch, Se doit il plus en biau semblant fier, No. 8, f. 15v, has a similar 3:2 proportion, but it is achieved in an entirely different way. The basic mensuration of the piece is 2, 3, but the cantus twice changes to 3, 2, and then to a singular sign (C), which is ruled by canon that reads: Ad semicirculum cum duobus punctis in proportione sesquioctave cantatur. As Gunther has noted,²³¹ the 9:8 proportion of minims after the semicircle with two dots must be related to eight minims of the tenor or contratenor which, at that very

²²⁸Bourdon und Fauxbourdon, p. 121.

²²⁹Early Fifteenth-Century Music, 2:iv.

²³⁰Ibid., p. iv.

²³¹"Anwendung....," pp. 12-13.

moment, have changed from the basic 6 to 3.²³² The 9:8 proportion cannot function in relation to the previous mensuration of 3, 2 in the cantus or to the basic 2, 3 of the piece as a whole. Nevertheless, the result is the same as a 3:2 proportion of minims in 0 or 6. It may be assumed, therefore, that Haucourt, or Johannes de Alte Curie, was writing the same rhythm in two different ways, but in the same mensuration of 0. It seems unlikely that a minim in the proportional passage of Se doit is any faster or slower than the minim of the proportional passage in the virelai Se j'estove. Consequently, the basic mensuration of the latter is probably 0.

As previously mentioned, both virelais in Ox that are in tempus perfectum without mensuration signs have canons. The one just discussed does not by itself give any indication as to the mensuration of the piece. This is not the case with the canon of the other virelai, Je suy si las venus pour tant attendre, by Frater Antonius de Civitate Austrie, No. 262, f. 112.²³³ The canon reads: Triplum fit quatuor temporibus dimissis, which should mean that the canonic triplum begins after four tempora. However, the signum congruentiae of the cantus indicates the entrance of the triplum on the ninth breve value. As has

²³²See the transcription in Reaney, Early Fifteenth-Century Music, 2:34, and in Apel, French Secular Compositions..., 1:86. Facsimiles of the manuscript may be found in Die Musik in Geschichte und Gegenwart, vol. 5, Col. 1817, and in Friedrich Gennrich, Abriss der Mensuralnotation des XIV. und der ersten Hälfte des XV. Jahrhunderts (2., erw. Aufl. Langen b. Frankfurt: (Selbstverlag), 1965), Tafel VII.

²³³Spurbeck does not include a transcription in "A Study of the Canonici Manuscript." In fact this piece is apparently the only composition in Ox that has failed to receive some type of published transcription.

been noted previously, the same type of canon, indicating tempora rather than modi, is found in a Gloria by Hugo de Lantins, No. 128, f. 6lv. In both pieces, a tempus means the value of a long and thus indicates ϕ rather than O mensuration. Notated for one voice with text and a tenor, Je suy si las is similar to the typical Italian caccia for two treble voices in canon at the unison over a supporting tenor.²³⁴ The smallest note used is a semibreve, and the motion of the top, texted voice is primarily in breves and semibreves, with numerous longs. Furthermore, the tenor uses even fewer semibreves, with a primarily long-breve motion. Typical three-breve coloration is frequent, with some ligatures mixing void and blackened notes, a device found mostly in the older fascicles of Ox. There are also several examples of broken groups of coloration, which may be a slightly older practice. It scarcely seems possible that a piece would be in O without a single minim. Other indications of ϕ include the pattern of two semibreve rests followed by a semibreve, as is often found in ϕ but almost never in O, and the imperfection of a long by a preceding semibreve.

On the same page as Je suy si las is a virolai by Guillaume Le Grant, Or avant, gentilz fillettes, No. 260, f. 11lv. This virolai is significant because it is the only one to use more than one mensuration. All three voices begin in (C). Just before the end of the first section, the contratenor changes to C, whereas the cantus and tenor change at the same time to O. At the beginning of the second

²³⁴As described, but not transcribed, in Reaney, Early Fifteenth-Century Music, 4:xiii.

section all voices return to C. No coloration is used in the piece, and in O and E only breves and semibreves are found. However, the relationship between these two mensurations is quite normal, since a tempus of each lasts the same amount of time. Thus, in the one virelai, as in all pieces of whatever species, whenever more than one of the four primary mensurations are sounding at the same time, there is always equivalence of tempus length between O and E. The point bears constant repeating, since attempts to suggest a different "beat" or tempo for any of the primary mensurations simply cannot be sustained for any of those pieces in which two or more of the primary mensurations are being performed at the same time.

Two or three minor points about the virelais may be added. The anonymous Il me convient querpir ceste contrés, No. 234, f. 99, is uniquely written for two voices on the same staff with a c-clef on the fourth line and an f-clef on the second. Both parts lie in the same range and in order to distinguish them, one is written in white and the other in black notation. An initial mensuration sign of C is given, and the only note values are breve, semibreve, and minim.²³⁵ The reason for this peculiar type of writing is unclear, since space for copying one of the voices is available on one blank stave above and two below the piece.²³⁶

²³⁵Spurbeck, "A Study of the Canonici Manuscript," p. 292, erroneously marks a E sign before the clos ending.

²³⁶Therefore Reaney's suggestion that the unusual manner of writing was no doubt dictated by the lack of space is difficult to understand; see Early Fifteenth-Century Music, 4:x; his transcription is on p. 61.

The two virelais in fascicle 2 exhibit an interesting contrast in the use of flagged semiminims. In the anonymous Douce speranche my conforte toujours, No. 24, f. 19, the top voice has a total of 68 flagged semiminims in fifty-three measures of 6/8 meter. On the other hand, Se je n'é mal fors que par leesce, attributed obscurely to P. J., No. 26, f. 19v, is also in 6 but has only four flagged semiminims in larger groupings of coloration. No void flagged semiminims are present.²³⁷ Seemingly, one element of the late style in fascicles 1-4 is an increase in the number of flagged semiminims, especially in 6 mensurations, whereas intermingled pieces in 6 are likely to lack semiminims. When, however, 6 begins to become the most common mensuration, as in much of fascicle 3, and when these pieces exhibit other signs of being the most recent works preserved in Ox, flagged semiminims also begin to appear in that mensuration.

In general, the few simple and straightforward virelais in Ox add little of value to a study of notational practice in the manuscript.

Rondeaux

Rondeaux and rondeaux refrains constitute 58.57 percent of the entire repertory of Ox. Out of a total of 326 pieces, 190 are rondeaux, one of which is copied twice. In large measure, the rondeaux, like the ballades, also support the thesis that fascicles 5-8 are the oldest part of the manuscript. Most of the 78 rondeaux preserved there are in perfect prolotion. As with the ballades, almost all of the complicated rondeaux are to be found in fascicles 7 and 8, with attributions

²³⁷Both pieces are transcribed, *ibid.*, pp. 64 and 66.

to composers such as Cordier, Cesaris, and Malbecque. Since only seven rondeaux appear in the slightly more recent fascicles 9 and 10, no general conclusion can be drawn. In the more recent fascicles 1-4, a shift to imperfect prolation is clearly perceptible, and only one of the complex rondeaux with many mensuration changes is to be found. On the other hand, two rondeaux in these fascicles are in 3, 3, an almost obsolete mensuration for secular music in the fifteenth century. The use of Latin canons is almost equally divided between the older and more recent layers, with three in fascicles 2 and 3, and two in the oldest fascicles 7 and 8. In addition, five rondeaux use canonic technique indicated by a marking of Fuga. Four of the rondeaux in the manuscript carry dates that range from 1423 in fascicle 8 through 1426 in fascicle 10 to two marked 1428 in fascicle 9.

As with the ballades, a table may help to show the shift from perfect to imperfect prolation. Twenty rondeaux make use of more than one mensuration, but often one voice, usually the tenor, remains primarily in one mensuration while the other voices change. In some of the rondeaux of Cordier and Cesaris, even this one voice does not absolutely maintain a basic mensuration, but to avoid a multiplicity of exceptions, a decision is usually possible as to which type of prolation, perfect or imperfect, is predominant. Only one rondeau is so exceptional that it may not with any degree of certainty be placed in the category of primarily perfect or primarily imperfect prolation. This is the anonymous Se j'ay perdu toute ma part, No. 266, f. 114, which has mensuration signs of 6 and 0 in the tenor but is ruled by a canon that suggests the possibility of performing per medium, which

may justify placing the piece in the imperfect prolation column. In any case, a shift from perfect prolation in the older fascicles to imperfect prolation in the most recent is clearly evident when the rondeaux are grouped by the three fascicle divisions (Table 6).

TABLE 6
PROLATION OF RONDEAUX IN OX

Fascicles	Perfect prolation	Imperfect prolation
5-8	65	13
9-10	4	3
1-4	45	61
	TOTAL 114	77

What the previous table does not show, and which may be of some interest in determining whether there is also a shift to $\emptyset$, is the presence or absence of mensuration signs. Of the rondeaux with unchanging mensuration, only six have that mensuration indicated by a sign. No. 323, f. 139v, by Dufay has $\emptyset$ only in the upper voice and No. 17, f. 17, also by Dufay, has ϵ at the beginning of all voices. No. 53, f. 32v, by Grenon, and No. 156, f. 73, by Dufay, have O at the beginning of all voices and No. 60, f. 34, and No. 157, f. 73, both by Dufay, have C. Sixty-six rondeaux in perfect tempus with minor prolation could be read in either O or $\emptyset$ throughout. Even in the older fascicles 5-8, most of these pieces move in breves and semibreves and include three-breve coloration passages, two of the most easily

recognized traits of $\emptyset$. On the other hand, not a few of the rondeaux in fascicles 1-4 move in semibreves and minims, as is standard in O. Each piece demands individual consideration, of course, and methods for determining which pieces are in $\emptyset$ will be discussed later in some detail. In the Appendix, the 66 rondeaux, grouped as they appear in the oldest, more recent, and most recent fascicles, have been divided into two categories: those more probably in O and those more probably in $\emptyset$. For the most recent fascicles a third category includes those pieces about which no judgment can be made with any degree of certainty. These pieces may be considered as transitional between the older O and the newer $\emptyset$ but without clearly identifiable characteristics of either.

Although the primary criteria for the identification of $\emptyset$ will be discussed in detail below, some remarks may be made at this time about a few of the rondeaux listed in the Appendix. Dufay's Belle, vueilliés vostre mercy donner, No. 276, f. 118v, has no mensuration sign in Ox, but has $\emptyset$ at the beginning of the top voice in BU 84, f. 55v.²³⁸ The rhythms and a long in coloration bear witness to the correctness of the sign in BU.

In the most recent fascicles, Jamais tant que je vous revoye, No. 10, f. 9v, by Binchois, is of particular interest. It is written in (C) in PR, f. 96v, but in both Esc A, f. 47, and Ox the note values are double those in PR. All three versions differ in some details. Only the tenor is preserved in Esc A, and only breves appear in coloration in that voice, whereas the range of colored notes in the

²³⁸See Besseler, Dufay, 6:66. The piece is also found in PC, f. 43, where it lacks the cantus.

contratenor in Ox extends from long to minim. The two notes in the Ox version that reach the note f² and are marked with flats are missing entirely from the PR version.²³⁹ Wilkins has suggested that the PR cantus "...in 6/8 is a subtly arranged version of the 3/4 in Ox and Esc A," but he also says that a notational slip in Ox (minim for semi-breve) suggests that Ox "was copied from a source written in the smaller note values."²⁴⁰ Wilkins' first statement may be possible, but it seems much more likely that the Ox and Esc A copies in (Ø) are subtly arranged and modernized versions of PR or some other source. The different versions of this piece provide the strongest evidence for the thesis that Ø originated as an alternate way of writing 6.

Although Heinrich Besseler was one of the most perceptive scholars working with the music of the early fifteenth century, it is necessary to question, on occasion, the decisions behind his attempts to show changes of mensural practice. For example, Dufay's rondeau, Craindre vous vueil, No. 4, f. 5, is transcribed as Ø by Besseler.²⁴¹ Whether such a transcription is justified seems doubtful. The top voice moves mostly in semibreves and minims, with a slightly less active contratenor, and still less active tenor. Only one passage of broken coloration is used--two black breves, a tempus of void notes, then two black semibreves. Black semiminims, which are rare in O,

²³⁹Transcriptions of both the Ox and PR versions may be found in Rehm, Chansons von Gilles Binchois, pp. 15-16.

²⁴⁰Wilkins, A 15th-Century Repertory, p. xv; a transcription of the PR version will be found on p. 9.

²⁴¹Dufay, 6:79.

occur in both cantus and contratenor in almost equal numbers. However, all but the last eight measures of Craindre vous vueil are also found in fascicle 4 of Ox, No. 156, with the text Quel fronte, signorille, in paradiso. Designated an Italian ballata in Reaney's inventory of Ox, Besseler calls it a shortened rondeau, consisting of refrain and one stanza.²⁴² According to Nino Pirrotta, it is not strictly either one.²⁴³ More importantly, he points out that undoubtedly the first seven measures should be repeated, so that a proper cadence can be achieved, resembling the ending of Craindre vous vueil. Moreover, Craindre may be considered to be a contrafactum of Quel fronte. Since the latter carries the mensuration sign 0 at the beginning of the piece in all three voices, presumably the former would be ruled by the same sign. The only notational change is that flagged semiminims in Quel fronte are black in Craindre vous vueil. The manuscript copy of Quel fronte includes the phrase Rome composuit.²⁴⁴ In several instances in Ox such a phrase is accompanied by a date, but not here. Besseler dates it "since 1428,"²⁴⁵ but does not date Craindre vous vueil. Both are from the most recent fascicles, Quel fronte from fascicle 4, and Craindre vous vueil from fascicle 1. It is highly unlikely that Craindre vous vueil is a change of the notation of Quel fronte from 0 to Ø. Nevertheless, Besseler includes Craindre vous

²⁴²Ibid., p. xxvi.

²⁴³"On Text Forms," p. 679.

²⁴⁴Facsimiles are printed in Apel, The Notation..., p. 103, and Stainer, Dufay, Plate VI.

²⁴⁵Dufay, 6:xxvi; transcription p. 11.

vueil late in his chronological arrangement of Dufay's rondeaux as the first of the group in Ø "Recentioris stili." It seems clear that the notation of Craindre vous vueil, like that of Quel fronte, must have been considered to be O at the time it was written, and it is therefore placed in that category in the Appendix.

The two pieces may be compared with Je requier a tous amoureux, No. 139, f. 67, which is also by Dufay and in the same fascicle as Quel fronte. With the same kind of motion in the voices and with only one group of three-breve coloration, but without semiminims, the notation of Je requier is very similar to that of Craindre vous vueil. Nevertheless, Besseler transcribes Je requier in 3/4 meter, placing it in his group "Tempus perfectum (vestustioris stili)."²⁴⁶ Because of this inconsistency, it is placed in the transitional category in the Appendix.

Ten of the 191 rondeaux in Ox have Latin canons, but five of these are simply Fugae, which call for the derivation of one voice from another after a certain number of tempora. The others specify in various ways when proportions are to be introduced. The canons are not all in the older layer of fascicles. Four of the Fugae and two of the others are found in fascicles 5, 7, and 8; one Fuga and three other canons are found in fascicles 2 and 3. All four of the pieces with a Fuga in the older fascicles are in (6). Combien que loins de vous soye, No. 188, f. 84v, is for one notated voice, with a canonic voice

²⁴⁶Ibid., p. 54.

derived according to the direction Fuga quatuor temporum.²⁴⁷ No. 191, f. 86, Se je me plains sans rayson, by Gautier Libert, has two notated voices with the cantus again producing a canon at the distance of four tempora. An unusual feature of Libert's rondeau is the accompanying voice, which is labelled "Concordans" rather than tenor. It is quite as active as the notated voice, has the same range, and carries the complete text. These factors may be the reason for the name Concordans, according to Reaney.²⁴⁸

Two anonymous rondeaux from fascicle 8 have three notated voices, cantus, tenor and contratenor, with a fourth derived by canon from the cantus. The first, No. 293, f. 124, En cest moys de may gracieux, has the direction Fuga duorum temporum.²⁴⁹ The second, No. 294, f. 124v, Je vueil vivre au plaisir d'amours, is a Fuga trium temporum.²⁵⁰

In the most recent fascicle 2, Dufay's Par droit je puis bien complaindre et gemir, No. 23, f. 18v, also has three notated voices, with a canonic voice derived from the cantus according to the direction Fuga duorum temporum.²⁵¹ The two voices accompanying the Fuga are both designated contratenors. One is labelled Contratenor II concordans cum fuga, and the other Contratenor I cum omnibus. Neither have text,

²⁴⁷Transcribed in Reaney, Early Fifteenth-Century Music, 4:3.

²⁴⁸Ibid., 2:xlvi, and transcription, p. 90.

²⁴⁹Ibid., 4:24.

²⁵⁰Ibid., p. 25.

²⁵¹Transcribed in Stainer, Dufay, p. 115, and Besseler, Dufay, 6:62. Another copy is found in BL 230, f. 234v.

and both are in the same range. Contratenor I begins like a normal tenor, as the lowest voice, but ends a fifth above Contratenor II. Perhaps an alternative performance practice was intended, whereby the two canonic voices and Contratenor II could be used alone in a three-part version. Both contratenors are quite as active as the canonic voices.

Another rondeau by Dufay, Entre vous, gentils amoureux, No. 60, f. 34v, is also in the most recent fascicle 2 and has a canon that is, in effect, like those using the word Fuga. The canon reads: Iste rondelus de se facit tenorem fugando duo tempora et accipiendo in tridiezeumenois. In this case, then, it is the tenor that is derived from the cantus after a rest of two tempora and at the fifth below. The notated cantus and contratenor are both in C, and there are no further difficulties after the canon is resolved.²⁵²

The four remaining rondeaux with canons have more complicated instructions concerning mensurations and proportions. The first of these, coming from the oldest fascicles, is Se par plour ou par deuil mener, No. 254, f. 110, by Johannes Cesaris. The canon, like several previously discussed, calls for a proportional reading of passages marked by numerals. It reads: Canon ad figuram .6am in proportione sesquialtera. Ad .4am in proportione dupla et ad .3am in proportione tripla cantetur. The basic mensuration of the piece is C, against which the sesquialtera, duple, and triple proportions are calculated. There is no mensuration sign in the tenor, but Cantus I and II return

²⁵²Transcribed in Besseler, Dufay, 6:49.

to C after each of the proportional passages. Only longs, breves, and semibreves are used in the C mensuration, however, and all proportions relate to semibreves rather than, as is normal, to minims. As there are no minims in the entire piece, even in the proportional passages, Reaney's transcription in diminution, or in C rather than C, seems appropriate, if unusual.²⁵³

As always in C, duple proportion applies to all note values and requires a simple reduction of the written values by one half. By mistake, evidently, the first passage following 4 in Cantus II has black semibreves that can have no special meaning. In the sesquialtera proportion a perfect breve replaces an imperfect breve of C. Passages in this proportion introduce coloration groups of three breves and the displacement syncopation typical of C , which is here shifted to the next higher note values (Example 9).²⁵⁴

Only the less common 3:1 proportion is somewhat ambiguous in its rhythmic organization. Three semibreves equal one, of course, but it is unclear whether the proportion also applies to imperfect breves. Although the actual value of all breves is duple, their appearance in alternation with semibreves often suggests perfect rather than imperfect tempus. On the other hand, successions of c.o.p. ligatures seem to imply imperfect tempus. Thus the passages in 3:1 proportion have the shifting rhythmic patterns characteristically found in O and C mensurations. To indicate these shifting patterns in a modern

²⁵³Early Fifteenth-Century Music, 1:22.

²⁵⁴Compare *ibid.*, pp. 22-23, mm. 7 1/2-12.

Example 9

Handwritten musical notation for Example 9. The notation consists of three staves. The top staff is a single line with various note values and rests, including a large 'I' at the beginning and end. The middle staff is a treble clef staff with a 2/4 time signature, containing several measures of music with note values and rests. The bottom staff is a bass clef staff with a 2/4 time signature, also containing several measures of music with note values and rests. There are various markings above the staves, including '(E)' and 'C (E)'. The notation is somewhat irregular and appears to be a transcription of a handwritten score.

transcription would seem preferable to Reaney's adherence to a 3:1 proportion of imperfect breves (Figure 18).²⁵⁵

Handwritten musical notation for Figure 18. The notation consists of three staves. The top staff is a single line with various note values and rests, including a large '3' at the beginning. The middle staff is a treble clef staff with a 2/4 time signature, containing several measures of music with note values and rests. The bottom staff is a bass clef staff with a 2/4 time signature, also containing several measures of music with note values and rests. There are various markings above the staves, including '(E)' and 'C (E)'. The notation is somewhat irregular and appears to be a transcription of a handwritten score.

Figure 18

A similar shift of rhythmic patterns occurs at the highest level of note values in the basic C mensuration of Se par plour. In

²⁵⁵See *ibid.*, p. 23, mm. 15-16, Cantus II.

several passages, particularly at the beginning of each of the rondeau's two sections, one or more voices alternate breves and semibreves in a way that suggests triple rather than duple meter.²⁵⁶ As a result, the rondeau can be barred satisfactorily only by frequent changes from 3/4 to 2/4 measures, an unusual necessity for most pieces in C at this time.

In fascicle 8, which contains the oldest music in Ox, an anonymous rondeau, Se j'ay perdu toute ma part, No. 266, f. 114, has an enigmatic canon that reads: Canon sub una mensura totum, sed per medium quodlibet; circulatorum minimas equaliter cantabis. Only three mensuration signs appear throughout the piece, Θ , $\bigcirc$ and C , and transcription proves that minims in Θ and $\bigcirc$ are equal as the canon says they should be. The first part of the canon apparently means only that the relationship of these mensurations does not change, but that the written values may be diminished by half. The text of the rondeau, which calls itself a "diabolic chant," has two lines which also support the idea of a diminished reading of the notated parts. They are

C'est chant pas ensy ne se part
Car la moitié pert et sy vaut.

A free translation of the lines would be "this song does not go as it stands, for it loses the half, and this is its value."

By changing combinations of Θ , $\bigcirc$, and C , with coloration in all three mensurations, the anonymous composer has certainly devised a rhythmic complexity that makes the "diabolic song" of the text most

²⁵⁶Ibid., pp. 22-24, mm. 1-6 and 22-31.

appropriate. Except for the use of $\mathfrak{C}$, the only proportion involved is the possibility of performing per medium, a reduction by one-half of the primary mensurations of Θ and $\mathcal{O}$ to $\emptyset$ and $\emptyset$. One unique feature of Se j'ay perdu is the appearance of a colored long in one of the $\mathcal{O}$ sections. In no other piece in Ox in which the sign $\mathcal{O}$ is present is there a colored long.²⁵⁷ Its appearance is another indication that $\emptyset$ was intended.

The relationship between the notated Θ and $\mathfrak{C}$ in Se j'ay perdu is the normal one in which four minims or two semibreves in $\mathfrak{C}$ equal three minims or one semibreve in Θ . Furthermore, the relationship between $\mathfrak{C}$ and $\mathcal{O}$ is also the normal one of four semibreves or minims in $\mathfrak{C}$ to three semibreves or minims in $\mathcal{O}$. The difficulty is to show in modern notation that the piece should be sung per medium, or twice as fast as normal.

Reaney has transcribed Se j'ay perdu in "diminished equivalent,"²⁵⁸ in measures equivalent to two or occasionally three longs in $\mathfrak{C}$, using triplets for both Θ and $\mathcal{O}$. Thus he has shifted from Θ up to $\emptyset$, and from $\mathcal{O}$ up to $\emptyset$. This may be the best means of getting a readable modern score, even though it totally obscures the original method of notation and is misleading because his quarter note is, in reality, equal to a dotted quarter in the primary mensurations of Θ and $\mathcal{O}$. A more logical procedure would be to transcribe Θ in 9/16 and $\mathcal{O}$ in 3/8 or 6/8 according to the per medium of the canon. Such a

²⁵⁷See the transcription, *ibid.*, 4:16, cantus, m. 51, first note, which is followed by a colored breve.

²⁵⁸*Ibid.*, p. 13.

transcription will be suggested for a Dufay rondeau, Belle, veullies, No. 102, f. 50v, which has a mensuration sign of $\emptyset$.

Another solution would be to transcribe Se j'ay perdu as would normally be done for a piece in $\emptyset$ and $\emptyset$, but to indicate that the speed should be double that of normal $\emptyset$ or $\emptyset$. This method would make the piece seem very long, with text scattered thinly throughout, but it would show the constant changes of mensurations in each voice and the pervasive syncopation that give the piece an old-fashioned, late fourteenth-century appearance (Example 10).²⁵⁹

Example 10



The derivation of a tenor from a cantus voice in one of Dufay's

²⁵⁹ Compare Reaney, Early Fifteenth-Century Music, 4:13-14, mm. 4-7.

rondeaux has already been discussed.²⁶⁰ The second rondeau of Dufay to employ such a canon is No. 59, f. 34v, Bien veigné vous, amoureuse liesse, also in fascicle 2, and on the same page with the first rondeau. The two notated parts for Bien veigné vous are a cantus with text in tempus perfectum and minor prolation, but without mensuration sign, and a contratenor, which carries the mensuration sign $\emptyset$ and uses only longs, breves, and semibreves. The canon is written below the contratenor part, but applies to the cantus. It reads: Hunc discas morem, si vis cantare tenorem: Ut jacet attente, cantetur suo diapente, which may be translated "You may learn this way if you wish to sing the tenor: carefully as it lies, it is sung at the fifth." That is, the tenor is derived from the cantus, which part is to be sung in the written values (Ut jacet) but at the interval of a fifth (below). Left unmentioned by the canon is the mensuration in which the cantus is to be read and the relationship between the derived tenor and the notated contratenor. A transcription, however, reveals that the tenor, if it follows the Ut jacet of the canon, will sing in 0, but the cantus must be read in diminution or in $\emptyset$. The contratenor in $\emptyset$ is in duple proportion of semibreves to the 0 of the tenor. Thus both the cantus in $\emptyset$ and the contratenor in $\emptyset$ are in duple proportion to the tenor, which sings the notated primary mensuration of (0). The opening of this ingeniously constructed rondeau is given in Example 11.²⁶¹

Je ne puis plus ce que y'ai peu, No. 117, f. 55v, still another

²⁶⁰No. 60, f. 34v; see above, p. 241.

²⁶¹Compare with Besseler, Dufay, 6:69.

Example 11



Dufay rondeau, is unusual in several respects. In addition to the French text of the cantus, the tenor has a sacred, Latin text, Unde veni et auxilium mihi. Because of the polytextuality and the isorhythmic-like tenor, it has been suggested that the piece is a reversion to thirteenth-century motet style.²⁶² Both cantus and contra-tenor are notated in perfect tempus and imperfect prolation without mensuration signs. The tenor consists of a series of breves, one long, and one breve rest, in a segment of only fifteen breve values, with a repeat sign at the end. To this tenor is added a canon that reads: .1^o. in dupla. .2^o. in tripla. .3^o. in sextupla proportione. Thus the tenor must be sung three times, first in 2:1, then 3:1, and finally 6:1 proportions to the written values.

²⁶²Sylvia W. Kenney, Walter Frye and the Contenance Angloise (New Haven, Connecticut: Yale University Press, 1964), p. 176.

A transcription proves that in the first statement of the tenor a breve equals a breve of the cantus and contratenor. If the tenor is in duple proportion, however, the other two voices must also be duple or, in other words, in $\emptyset$. Both cantus and contratenor remain in $\emptyset$ throughout the rondeau, but the tenor's proportions are not in relation to their mensuration. Instead, in order to follow the canon the tenor must be read in relation to a theoretical 0 rather than to $\emptyset$:

	Relation of T to 0	Relation of T to C and Ct in $\emptyset$
<u>Dupla</u>	2 breves = 1 = ($\emptyset$)	1 breve = 1
<u>Tripla</u>	3 breves = 1	3 breves = 2
<u>Sextupla</u>	6 breves = 1	3 breves = 1

The canon only makes sense, therefore, in relation to 0. This is important for two reasons. First, it is an example of writing in the normal note values of 0 which must nevertheless be read in $\emptyset$. The cantus and contratenor use note values from breve to minim, with no coloration and the only longs being the final notes. The basic motion is about equally divided between breves, semibreves, and minims. Second, the proportions apply to a primary mensuration not even present in the piece, which is rare. The only similar example is Sarto's motet, Verbum Patris hodie, No. 13, f. 12v.²⁶³ The beginning of each tenor statement of Dufay's Je ne puis is transcribed in Example 12.²⁶⁴

²⁶³See above, p. 202.

²⁶⁴Compare Besseler, Dufay, 6:51. Above the second statement the cantus is missing a semibreve, which has been added as in Besseler's transcription.

Example 12

Charles Hamm does not discuss Dufay's Je ne puis but merely lists it in his Group 2b, dated about 1423-33. The distinguishing characteristics of his Group 2b are the use of O or C, breve-semibreve movement, no semiminims or a scattering of flagged semiminims.²⁶⁵ Now that it has been shown that the upper voices must be in $\emptyset$ and not O, the piece should be shifted to another of Hamm's groups.

Heinrich Bessler's transcription of Je ne puis is within his grouping of rondeaux in Tempus perfectum (vestustioris stili), or tempus perfectum older style, which he transcribed in 3/4 meter with bar lines drawn completely through the staves.²⁶⁶ It should now be changed to one of the two groups in Tempus perfectum diminutum.

²⁶⁵A Chronology of the Works of Guillaume Dufay, p. 35.

²⁶⁶Dufay, 6:51.

Among the rondeaux with multiple changes of mensuration and proportional signs, all but one of which are found in fascicles 7 and 8, is the anonymous Tant plus vous voy, tant plus me sambles belle, No. 292, f. 124. Like many of the rhythmically complex pieces, Tant plus has a tenor in one mensuration throughout, 2, 3. Cantus I and II have a wide variety of signs, however, almost none of which seem to be correct. For example, € and Ø evidently mean the same thing, but both signs are used with the usual meaning of Ø . The sign € is used only a few folios earlier in Cordier's Amans amés, No. 288, f. 123, with an organization of notes identical to € but producing units of $6/16$ meter, two of which are required to fill a tempus of normal € . In contrast, the organization of notes in € in Tant plus is II, 3, 2, in which breves are obviously perfect and semibreves imperfect.²⁶⁷ As a consequence, coloration in € is identical to passages in Ø with all notes in coloration which are therefore unnecessary and redundant.²⁶⁸

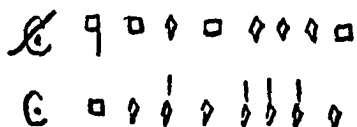
The single passage of Ø in Tant plus includes only six breves, which must fill the space of two tempora of 2, 3 in the tenor. It would be logical to assume that the reversed semicircle with slash had some relation to the frequently used reversed semicircle, but such is not the case, since the reversed semicircle with slash here places three breves to one in 2, 3, whereas the normal reversed semicircle places two breves to one. A second assumption is that Ø could mean a

²⁶⁷See Reaney's transcription, Early Fifteenth-Century Music, 4:23, mm. 1-7, cantus I.

²⁶⁸Ibid., compare mm. 3 and 26-27, cantus I, with mm. 12 and 14-15, cantus II.

simple proportio dupla, by the reasoning that if $\text{♩} = \text{♩}$, then $\text{♩} = \text{♩}$, and this is what it proves to be.

Two short passages ruled by the proportional sign 2 appear in cantus II. The first has three semibreves, the second, one semibreve followed by two minims and one more semibreve. In transcription, each passage must fit into a single tempus of 2, 3 in the tenor. Consequently, the use of a 2 sign instead of coloration is completely inapplicable. One might suggest that a Latin canon was once attached to Tant plus but did not get copied in Ox. Half of all the canons in Ox are found in the oldest fascicles 5-8, and Tant plus appears in fascicle 8. The two pieces following Tant plus have canons that indicate Fugae, and the first is directly below on the same page. It may be, however, that the piece represents a transitional stage in the introduction of duple proportions, for it illustrates the problems composers met when they tried to write perfect mensurations in the next higher note values. If a composer were attempting to write the normal rhythms of ♩ in augmented note values under the sign ♩ , the result would be exactly as found in Tant plus:



This replacement means that imperfect time and major prolation in ♩ become imperfect mode and perfect time in ♩ . Thus far, no other examples of ♩ used in this manner have been found in earlier manuscripts, and Tant plus is the only example in Ox. Later composers came to use 02

with the same kind of shift, from perfect time with minor prolation to perfect mode with imperfect time, but only one example of this shift is found in Ox.²⁶⁹

Whatever is the correct answer to the riddle of Tant plus, Reaney's comment that the piece suggests Cordier simply cannot go unchallenged. He states, "It has many of the same unusual mensuration signs as Cordier's Amans, amés, which is only two pages earlier in the manuscript."²⁷⁰ All of the signs in Cordier's piece, however, have their normal meaning and are used in a perfectly clear and logical way. The difference in the treatment of the signs in the two pieces would seem to deny, rather than suggest, Cordier's authorship of Tant plus.

The one rondeau with multiple changes of mensuration and proportional signs not in the older fascicles of Ox is Je suy exent entre aman pour amour, No. 121, f. 57, by Hugo de Lantins. Quite unusually, Je suy exent takes the entire page of f. 57, which is the opening of fascicle 4. This rondeau refrain is well known because of its facsimile reproduction in Apel's text and his discussion of it.²⁷¹ There seems to be confusion about the signs in Je suy exent, but it is not as great as in Tant plus nor as Apel makes out in his discussion. Reference may be made to the transcription by Van den Borren, which is correct except for the last two measures of the cantus.²⁷² The

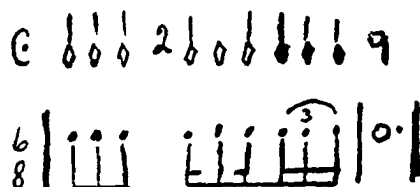
²⁶⁹No. 287, f. 123, Ma douce amour, by Hasprois; see above, p. 221.

²⁷⁰Early Fifteenth-Century Music, 4:xiv.

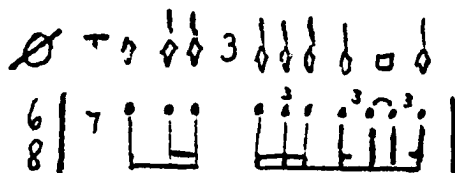
²⁷¹The Notation..., p. 177, and Die Notation..., p. 192.

²⁷²Pièces polyphoniques, No. 26, p. 53.

penultimate measure includes a brief section in 2 which, within a basic mensuration of 0 in the tenor, or even following the ϵ of the same voice, produces one tempus value of $\emptyset$. One of the three semibreve values in the passage is replaced by three colored minims. The final two measures in the cantus should be transcribed as follows:²⁷³



The proportion sign 3, which appears in the cantus near the beginning of Je suy exent, functions normally, as Apel explains, to replace two minims in $\emptyset$ by three.²⁷⁴ The section of sesquialtera not transcribed by Apel is the most interesting, because it includes a breve that has been imperfected a parte ante by four minims and a parte post by one, thereby leaving that breve with its irreducible minimum value of four minims:²⁷⁵



²⁷³Compare *ibid.*, p. 54, mm. 43-44.

²⁷⁴The Notation..., p. 178, and transcription, beginning m. 3.

²⁷⁵In Borren's transcription, Pièces polyphoniques, p. 53, contratenor, mm. 15-16.

Difficulties in the notation of Je suy exent appear with the successive use of the signs $\circ$, ϵ , and $\supset$ following $\emptyset$. The entire passage has been transcribed in Example 13 below, which is essentially the same as Apel's transcription.²⁷⁶ The first reversed semicircle is correctly used in relation to the basic $\emptyset$ mensuration:

$\supset$		$\emptyset$
2 longs	=	1 long
2 breves	=	1 breve
4 semibreves	=	3 semibreves
(8 minims	=	6 minims) - not used here

The normal relationship between $\supset$ and the four primary mensurations is 4:3 minims, but in the augmented writing of $\emptyset$ the relationship is 4:3 semibreves. When the ϵ occurs in measure three of the example, it is obviously a mistake in relation to the $\emptyset$ mensuration, because one breve in ϵ should equal two in $\emptyset$. The relationship to the previous $\supset$ is correct, however, because 6 minims in ϵ replace 4 semibreves, the equivalent of 8 minims in $\supset$. Thus the effect of the signs is cumulative, and, as Apel suggests, they were to be understood as subject to the diminution indicated by the basic mensuration of $\emptyset$.²⁷⁷

The second $\supset$ sign, in measure 5 of the example, is wrong in every respect, however. In relation to the preceding ϵ , it replaces six minims with eight semibreves instead of minims, and it has eight semibreves to four in the preceding passage in $\supset$. Finally, in

²⁷⁶The Notation..., p. 179, transcription (b).

²⁷⁷Ibid.

relation to the basic mensuration of $\emptyset$, it has eight semibreves to three and is in duple proportion to $\textcircled{3}$ in the tenor. Obviously the note values in the cantus are augmented one step further than the augmentation of the previous $\textcircled{3}$, and just as obviously the second $\textcircled{3}$ should have been $\textcircled{3}$, as was pointed out long ago by Van den Borren (Example 13).²⁷⁸

²⁷⁸Pièces polyphoniques, p. 53, n. (1).

Example 13

Handwritten musical score for Example 13, consisting of two systems of three staves each. The notation is in a single system, with the first system spanning the first three staves and the second system spanning the next three staves. The notation includes various musical symbols such as notes, rests, and accidentals, with some handwritten annotations above the staves.

The first system (top three staves) shows a melodic line in the first staff, a bass line in the second staff, and a third staff with a treble clef and a key signature of one flat. The second system (bottom three staves) continues the melodic line in the first staff, the bass line in the second staff, and the third staff with a treble clef and a key signature of one flat. The notation includes various musical symbols such as notes, rests, and accidentals, with some handwritten annotations above the staves.

Chansons

Reaney classifies two pieces as chansons because they do not have the musical form of a ballade, rondeau, or virelai. Both have poetic forms that could be classified as ballades, however. The first is Tres douchement et soutiement, No. 94, f. 47v, by Grossim, which has three stanzas of twelve lines each, with the final line a refrain. Each line has four syllables, and the rhyme scheme is a a b a a b b b a b b A. Each stanza is set as a separate section with no internal repeats, and with different mensurations: (C), 0, and 3. Because of the simultaneous use of these signs in all voices, and the resulting problem of temporal relationships between sections, a complete discussion of the notation will be delayed until Chapter VI.

The second "chanson," the anonymous N'a pas long temps que trouvoy Zephirus, No. 203, f. 91, has only one stanza, of which the last line is presumably a refrain. It would then be a normal ballade with the rhyme scheme a b a b b c c d c D. The musical setting is continuous, however, and lacks the usual repeats of ballade form. Neither of the two voices, cantus and tenor, carries a mensuration sign. Although the tenor moves in breves and semibreves, the cantus is about evenly divided between breves, semibreves, and minims. Both voices have frequent three-breve coloration passages. Reaney has transcribed it in "diminished equivalent," and it certainly has all the features of ϕ .²⁷⁹

²⁷⁹Early Fifteenth-Century Music, 4:68. The transcription in Spurbeck, "Study of the Canonici Manuscript." p. 236, is mistitled Il 'a pas long temps.

Latin Laude

In his catalog of Ox, Reaney has classified three pieces with Latin texts as laude, probably because of their relationship to ballata or virelai form. The complete text of the first, No. 15, f. 15v, by P. del Zocholo de Portunaonis, is Verbum caro factum est de Virgine Maria, which is placed under the top voice, accompanied by a textless tenor. The entire piece consists of only seven tempora, plus finalis, in perfect time and imperfect prolation.²⁸⁰ This text proves to be the refrain of another Verbum caro factum est, No. 16, f. 16v, without attribution to a composer. The three notated voices are cantus, tenor, and contratenor, all with the same text, but the contratenor does not seem to fit with the other two voices, although it is of the same length.²⁸¹ In any case, the mensuration of the three voices in No. 16 is again perfect time and imperfect prolation, with no coloration. Bukofzer noted that the melody in the tenor, with the form A b c a A, is somewhat like a virelai and that the first four measures of the tenor of No. 16 and the cantus of No. 15 are the same.²⁸²

The third lauda is Arnold de Lantins' In tua memoria, virgo mater nata, No. 109, f. 52v. It is again for three voices, all with the text, in virelai form, and in (0) mensuration. The only indication

²⁸⁰See Borren, Polyphonia Sacra, No. 49, p. 290.

²⁸¹Ibid., No. 49^{ter}, p. 291.

²⁸²Manfred F. Bukofzer, Studies in Medieval and Renaissance Music (New York: W. W. Norton & Company, 1950), p. 149, n. 59. See also Dom Anselm Hughes, "In hoc anni circulo," Musical Quarterly 110 (1974):37-45.

of a relatively late date for this piece is the use of two pairs of flagged semiminims and one group of three black minims.²⁸³

Two other pieces in Ox may have some relationship to the lauda: No. 67, f. 37, Pulcra, speciosa et decora; and No. 150, f. 71, Vivere et recte. Both are by Brollo, both have a mixture of Latin and Italian texts, and both are in ballata form. They will be discussed with the other ballatas.

Pieces with Italian Texts

In contrast to the many French secular songs, pieces with Italian texts are few in number. They total 25, only 7.66 percent of the contents in Ox. Dufay's Vergene bella, No. 312, f. 113v, and Quel fronte, No. 156, f. 73, have already been discussed. A third piece, No. 39, f. 26, Mirar non posso ni conçerner, by Hugo de Lantins, is listed by Reaney as an Italian ballata refrain. Pirrota, however, has argued rather convincingly that it is a rondeau refrain.²⁸⁴ The remaining 22 pieces are ballatas or ballata refrains. There are four in fascicles 6 and 8, the oldest fascicles, and six in the slightly later fascicles 9 and 10. Twelve are found in the most recent fascicles, 2-4; but this may be misleading, since six of them appear on folios inserted in a fascicle that may belong to a slightly earlier period. For example, the ballata Per amor, No. 32, by Hugo de Lantins, begins on f. 22 of fascicle 2, and Schoop has noted that folios 22-29,

²⁸³See the transcription in Borren, Polyphonia Sacra, No. 42, p. 267, especially mm. 23 and 21, respectively.

²⁸⁴"On Text Forms," p. 675.

with pieces 32 through 45, appear to have been inserted in the fascicle.²⁸⁵

All but one of the ballatas are attributed to 11 different composers,²⁸⁶ and all are found only in Ox. Only one ballata has a canon. Fourteen of the twenty-two are entirely in one mensuration. Of these, six are in the category of pieces without mensuration signs that may be read in either 0 or Ø. It appears that four were intended to be in Ø, whereas two lack distinctive features that would place them securely in either 0 or Ø. They are, therefore, labelled "Transitional" in the following list:

1.	No. 32,	(2) f. 22	Hugo de Lantins.	(Ø)
2.	No. 34,	(2) f. 23v	Antonius Romanus.	(Ø)
3.	No. 45,	(2) f. 29v	Hugo de Lantins.	(Ø)
4.	No. 67,	(3) f. 37	Brollo.	Transitional
5.	No. 150,	(4) f. 71	Brollo.	Transitional
6.	No. 299,	(8) f. 125v	N. Zacharie.	(Ø)

The only Italian ballata with a canon is 0 dolce compagno, se tu voy cantare, No. 316, f. 135, from fascicle 10.²⁸⁷ It is for a cantus with a text that is itself a puzzle canon, and an untexted voice labelled contratenor. Following the incipit under the contratenor voice is a canon: Dicitur eundo et redeundo (to be sung going forward and backward). The contratenor has notes to the value of only 20 breves in (C). To match the 40 breves in C of the cantus, the

²⁸⁵Entstehung und Verwendung, pp. 26-27.

²⁸⁶The anonymous ballata is No. 302, f. 127, Biancha nel bruno. It will be discussed below in connection with duple proportion in Ø.

²⁸⁷See the facsimiles in Stainer, Dufay, Plate VIII (with inaccurate transcription, p. 160) and Apel, The Notation..., p. 143.

contratenor must be sung through to the end and then backward to the beginning. The cantus is to be sung by two singers, one singing straight through as written. The other singer is directed by the text to begin at the end of the cantus and sing backward to the beginning. Although all of this works out, as Riemann showed long ago,²⁸⁸ it still creates a few awkward parallel fourths and fifths.

Of the seven ballatas in fascicle 2, considered one of the latest in Ox, only No. 27, f. 20v, I pensieri dolce amor fanno dolere, by Prepositi Brisiensis, appears outside the inserted folios. It is for two voices, both with text and both carrying the sign O at the beginning. Yet for O mensuration, the piece has an unusual mixture of small note values. Ten flagged semiminims (♩) are used successively in the top voice at the end of the first line of text. Just before the end of the first section, three colored minims (♩) are used in place of one void minim, an unusual relationship found in only two other pieces.²⁸⁹ Probably these minims should have had flags in all three pieces. Colored minims are correctly used in their normal meaning of a 3:2 proportion in the first and second endings of the second section.

Almost none of the Italian ballatas are as complicated as several of the rondeaux, which have frequent changes of mensuration in all voices, proportional signs, and other subtle rhythmic devices.

²⁸⁸"Zwei falsch gelöste Kanons in Stainer's 'Dufay'," p. 467.

²⁸⁹No. 54, f. 33, Sans oublier, by Johannes Franchois; see Borren, Pièces polyphoniques, No. 33, p. 72, m. 7; and No. 108, f. 52, Amour servir, in (C), by Arnold de Lantins; see *ibid.*, No. 3, p. 14, m. 6.

Although most of the ballatas remain in one mensuration in all voices, No. 237, f. 100v, Nuda non era presto altro vestito, by Antonius Zachara, places € in the cantus against O in the tenor from beginning to end. Neither voice uses coloration, which is not surprising, since coloration in € is the same as O.

Eight ballatas have perfect prolation, only one of them in Ø, and thirteen have imperfect prolation, including Nuda non, which, as mentioned above, has a tenor in O. One piece can be placed in neither category, because it is made up about half and half of € and C, all voices changing at the same time from perfect to imperfect prolation. The most frequently found proportion sign is the reversed semicircle, which is used for short passages in four ballatas.²⁹⁰ Other proportion signs include 3 in two pieces,²⁹¹ and 2 in one piece.²⁹² Except for the sign 3 in Tra quante, all of these proportional indications function in their normal manner, as will be discussed in Chapter V.

Tra quante regione el sol si mobeles, No. 66, f. 36v, by Hugo de Lantins, is the most problematic of all the ballatas. The music is clearly divided in three sections with the form A b b c and no indication that the refrain is to be repeated. The cantus and tenor are complete, but the contratenor was copied through the first and second sections only. As the staves for the rest of the contratenor remain

²⁹⁰No. 36, f. 24v (in €), No. 302, f. 127 (in Ø), No. 315, f. 135 (in Ø), and No. 320, f. 137v (in €).

²⁹¹No. 66, f. 36v (in C), and No. 313, f. 133 (in O).

²⁹²No. 302, f. 127 (in Ø).

blank, Van den Borren has suggested that the scribe stopped copying because the original was so incorrect.²⁹³ There are indeed, numerous minor mistakes in the other voices as well, the greatest difficulty, however, comes in deciding whether Lantins or the scribe really intended to use the mensuration signs that are present. The piece begins without signs in tempus perfectum with prolatio imperfecta. All voices change to C at the beginning of the second section and the cantus later changes to 3. At the beginning of the third section, the tenor and cantus change to O, and the contratenor ceases. Two more changes, to E and back to O, are made in the tenor during the third section. The cantus apparently does not change because all its values can be read correctly in O.

The changes in the last part of the ballata would cause little or no difficulty, if the movement of the voices, particularly in the first two sections, were not all in large note values. In other words, the first section appears to be in $\emptyset$ rather than O, and the second section in $\emptyset$ rather than the notated C. The last section could be read as notated or in diminution. Giving support to the premise that at least the second section should be read in diminished values is the way in which the 3:2 proportion is used. No notes of minim value are found in C or in 3; therefore, the 3 obviously applies to a higher level of notes. In all other pieces in Ox when 3 is used with C, the proportion is 3:2 on the minim level, creating an organization of E in the time of C. The same organization is used in Tra quante, but on a

²⁹³Pièces polyphoniques, p. 69, n.

higher level of notes, so that the passage in 3 is organized as II, 3. Thus a perfect breve in 3 equals an imperfect breve in C, and the 3:2 proportion is on the semibreve level. Coloration at the beginning of the 3 passage produces a 3:2 proportion of breves. Proportions at these levels suggest that the section written in C was meant to be in $\emptyset$.

The complexity of Lantini's ballata, Tra quante, should be kept in perspective. Most of the other 21 ballatas are much simpler and remain in one mensuration throughout, with only an occasional use of proportional signs.

The previous discussion has considered the pieces as various species in the order of their appearance in the different fascicles of Ox. Emphasis has been placed especially on canonic instructions that indicate either a musical canon or the use of proportions and on the ambiguity of perfect tempus and minor prolation that may be read in either O or $\emptyset$. Only pieces with special problems of notation have received individual attention. It will be the burden of the following chapter to present an over-all view of the normal notation found in Ox, and to describe the use of coloration, semiminims, and proportions without canons in the different mensurations.

CHAPTER V

THE NOTATION OF PRIMARY MENSURATIONS

AND PROPORTIONS IN OXFORD,

CANONICI MISC. 213

Pieces with no proportional signs and no changes from one mensuration to another constitute 77.30 percent of the 326 compositions in the Oxford manuscript (Ox). Such pieces, therefore, must be regarded as standard for early fifteenth-century composition rather than the flamboyant, polyrhythmic pieces, as Hamm suggests.¹ Nevertheless, proportional signs are used in two or more pieces in every fascicle except the fifth. More than the standard pieces, it is those with proportional signs and mixed mensurations that tend to give some indication of an evolution of notational practice within the manuscript.

It has already been shown that the number of fourteenth-century secular chansons in perfect prolation is slightly less than the number in imperfect prolation.² In the Turin manuscript (Tu B), however, pieces with perfect prolation outnumber those with imperfect by

¹Charles Hamm, A Chronology of the Works of Guillaume Dufay Based on a Study of Mensural Practice (Princeton, New Jersey, 1964), p. 23.

²See above, pp. 64-65 and Table 1.

126 to 38.³ In Ox, 147 secular songs are in perfect, 90 in imperfect, and three have an equal mixture of both. As in Tu B, then, 6 continued to be the most popular mensuration for secular songs in Ox.

A tabulation of the basic mensurations of all the works in Ox reveals an almost equal division of pieces in perfect and imperfect prolation. Nevertheless, there is a distinct shift from perfect prolation in the earliest fascicles 5-8 to a majority of pieces in imperfect prolation in the latest. The only exception to this shift is found in fascicle 2, in which almost half of the pieces are in perfect prolation. It may also be noted that mixed mensurations and proportions are more frequent in the earlier fascicles than the later.

To show more graphically the distribution of mensurations in Ox, the number of pieces in each mensuration is given for each fascicle in Table 7. All pieces in 0, 6, and C, with or without the mensuration signs in the music, are included in the first columns. Only pieces with a mensuration sign of 0 and ø are included in those columns, and the pieces in perfect tempus and minor prolation without signs are listed under the column of (0) or (ø). The column labelled "Mixed" includes those pieces that introduce two or more of the four primary mensurations. The last column includes all pieces with one or more proportional signs, regardless of their basic mensuration or mensurations.

³See above, pp. 116-17 and Table 4.

TABLE 7

MENSURATION OF PIECES IN DIFFERENT FASCICLES IN OX

Fascicle	No. of Pieces	θ (θ)	ε (ε)	ζ (ζ)	0	φ (φ) or (O)	Mixed	Prop. Signs
1	16					2 9	1	4
2	44		21	3	2	12	1	5
3	60	2	21	1	1	26	3	6
4	58		12	3	3	30	7	3
5	24		19	1		4		
6	36		26	3		3	2	2
7	25		7	2	1	3	6	6
8	38		16		1	5	1	15
9	13		2			5	1	5
10	12	1	2	1		2	2	4
TOTALS	326	3	126	14	8	2 99	24	50

In order to show even more clearly the changes in the use of perfect and imperfect prolation, of mixed mensurations and of pieces with proportional signs, the numbers in Table 7 have been converted into percentages in Table 8.

TABLE 8
PERCENTAGES OF MENSURATIONS IN DIFFERENT FASCICLES

Fascicle	Perfect Prolation	Imperfect Prolation	Mixed	Prop. Signs
1		68.75	6.25	25.00
2	47.73	38.64	2.27	11.36
3	38.33	46.67	5.00	10.00
4	20.69	62.07	12.07	5.17
5	79.17	20.83		
6	72.22	16.66	5.56	5.56
7	28.00	24.00	24.00	24.00
8	42.11	15.79	2.63	39.47
9	15.39	38.46	7.69	38.46
10	25.00	25.00	16.67	33.33
TOTALS	39.57	37.73	7.36	15.34

Discussion of the mensurations and proportions found in Ox has been organized according to the following outline:

I. The four primary mensurations

A. Perfect prolation

1. $\emptyset$

2. ϵ

B. Imperfect Prolation

1. $\mathcal{C}$

2. $\mathcal{O}$

II. Proportion signs

A. Vertical or oblique stroke (virgule) cutting the signature

1. ϕ

2. C

3. C

4. C

B. The reversed semicircle

1. C

2. C

C. Numerals

1. Proportio dupla

a. 2

2. Proportio sesquialtera

a. 3

b. $\frac{3}{2}$

c. 6

d. $\frac{6}{4}$

3. Proportio tripla

a. 03

b. 03

The outline and the following discussion do not include any signs of which the meaning -- normal or abnormal -- is determined by a Latin canon, because these signs have been discussed in the previous chapter. A few signs found in Ox do not appear in the above list:

(1) The signs C and 02 appear as initial signs in the contratenor and cantus of Cordier's rondeau, Pour le deffault, No. 248, f. 108v, but are not distinctive mensuration signs. The reversed semicircle and the 2 simply indicate short proportional passages within the basic mensurations.

(2) The sign C_2^3 , which appears in the cantus of the anonymous rondeau refrain, Toute bialté et toute honneur, No. 286, f. 122v, is also not a distinctive signature, but rather a 3:2 proportion within the basic mensuration of C .

(3) The sign J appears in the anonymous rondeau, Tant plus vous voy, No. 292, f. 124, but is used with the same meaning as C .

As may be seen from the previous outline, the number of different proportional signs in Ox is not large. In addition to the four primary mensurations and $\emptyset$, only twelve other signs are used. They occur in 50 different pieces, 21 of which use more than one sign. As might be expected, the older fascicles of Ox preserve a majority of the pieces with proportional signs. The most frequently used sign is the reversed semicircle, which appears in 26 pieces, distributed throughout the manuscript. Next in order of frequency are the numerals 2 and 3. One of the pleasant aspects of the Oxford manuscript, in contrast to the mannered notation of the late fourteenth century, is the usually consistent meaning of mensural and proportional signs.

The Four Primary Mensurations

Pieces in perfect time and prolation, $\emptyset$, are remarkably rare in Ox. This mensuration is indicated in the tenor and contratenor of Dufay's isorhythmic motet, O sancte Sebastiane, No. 51, f. 31v, in the rondeau, Se j'ay perdu, No. 266, f. 114, and in Cordier's rondeau, Amans, amés, No. 288, f. 123, where it appears with the other three primary mensuration signs and several proportional signs that give this piece its special fame. The Bononia Italian ballata, Vince con lena,

No. 315, f. 135, is mostly in Θ , with passages in $\mathcal{O}$ and some sections in ϵ . In the Bononia Gloria, No. 317, f. 235v, which is a parody of Vince con lena, all voices begin without mensuration signs. The cantus and contratenor seem to mix (ϵ) and (Θ). Both have the sign ϵ after two short passages in $\mathcal{O}$. The tenor has a long-breve ligature in coloration which lasts a total of 18 minims, whereas in ϵ the two notes would have the value of only 12 minims. However, a colored long is never used in ϵ mensuration in Ox, as has already been pointed out.⁴ Therefore the tenor must be in (Θ), as it is marked in the original index.⁵

The last piece in which the mensuration sign appears is Dufay's Ma belle dame, je vous pri, No. 323, f. 139v. Only the top voice has the indication Θ , but the two lower voices must be read in the same mensuration. Therefore, Besseler's transcription of the lower voices in $3/4$ meter with triplets and the top voice in $9/8$ is without virtue.⁶ By this method, the cantus appears to be in a different mensuration from the tenor and contratenor, which is simply not the case.

Finally, two rondeaux are in (Θ) throughout but have no mensuration sign. The first is Brollo's Entrepris suis par grant lyesse, No. 73, f. 39v. The style is extremely simple; only breves, semi-breves, and minims are used, without a single group of coloration. The

⁴See above, p. 152.

⁵See Charles van den Borren, ed., Polyphonia Sacra, A Continental Miscellany of the Fifteenth Century (University Park, Penn., 1963), No. 6, p. 37.

⁶Heinrich Besseler, ed., Guillelmi Dufay, Opera Omnia (Roma, 1951-66), 6:53.

piece was evidently popular, since it found its way into two later manuscripts, the Buxheimer Orgelbuch⁷ and the Glogauer Liederbuch.⁸ In both of these versions, the major prolation is reduced to minor.⁹

The second rondeau in (9) in all voices is Hugo de Lantins' Ce j'eusse fait ce que je pence, No. 90, f. 46. Also rather simple rhythmically, the piece does include both longs and breves in coloration. Apel has pointed out some interesting applications of imperfection, such as the three passages in the cantus in which a breve is imperfected by a preceding semibreve and a following minim. In addition, the contratenor has one passage in which a long is imperfected by a preceding as well as a following semibreve, a device more

⁷See the facsimile in Bertha Antonia Wallner, ed., Das Buxheimer Orgelbuch, Handschrift mus. 3725 der Bayerischen Staatsbibliothek, München (Internationale Gesellschaft Für Musikwissenschaft; Documenta Musicologica, Zweita Reihe; Handschriften-Faksimiles, 1; Kassel: Bärenreiter, 1955), No. 106; and transcription in Bertha Antonia Wallner, ed., Das Buxheimer Orgelbuch, 3 vols. (Das Erbe deutscher Musik, Bds. 37-9; Abteilung Mittelalter, Bds. 7-9; New York: Bärenreiter, 1958-59), 38:144.

⁸See Heribert Ringmann, ed., Das Glogauer Liederbuch, 2 vols. (Das Erbe deutscher Musik, Bd. 4, 8; Abteilung Mittelalter, Bd. 1, 3; Wiesbaden, 1936-37; reprint ed., Kassel: Bärenreiter, 1954), 1:80.

⁹As noted by Gilbert Reaney, "The Italian Contribution to the Manuscript Oxford, Bodleian Library, Canonici Misc. 213," in L'Ars Nova Italiana del Trecento (Secondo Convegno Internazionale 17-22 luglio 1969 sotto il patrocinio della Società Internazionale di Musicologia, vol. 3; Certaldo: Centro di Studi sull' Ars Nova Italiana del Trecento, [1970]):451.

frequently found on the minim-breve-minim level.¹⁰ It was the fate of Ce j'eusse fait to be chosen as the first piece to be published as a computer printed copy of the manuscript.¹¹

Just as both the mensuration and the sign @ are rare, so are uses of the sign with proportional indications. Besides short passages in @, Cordier's Amans, amés, No. 288, f. 123, includes one passage of tripla by the sign @3 and one passage of dupla by the figure 2 in @. In Dufay's rondeau, Belle, veullies moy retenir, No. 102, f. 50v, the cantus carries the sign @, and the same sign is used in Velut's ballade, Laissies ester, No. 236, f. 100. All of these proportional forms of @ will be discussed later.

In contrast to the rarity of @ mensuration, more than half of the pieces in Ox make use of @ mensuration, 178, or 54.6 percent, of the 326 total. Of the 178 pieces, 126 maintain the mensuration throughout. The remaining 52 combine @ with other mensurations or proportions. As Table 7 showed, more pieces in @ throughout are found in the older fascicles than in the most recent, but a good many appear in every fascicle except the first. Little need be said about the normal use of

¹⁰See the facsimiles in Willi Apel, The Notation of Polyphonic Music 900-1600 (5th ed., Cambridge, Mass., 1953), p. 141, and in Willi Apel, Die Notation der polyphonen Musik 900-1600 (Leipzig, 1970), p. 151. Apel's complete transcription may be found in Archibald T. Davison and Willi Apel, eds., Historical Anthology of Music (Cambridge, Mass., 1949), 1:76. Also see Charles van den Borren, ed., Pièces polyphoniques profanes de provenance liégeoise (Brussels, 1950), p. 46. Imperfection in the cantus may be seen in mm. 7, 8, and 14, and in the contratenor, mm. 32-33.

¹¹See Norbert Böker-Heil, "Weisse Mensuralnotation als Computer-Input und -Output," Acta Musicologica 43 (Jan.-Juni 1971):32.

€ mensuration except that the later composers in Ox tend to abandon the complexities of late fourteenth-century mannered style, such as displacement syncopation, and return to a notational simplicity that scarcely differs from that of Philippe de Vitry and Guillaume Machaut.

It should be emphasized that the mensuration was so common and so easily identified that the sign € was rarely used except to show a return from another mensuration or proportion. Only one of the 126 pieces in € throughout has the sign at the beginning, Dufay's Ce jour de l'an voudray joye mener, No. 17, f. 17, a three-voice rondeau with text in all voices.¹² No reasonable explanation can be offered for this piece's being so singularly honored by the inclusion of mensuration signs in all three voices. It is the first composition in fascicle 2, but being the first composition within a fascicle has nothing to do with the use of signs, since only half of the pieces opening the ten fascicles of Ox have initial mensuration signs. The notation and resulting rhythms of Ce jour are extremely simple and regular. A breve-semibreve coloration group is used only once, and there are no semiminims. Probably because all voices sing the same text, the semi-breve-minim motion of the cantus is matched in tenor and contratenor. When the two lower voices do not carry text, they generally move in slightly larger note values. With its lilting 6/8 melody, Ce jour is typical of chansons written in the second and third decades of the fifteenth century.

¹²See the facsimile in John Stainer, J. F. R. Stainer, and C. Stainer, eds., Dufay and His Contemporaries (Amsterdam, 1963), Plate I, and transcription, p. 102; also see Besseler, Dufay, 6:58.

In contrast to the frequent use of C, imperfect time with minor prolation is relatively rare in Ox. The 45 pieces in C, with or without the mensuration sign, represent only 13.8 percent of the total. Of these 45, only 14 are in C throughout, and only 6 have the sign given. The notation of C is the simplest and least complicated of the four primary mensurations because all notes are duple values, so that the rules of imperfection and alteration do not apply. Coloration and semiminims are rarely used in C. Because the breve value of four minims is the shortest tempus of the four primary mensuration, pieces in C require a large number of bar lines if transcribed one breve per measure. Consequently, some scholars transcribe in measures equivalent to two breves or an imperfect modus of C.¹³ Usually there is no difficulty as long as the modern equivalent of the original note values is indicated and as long as the minims of all the primary mensurations have the same value in modern transcription.

After imperfect time with major prolation, the next most commonly used mensuration throughout the manuscript is perfect time with minor prolation. This mensuration is found in 149 or 45.7 percent of the 326 pieces. Of the 149 pieces, 107 maintain the mensuration throughout, but only 8 have the sign O in the manuscript. The remaining 42 combine O with other mensurations or proportions.¹⁴

Three points need to be stressed about O mensuration. The

¹³Heinrich Bessler occasionally uses both 4/4 and 2/4 meters, with alternating broken and solid bar lines; see Dufay, 6:3.

¹⁴Not included in this number is the passage of O which is to be read in 3:2 by canon in Lebertoul's ballade, Depuis un peu, No. 285, f. 122, discussed above, p. 220.

first is that, as in C, semiminims are infrequently used. In the older fascicles 5-10, only two pieces have any. One is the Gloria, No. 133, f. 64, by Arnold de Lantins, which has exactly two flagged semiminims, and the other is a rondeau, Quel fronte, No. 156, f. 73, by Dufay, which has six semiminims in the cantus and six in the contratenor. In the contrafactum of No. 156, Craindre vous vueil, No. 4, f. 5, the flagged semiminims have become black semiminims, and the mensuration signs are lacking. The other pieces in O which have semiminims occur in fascicles 1 and 2. Two pieces have only two flagged semiminims each, two pieces have four each, one has ten.¹⁵ Only the Binchois Gloria, which opens fascicle 1, has a large number of flagged semiminims, 21 in the cantus and 10 in the contratenor, scattered over six different sections in O. If fascicles 1 and 2 are, indeed, the most recent fascicles, the use of flagged semiminims in O is surely one of the late developments in that mensuration.

A second important point about O mensuration involves the use of coloration. Although discussed more thoroughly later on, it should be noted here that only one of the fifty pieces in which the sign O appears has colored longs. It is an unusual piece and clearly seems to demand a reading in diminution.¹⁶

The third important point about O mensuration is that the texted voice or voices normally move in semibreves and minims, or in

¹⁵ The pieces are: No. 2, f. 2v, and No. 12, f. 11v, with two each; No. 13, f. 12v, and No. 14, f. 13v, with four each; and No. 27, f. 20v, with ten.

¹⁶ See the anonymous rondeau, Se j'ay perdu, No. 266, f. 114, discussed above, pp. 244-246 and Example 10.

breves, semibreves, and minims, with approximately equal numbers of each note value. The motion of contratenors may be identical or slightly slower. Untexted tenors move mostly in breves and semibreves and occasionally in even longer note values.

These three points, the relative rarity of semiminims, the rare use of longs in coloration, and the usual motion of voices, are significant when attempting to determine whether pieces in perfect tempus and minor prolation without mensuration signs are in O or $\emptyset$.

In all of the compositions in Ox in which two or more of the primary mensurations are used together, minims are invariably equal unless canonic instruction directs otherwise. This equivalence of minims is not new in fifteenth-century music. With few exceptions, it is true of the earliest fourteenth-century music in which more than one of the primary mensurations occur simultaneously.

Semiminims

Throughout the fourteenth century, as a rule, minims were the smallest note value in music of French provenance. In the second half of the century, however, semiminims (minims with flags, ) were commonly used in Italian notation. Mannered notation, particularly in the Chantilly MS (Ch), used a great variety of note shapes to produce different proportional values smaller than a minim. Flagged semiminims with the normal meaning of a 2:1 relation to the minim appear in the Modena MS (Mod), but chiefly in the works of Italian composers who are now setting French secular texts. The increasing use of semiminims in the secular songs in the Turin MS (Tu B) has already been

noted. The use of semiminims in different fascicles and in the different mensurations of Ox therefore becomes a matter of considerable interest. Two different shapes are found in the repertory of Ox, the older flagged semiminim now in white notation () and the minim shape with a black notehead (). Flagged semiminims appear throughout the manuscript, but black semiminims are found only in the most recent fascicles 1-4 and only in the imperfect prolations of O or Ø, with the single exception of a *Vide rondeau*, No. 31, f. 21v, in (E). Both flagged and black semiminims have the normal 2:1 relation to the minim. It is necessary to distinguish between black semiminims and colored minims, which are often used in coloration groupings, particularly in E, with the same value as the void minim. It should also be noted that these groupings frequently introduce colored flagged semiminims, again with no change of note value. As will be seen later, colored minims may also introduce a 3:2 proportion.

The only semiminims in Ø mensuration in Ox occur in Bononia's Italian ballata, Vince con lena, No. 315, f. 135, and in his parody, Gloria, No. 317, f. 135. The large number of semiminims in the piece may well reflect Bononia's Italian origin.

In E mensuration, only 45 of the 178 pieces do not use void flagged semiminims (). Even so, four of these 45 have flagged semiminims () in coloration groups. Of these four, three are by Pierre

Fontaine,¹⁷ and one by the composer known only by the initials, P. J.¹⁸ Twenty-seven other pieces have both white void and colored flagged semiminims. The only piece in ϵ that has black semiminims ($\blacklozenge$) is Vide's rondeau, Vit encore ce faux dangier, No. 31, f. 21v, which has one pair in place of a minim in the cantus.¹⁹ A few unusual uses of semiminims should be mentioned. In No. 97, f. 49, Malbecque's Ouvrés vostre huys, the cantus has three groups of three colored flagged semiminims ($\blacklozenge$), which take the place of two normal semiminims.²⁰ Voice flagged semiminims ($\blacklozenge$) produce the same result in an anonymous ballade, De tous les biens, No. 246, f. 107v. They occur in a passage in duple proportion and are in a 3:2 relation to minims. The third way of indicating a sesquialtera proportion of semiminims in ϵ is found in Arnold de Lantins' rondeau, Amour servir et honnourer, No. 108,

¹⁷Sans faire, No. 193, f. 86v, with contratenor by Francus de Insula, transcribed in Jeanne Marix, ed., Les Musiciens de la cour de Bourgogne au XVe siècle (Paris, 1937), p. 14; A son plaisir, No. 197, f. 88v, with contratenor by G. Guillem (Guillaume le Grant?), transcribed *ibid.*, p. 9; and De bien amer, No. 238, f. 100v, transcribed in Johannes Wolf, Geschichte der Mensural-Notation von 1250-1460, 3 vols. (Wiesbaden, 1965), vol. 3, No. 33 (the corresponding original notation printed in vol. 2, No. 33, is of the copy in Bologna, Civico Museo Bibliografico Musicale, Q 15 (BL), No. 77, f. 97v, which does not have the flagged semiminims in coloration.

¹⁸Se je n'é mal, No. 26, f. 19v, transcribed in Gilbert Reaney, ed., Early Fifteenth-Century Music, 4 vols. (Rome, 1955-69): 4:66.

¹⁹See Marix, Musiciens, p. 26.

²⁰See Reaney, Early Fifteenth-Century Music, 2:96, mm. 5, 12, and 14.

f. 52.²¹ Here three colored semiminims (♯) in an isolated group equal one minim or two semiminims. Possibly this is a mistake and the scribe simply omitted the flags that were used in Malbecque's Ouvrés vostre huys.

These few exceptions should not cloud the picture of semiminim usage in € in Ox. The largest number of pieces use flagged semiminims in the normal duple proportion to the minim. Aside from the 41 pieces with no semiminims whatever, and the four that use flagged semiminims only within coloration groupings, a survey of the other 132 pieces in € with semiminims reveals that 56 have from 1 to 10 each, and 76 have from 11 to 189. This does not take into account the length of the pieces, of course. The two pieces with the most semiminims are related, and both are in fascicle 10. The Credo of Bononia, No. 319, f. 136v, has 185 flagged semiminims in the triplum and 4 in the contratenor. It is 203 measures long. Since this Credo is a parody of Bononia's Morir desio poche fortuna, No. 320, f. 137v, it is perhaps not surprising to find that this ballata of only 48 measures has the next largest number of flagged semiminims, 103 in the cantus and 4 in the contratenor.

Although the last two pieces are exceptional for the large number of semiminims they include, it is clear that the composers in Ox are making much greater use of this small note than had earlier composers. Possibly this extensive use of semiminims in € became

²¹Facsimile in Hans Schoop, Entstehung und Verwendung der Handschrift Oxford, Bodleian Library, Canonici misc. 213 (Bern, 1971), Tafel III, following p. 128. See the transcription in Borren, Pièces polyphoniques, No. 3, p. 13.

burdensome to notate and partly accounts for the shift to writing in $\emptyset$ that takes place in the later fascicles of Ox.

Only 6 of the 45 pieces in C mensuration use flagged semiminims. One is in fascicle 10, one is in fascicle 4, and the rest are in fascicles 1-3, so that semiminims in C are, for all practical purposes, found almost exclusively in the most recent music preserved in Ox. In fascicle 10, Dominicus de Feraria's O dolce compagno, No. 316, f. 135, contains 6 flagged semiminims in the top voice.²² In fascicle 4, Dufay's Dona, i ardenti ray, No. 157, f. 73, has a single semiminim.²³ In the most recent fascicles, Sarto's Verbum Patris hodie in fascicle 1, No. 13, f. 12v, has four semiminims in the C portion of the contratenor, and Arnold de Lantins' Puisque je sui cyprienes in fascicle 3, No. 115, f. 54v, has three pairs of semiminims in the cantus. Binchois' lengthy Credo in fascicle 1, No. 2, f. 2v, contains 24 semiminims in the cantus over the course of several sections in C. The largest number of semiminims is found in Prepositus Brisiensis' Italian ballata, O spirito gentil, tu m'ay par cosso in fascicle 2, No. 37, f. 25. Both voices of the ballata have text, but only the top voice has void flagged semiminims, 44 in only 60 measures of C. The lower voice, which is in the tenor range and less active than the top voice, has only one flagged semiminim within a coloration passage.

Semiminims in O are almost as scarce as in C mensuration. Of

²²See facsimiles in Stainer, Dufay, Plate VIII, and Apel, The Notation..., p. 143.

²³See the transcription in Besseler, Dufay, 6:10, m. 4 of top voice. Facsimiles are available in Stainer, Dufay, Plate VI, and Apel, The Notation..., p. 103.

the fifty pieces in which the sign O appears, only eight have flagged and one has black semiminims. All eight pieces are in the four most recent fascicles. Two flagged semiminims are found in three pieces:

1. (1) No. 2, f. 2v, Binchois' Credo
2. (1) No. 12, f. 11v, Feraguti's Francorum nobilitati
3. (4) No. 133, f. 64, Arnold de Lantins' Gloria.

Four flagged semiminims are found in two pieces:

1. (1) No. 13, f. 12v, Sarto's Verbum Patris hodie
2. (1) No. 14, f. 13v, J. de Quattris' Et exultavit.

Ten flagged semiminims are found in Prepositit Brisiensis' I pensieri dolce amor, from fascicle 2, No. 27, f. 20v, and twelve in Dufay's Quel fronte, from fascicle 4, No. 156, f. 73. It should be noted that the contrafactum, Craindre vous vueil from fascicle 1, No. 4, f. 5, has 15 black semiminims (↓). It is without mensuration signs. Binchois' Gloria from fascicle 1, No. 1, f. 1, has 31 flagged semiminims, the largest number in any piece in O. The one piece in O with black semiminims is in fascicle 4, Arnold de Lantins' Sanctus, No. 149, f. 70v, from his mass cycle. It may be added that these semiminims are in sections in Ø as well as in O. Even more clearly than in the other mensurations, the use of semiminims in O seems to be a late development in the notation of Ox. Twenty other pieces in tempus perfectum, prolatio imperfecta, but without mensuration sign indicating either O or Ø, also use black semiminims. All 20 are in the most recent fascicles 1-4. As Lantins' Sanctus proves, black semiminims may occur in either O or Ø.

In the dating of pieces, semiminims have recently come to play

a part beyond that suggested by Johannes Wolf.²⁴ As noticed by Wolf, the early form was the flagged semiminim, whereas composers later in the century used black semiminims. No scholar has been more specific about dating the forms of semiminims until Charles Hamm's study of the works of Dufay. Hamm dates all pieces by Dufay that have flagged semiminims no later than 1433 and all pieces with black semiminims no earlier than 1431.²⁵ In his first chapter, he excludes all pieces with flagged semiminims from his Group 1 (ca. 1415-23) of pieces by Dufay. Hamm's second chapter discusses the pieces in Group 2 and gives the dates 1423-1429. In the list of works, however, those in Group 2a are dated ca. 1415-29 and those in Group 2b, 1423-1433. Thus the dates of Group 2a include the whole period of Group 1.²⁶ Group 2a includes ten pieces in ϵ with flagged semiminims. One of these is Dufay's La belle se siet, No. 50, f. 31, which has passages of minims preceded by the figure 2 in Ox. In the copy in MS Bologna, Biblioteca Universitaria 2216 (BU), No. 77, f. 52v, the minims of the duple proportion are written as flagged semiminims in ϵ .²⁷ Semiminims were a common note value in early fifteenth-century music, especially in Italian music, and it would have been unusual indeed, if Dufay had not learned about them in his student days. Hamm himself admits that the exclusion of semiminims from Group 1 "probably keeps out some compositions which were

²⁴See above, p. 130.

²⁵Hamm, A Chronology of the Works of Guillaume Dufay, p. 27.

²⁶*Ibid.*, pp. 12, 27, and 34.

²⁷Cantus I of BU is transcribed in Besseler, Dufay, 6:xxx.

written in the period 1415-1423."²⁸

Even if Dufay's early pieces used flagged semiminims and the later ones black semiminims, the absolute cut-off dates of 1433 for the use of flagged and 1431 for beginning the use of black semiminims seem a bit rigid. Hamm himself points out five pieces by Dufay that have one type of semiminim in one manuscript and another type in other manuscripts.²⁹ Three of these he places in groups not later than 1433, but two of the pieces, both Kyries in (O), are placed in Group 5, 1433-35.³⁰ In one other instance, Hamm uses a mixture of flagged and black semiminims as one of six reasons to doubt the ascription to Dufay of the Gloria of the Missa Sancti Anthonii found in Trent, Castello del Buon Consiglio, MS 90, f. 397v (Tr). This is the Gloria cited by Tinctoris in his Proportionale musices as a correct simultaneous usage of C and O with minim equivalence. Hamm gives a musical example, which is also quoted in part by Tinctoris, in which a flagged semiminim in C coincides with a black semiminim in O.³¹ Whether this should weigh against the attribution to Dufay is another matter, even if it is unique in his works, as Hamm says.³² Although questioning

²⁸A Chronology of the Works of Guillaume Dufay, p. 4.

²⁹Ibid., p. 26.

³⁰Ibid., p. 86.

³¹Both semiminims are black in E. de Coussemaker's copy of the Tinctoris example; see Scriptorum de musica medii aevi novam seriem, 4 vols. (Paris, 1864-1876) 4:171. See Hamm, A Chronology of the Works of Guillaume Dufay, p. 103 and Example 33, pp. 106-107.

³²A Chronology of the Works of Guillaume Dufay, p. 107.

the authenticity of the Missa Sancti Anthonii, Hamm lists it in his Group 6, "1433-ca. 1445." with the distinguishing characteristics of $\emptyset$ mensuration with black semiminims.³³

Even though it may be possible that Dufay or the scribes who copied his music suddenly stopped writing flagged semiminims and started using black semiminims, it seems much more likely that black semiminims were avoided in perfect prolation because they could too easily be confused with colored minims which, in C at least, frequently appear in coloration groupings. In contrast, minims in coloration groups are rare in O . Both O and $\emptyset$ mensurations begin to have increasing numbers of flagged semiminims in the most recent fascicles of Ox, and black semiminims are found exclusively in these same fascicles. In two pieces in fascicle 3, Schoop has noted that flagged semiminims were erased and black semiminims were substituted.³⁴ The first is the rondeau, De cuer joyeux, No. 114, f. 54, now attributed in the manuscript to Benoit. According to Schoop, Benoit's name was added over an erasure of the name Razon.³⁵ The second piece is the rondeau, Adieu, adieu, mon joyeux souvenir, No. 119, f. 56v, now attributed to Binchois in Ox, as it is in two other manuscripts, but the name in Ox is again written over an erasure.³⁶ Both pieces are in ($\emptyset$).

³³Ibid., p. 114.

³⁴Entstehung und Verwendung, p. 57.

³⁵Ibid., p. 48.

³⁶Ibid., pp. 57 and 48.

Furthermore, Schoop has discovered that all of the pairs of flagged semiminims in Lantini's Sanctus, No. 149, f. 70v-71, have been erased and black semiminims substituted in both 0 and Ø. On the bottom of the same folio with the Sanctus is Brollo's Italian ballata, Vivere et recte reminiscere, No. 150, f. 71, in which three colored minims (♩♩♩) were changed into a void minim and two black semiminims (♩♩), changing the rhythm from $\frac{3}{4}$ to $\frac{1}{2}$. Moreover, the succeeding pieces from f. 71v-78, especially the works of Dufay and Binchois, all have erasures and changes from flagged to black semiminims, according to Schoop.³⁷ These include two works by Dufay, Or pleust a Dieu, No. 151, f. 71v, and Las, que feray, No. 153, f. 72, both surely in (Ø). The Binchois rondeau between these two Dufay pieces, Mon seul et souverain desir, No. 152, f. 71v, includes both flagged and black semiminims, but no coloration, in perfect tempus and imperfect prolation without a mensuration sign. In the black notation of the same piece in MS Escorial, Biblioteca del Monasterio, V. III. 24 (Esc A), f. 20v-21, flagged semiminims are replaced by red semiminims.³⁸ The rondeau by Libert, Mourir me voy, No. 161, f. 76, also has both flagged and black semiminims. The final piece in Schoop's listing of erasures is the rondeau, Je ne pouroye cestre joyeux, No. 169, f. 78, with the name Binchois written over an original attribution to Arnold de

³⁷Ibid., p. 57.

³⁸See the facsimile in Wolfgang Rehm, ed., Codex Escorial; chansonnier, Biblioteca del Monasterio El Escorial/Signatur: Ms. V. III. 24. (Documenta Musicologica, 2; Reihe: Handschriften-Faksimiles, 2; Kassel: Barenreiter, 1958).

Lantins.³⁹ A still later piece in fascicle 4 is Binchois' Lyesse m'a mandé salut, No. 174, f. 79v, which has black semiminims in Ox, red semiminims in Esc A, f. 15v-16, and flagged semiminims in BU 17, f. 10. From changes such as these, it would seem that the scribes did not always give us as "faithful copies of what Dufay himself [or Binchois] wrote down," as Hamm would have us believe.⁴⁰

As Schoop suggests, the impression is that a scribe was correcting the Ox manuscript according to a new notational practice, one that was to become standard in the later fifteenth century. According to Tinctoris, there is "no final law" for the use of black or flagged semiminims, but "we use the former method in minor prolation and the latter more frequently in major."⁴¹ One example at the very end of the century or even in the early sixteenth century is found in Piae vocis from the Choralis Constantinus by Isaac. The altus begins in C with black semiminims but when it changes to E, the semiminims are flagged.⁴² Apparently the initial stages in the development of this distinction between the use of black and flagged semiminims are to be found in the notation of Ox.

Coloration

Coloration in the four primary mensurations is used in quite

³⁹Schoop, Entstehung und Verwendung, p. 48.

⁴⁰A Chronology of the Works of Guillaume Dufay, p. x.

⁴¹See Albert Seay, "The Proportionale Musices of Johannes Tinctoris," Journal of Music Theory 1 (March 1957):30.

⁴²See Apel, The Notation..., Facsimile 36, p. 171.

normal ways in Ox. In the prevailing white notation, longs, breves, and semibreves, when perfect or composed of perfect units, lose a third of their value when blackened and thus effect a change of mensuration with minim equivalence. When blackened notes replace imperfect notes, on the other hand, the result is a 3:2 proportion. With or without minim equivalence, coloration is most effective when substituting three notes in place of two. In perfect tempus, either Θ or O , therefore, the most effective coloration is on the breve level, substituting three breves or their equivalent for two. In imperfect tempus, semibreve coloration is most common. In $\mathcal{C}$, groups of three colored semibreves or their equivalent have the same effect as a change to O . In C , however, coloration at any level from breve to minim produces a 3:2 proportion of all note values. Apel's explanation of standard coloration usage generally holds true for Ox and need not be repeated here.⁴³ Rather, the concern is the extent to which coloration is used in the different mensurations and the few departures from normal practice.

In Θ mensuration, coloration is infrequent. It does appear in 5 of the 9 pieces in this mensuration, but some of these have only two or three coloration groups. The normal pattern is a three-breve group or its equivalents, which may be long-breve or two breves and two semibreves. Groups of colored semibreves and minims occur only in Bononia's Gloria, No. 317, f. 135v, and the Italian ballata, Vince con lena, No. 315, f. 135, that is its model.

⁴³The Notation..., pp. 126-44.

Coloration is used much more frequently in C than in O or in any other mensuration. Indeed, it is a rare piece in C that has no coloration whatsoever. Its effect, as Apel states, "is a transition from (2, 3) to (3, 2) or, in modern terms, from 6/8 to 3/4."⁴⁴ In older sources, passages in coloration sometimes had to be read as if in O with perfect breves and altered semibreves. In Ox, however, all notes in coloration are imperfect, so that breves are never perfect and semibreves are never altered.

Aside from the normal usage, what Apel calls half-coloration appears through the manuscript.⁴⁵ Also found in Ch and Mod, half-coloration is used by all the major composers in Ox, so that it is not possible to view it as an older practice that gradually died out. Most frequently, as Apel suggests, half coloration involves two-note ligatures in which one note is void and another blackened. Seldom is it applied to a single note which is half colored and half void, as is found in some pieces of the late fourteenth century. Another prevalent usage in Ox is broken coloration, which occurs when the notes of a normal coloration group are separated by the insertion of normal void notes. In addition, incomplete coloration introduces notes, such as a single colored breve or semibreve, that belong to no complete coloration grouping. Incomplete coloration, which usually begins or ends a syncopated passage, is found in a total of 31 pieces in C scattered throughout the manuscript from fascicles 2 through 10. Broken

⁴⁴Ibid., p. 138.

⁴⁵Ibid., p. 142.

coloration is used even more extensively than incomplete coloration, and both types occur in mensurations other than C.

Coloration within C mensuration always appears to place one tempus of C or O within the space of time taken by a tempus of C.

Coloration in C occurs in 7 pieces:

1. (1) No. 2, f. 2v, Binchois Credo
2. (2) No. 37, f. 25, Prepositus Brisiensis' O spirito
3. (4) No. 122, f. 57v, Johannes Franchois' Gloria
4. (4) No. 160, f. 74v, Johannes Franchois' Credo
5. (8) No. 271, f. 116, Baude Cordier's Dame excellent
6. (9) No. 304, f. 128v, Dufay's Invidia nimicha
7. (9) No. 308, f. 130v, Dufay's O gemma.

Two of the above pieces, Cordier's ballade and Franchois' Gloria, have only one group of three semibreves and are, therefore, of little significance. The most extensive passage of coloration is found in Dufay's Invidia nimicha de zascum virtuoso. In the last 24 bars of the ballata's second section, the cantus is in coloration above the continuing C mensuration of the three lower parts. At the beginning of this passage (Example 14), a dot of division following the second semibreve clearly shows that coloration was here regarded as the normal notation of O but in a 3:2 proportion to C. The dot is therefore needed to prevent the two semibreves between breves from forming a unit of tempus by alteration of the second semibreve. Later in the passage, a long series of minims might be interpreted either in O or in C. Bessler transcribed the first part of the coloration in 3/4 meter but changed to 6/8 for all but the first measure of the series of minims. Nothing in the notation indicates that such a change was intended, although when only minims are used the metrical patterns frequently become ambiguous. In this case, the whole passage should

probably continue in triplets of quarter notes as it is begin in

Example 14.⁴⁶

Example 14

The same ambiguity as to the grouping of minims arises in Franchois' Credo, No. 160, f. 74v, in a coloration passage with only semibreves and minims. After two measures of semibreves, a third is still in 3/4 but the next seems to be in 6/8. The following measures,

⁴⁶Compare with the transcription by Bessler, Dufay, 6:3, mm. 46ff.

with minims only, may be read either way (Figure 19).⁴⁷



Figure 19

Coloration is found in three other pieces in C with only semi-breves and minims, or with three minims which substitute for two void minims. The result is a change of prolation from imperfect to perfect, which means that some passages must be read as tempora of C within the units of tempus of C. In Dufay's isorhythmic motet, O gemma, lux et speculum--Sacer pastor Barensum--(Tenor:) Beatus Nicolaus, No. 308, f. 130v, two dots produce a one-measure pattern of displacement syncopation that is characteristically found in C (second measure of Figure 20). Thus they prove that here the whole passage is to be read in that mensuration, as do the semibreve note and rest in the final measure.⁴⁸

⁴⁷Compare Borren, Polyphonia Sacra, p. 107, mm. 178-181. In the last two measures, Borren has four groups of three minims, as in 6/8.

⁴⁸See Guglielmus de Van, ed., Guglielmi Dufay, Opera Omnia, 4 vols. (Rome, 1947-49): 2: 40, mm. 103-106, which is correct; Besseler, Dufay, 1:32, mm. 103-106, incorrectly transcribes mm. 104-106 by adding one minim value to the semibreve in mm. 104. The passage in BL 263, f. 263v, is identical to Ox.

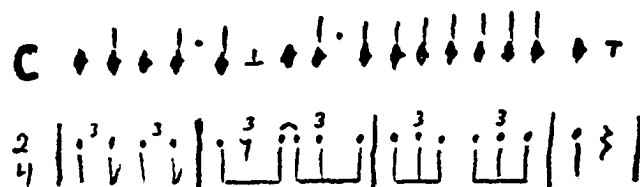


Figure 20

In Binchois' Credo, No. 2, f. 2v, a passage of nine colored minims in the usual 3:2 proportion can only be one and one-half measures of ϵ .⁴⁹ Several passages of Prepositus Brisiensis' ballata O spirito gentil, No. 37, f. 25, are again more ambiguous. Colored semibreves and minims in consecutive tempora show the characteristic shifts of rhythmic patterns that are found in normal ϵ and $\circ$ mensurations (Figure 21).⁵⁰



Figure 21

⁴⁹See Borren, Polyphonia Sacra, p. 74, top voice, mm. 291-92.

⁵⁰The only transcription presently available is in Samuel Wayne Spurbeck, "A Study of the Canonici Manuscript Misc. 213 (Circa 1400-1440)," 2 vols. (Ph.D. dissertation, Eastman School of Music, 1932), p. 30, mm. 29-30.

Another colored passage in the same ballata, with two semibreves, a dotted minim, and a flagged semiminim, must be read in 0 (Figure 22).



Figure 22

One passage in O spirito gentil, No. 37, f. 25, requires editorial emendation because coloration in the cantus has too many notes for the corresponding lower voice. The blackened semibreves and minims equal 17 minims, one short of filling three tempora of C. Yet a transcription of the lower voice allows only two tempora. Even if one assumes that stems are missing from the two semibreves not in ligature in the cantus, too many values remain for two tempora. On the other hand, one blackened minim value may be added and the rhythmic pattern of the lower voice expanded by one full measure to make a relatively satisfactory transcription. That this emendation may not be too radical is suggested by the necessity of expanding the lower voice by one measure earlier in the same piece. Since it is made up of short sections, each ending in both voices with a final long, and since the notation of the first section is clear and unequivocal, there can be no question that, by a scribal error, one measure is missing in the earlier section. One error led to another, so that the scribe seems to have made the same mistake later in the piece and to have compounded his errors by omitting one blackened minim value as well

(Example 15).

Example 15



Coloration in 0 mensuration normally takes place only on the breve and minim levels. Three blackened breves, or their equivalent in smaller note values, replace two void breves. The result is similar to a change of modus and tempus from II, 3 to III, 2. However, it is curious that only one colored long in Ox appears in a piece that is marked with the sign 0. Both the large-note motion of the voices and the canon with that composition clearly indicate that it should be read in diminution.⁵¹ Since no other piece in 0 has a colored long, it does not seem unreasonable to conclude that colored longs indicate $\emptyset$ rather than 0.

Excluding the one exceptional piece, coloration groups of breves, or breves and semibreves, occur in only 10 of the 50 pieces that have the mensuration sign 0, and all 10 are in fascicles 1-4.

⁵¹See the anonymous rondeau, Se j'ay perdu, No. 266, f. 114, discussed above, p. 245. Hugo de Lantins' Gloria, No. 123, f. 58v, has no signs, but is marked 0 in the index; it has one colored long in the contratenor; but see above, p. 157.

Only one of these introduces minims in a coloration group, Arnold de Lantins' Gloria, No. 133, f. 64, the second item of his mass cycle. It has a solitary coloration grouping in the "Qui tollis" section (Figure 23).⁵²



Figure 23

A similar grouping, but without minims, is also found in the same composer's motet, O pulcherrima mulierum, No. 178, f. 80v.⁵³ Coloration seems to have been introduced in both cases only to insure syncopation of the imperfect breves.

In older music, the sign C was often used instead of coloration to produce the same shift from two measures of 3/4 to three of 2/4 or one of 3/2.⁵⁴ One such use in Ox occurs in the anonymous ballade, Medée fu, No. 273, f. 116v, which is also found in Ch 26, f. 24v, and MS Florence, Biblioteca Nazionale, Panciatichiano 26 (FP), f. 107v

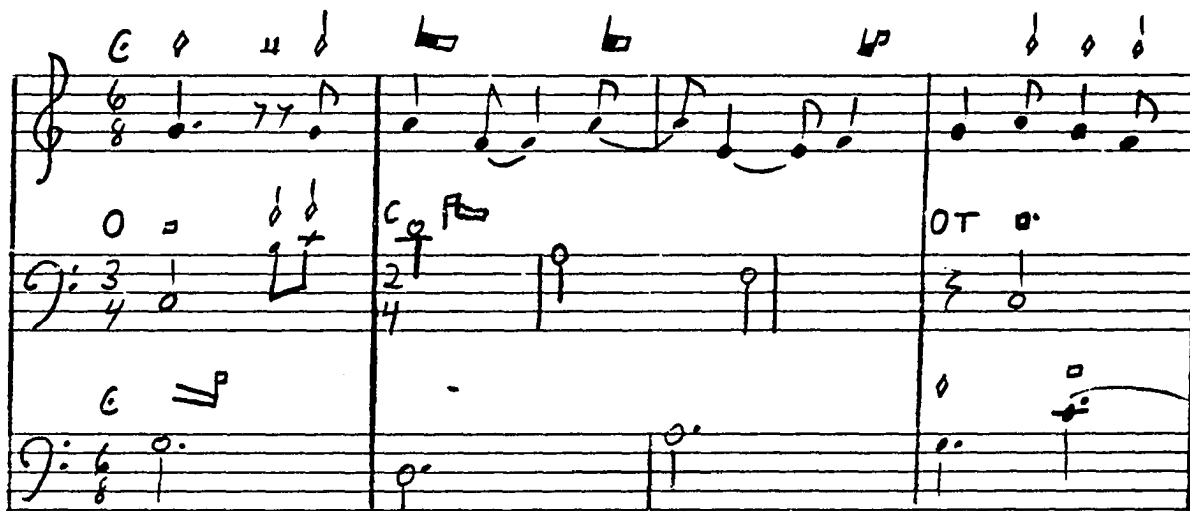
⁵²See Borren, Polyphonia Sacra, p. 13, mm. 77-78.

⁵³Ibid., p. 270, contratenor, mm. 30-31.

⁵⁴See, for example, Apel, The Notation..., Facsimile 82, p. 411, from Mod, and Facsimile 83, p. 413, from Ch.

(Example 16).⁵⁵

Example 16



Proportional coloration of minims occurs in only 2 of the 50 pieces with the mensuration sign O . The effect is a tempus of θ within a normal tempus of O . The first of the two pieces is Prepositus Brisiensis' Italian ballata, I pensieri dolce amor, No. 27, f. 20v, in which the first and second endings include 9 colored minims. The second is Arnold de Lantins' motet, Tota pulcra es, No. 80, f. 42v, which has two non-consecutive groups of three colored minims in the cantus.⁵⁶ A

⁵⁵In Willi Apel, ed., French Secular Compositions of the Fourteenth Century, 3 vols. (Rome, 1970-72): 2:51, the main source is Ch, which has, in error C instead of C (contratenor, m. 2 of the example). Apel interprets the ligature as a c.o.p., so that instead of three half notes, two dotted quarters are followed by a dotted half note.

⁵⁶See Borren, Polyphonia Sacra, p. 262, mm. 7 and 8.

A different cantus, preserved in BL 202, f. 209v, has two more extended passages of colored minims.⁵⁷ This different cantus is also preserved in MS Munich, Staatsbibliothek, mus. 3232 a (MuO), No. 261, f. 136, with a figure 3 under each group of three minims.

Proportional coloration is also found in 17 other pieces in perfect tempus and minor prolation, but without mensuration sign to indicate whether they are in O or Ø. In addition, three pieces with the mensuration sign Ø use colored minims in the same meaning as in O. Consequently, the presence or absence of colored minims does not play a part in determining whether the mensuration is O or Ø.

Hugo de Lantins' isorhythmic motet, Celsa sublimatur victoria--Sabine presul dignissime, No. 306, f. 129v, is in (O) and has coloration in both triplum and motetus that must be read as if in Ø.⁵⁸ There is no Latin canon, but dots of syncopation prove once again that the colored semibreves may be imperfected or may be perfect (Example 17).⁵⁹

⁵⁷Ibid., p. 263, m. 19, and p. 266, mm. 83-84.

⁵⁸See above, p. 182.

⁵⁹See Borren, Polyphonia Sacra, p. 215, mm. 2324.

Example 17

The image shows three staves of musical notation. The top staff is a vocal line in mensural notation with a treble clef and a 3/4 time signature. It features a series of rhythmic values (minims, crotchets, quavers) and rests, with some values marked with a '3' indicating a triplet. The middle staff is a lute line in mensural notation with a treble clef and a 3/4 time signature, also featuring rhythmic values and rests. The bottom staff is a lute line in mensural notation with a bass clef and a 3/4 time signature, featuring rhythmic values and rests. Above the staves, there are additional rhythmic notations, including a sequence of rhythmic values and a sequence of rhythmic values with a '3' indicating a triplet.

Syncopation

Syncopation is not found in Ox as extensively as in manuscripts of the late fourteenth century or even in Tu B. In the older fascicles of Ox, however, a few pieces use syncopation as a major rhythmic interest. This is the same kind of displacement syncopation that characterized so much late fourteenth-century music. Indeed, one of the oldest pieces in Ox, which is also preserved in Ch 26, f. 24v, is the anonymous ballade, Medée fu en amer veritable, No. 273, f. 116v, in which syncopation is almost constantly in evidence. In the second measure an initial minim displaces two tempora before the perfection is completed by two minims in measure four (Example 18).⁶⁰

⁶⁰See the transcription in Reaney, Early Fifteenth-Century Music, 4:51 (Ch), or Apel, French Secular Compositions..., 2:78 (Ch), mm. 1-4.

Example 18

The musical score for Example 18 consists of three staves. The top staff is in treble clef with a 6/8 time signature, containing a melody with various note values and rests. The middle staff is in bass clef with a 6/8 time signature, containing a bass line. The bottom staff is in bass clef with a 6/8 time signature, containing a bass line. Above the staves are various mensural symbols, including (C) and C, and below the staves are various mensural symbols, including T and C.

Later in Medée fu, ligatures in half-coloration create a regular pattern of 2 + 3 + 2 + 3 + 2 minims against the normal rhythm of the C mensuration. The feeling of regular pulse or beat is even further blurred by the use of three breves in C mensuration, which function like normal breve coloration in O.⁶¹

Displacement syncopation tends to disappear in the works of later composers, but syncopation of duple values remains a common practice in both C and O mensurations. It seems to be used with particular frequency, indeed, in the 4:3 proportional passages indicated by the sign $\mathfrak{C}$.⁶²

Even with a simple mensuration such as C, a complex texture

⁶¹See above, pp. 297-98 and Example 16.

⁶²Several examples of $\mathfrak{C}$ with syncopation will be given below.

can be achieved by establishing contrasting rhythmic patterns in each voice. For example, Velut's ballade, Jusqu'au jour d'uy pour aprendre a parler, No. 239, f. 101, after a long in the tenor continues with a two-measure sequential pattern. After a dotted breve and dotted semi-breve in the cantus and contratenor, these voices have syncopated, irregular, and non-sequential patterns that often flow across the modern bar lines. The total effect is a complete blurring of the basic pulse or beat (Example 19).⁶³

Example 19



Occasionally the duple organization of C mensuration is blurred by patterns that seem to be in O. This is similar to the fluctuation between 3/4 and 6/8 meters that is such a common factor in the style of

⁶³See Reaney, Early Fifteenth-Century Music, 2:125, mm. 1-3.

early fifteenth-century music. In the same Velut ballade, Reaney's change to 3/4 meter in identical passages at the end of the first and third sections is justified by patterns in all three voices that are in groupings of three rather than two semibreves.⁶⁴

Examples of syncopation either of duple values or of triple units of mensuration, can be found in almost every piece in fascicle 8 of Ox, and in a majority of the pieces in the other oldest fascicles. In the most recent music, displacement syncopation almost entirely disappears, and even the syncopation of duple values no longer plays a major part in the style. The later pieces generally remain in one mensuration throughout and abjure rhythmic complexity.

Proportions

Whereas all the composers represented in Ox treat the four primary mensurations in a relatively stable manner, the use of proportional signs becomes consistent only in the latter part of the manuscript. Thus some of the most interesting aspects of the notation of Ox are the proportions that are indicated by basic mensuration signs with slash, the reversed semicircle, and numerals without canon. Each of these indications will be discussed in turn.

Mensuration Signs with Slash

An oblique stroke (virgule) or slash through one of the four primary mensuration signs means duple proportion in which the organization of the notes does not change. For example, perfect semibreves

⁶⁴Ibid., 2:125-27, mm. 14-18, 51-55.

in $\textcircled{C}$ will still be perfect in $\textcircled{C}$, and imperfect semibreves in $\textcircled{O}$ remain imperfect in $\textcircled{O}$. The effect of the slash is to cause two units of tempus to be performed in the space of time normally required by one tempus.

Only two pieces use the proportion $\textcircled{O}$. One is from fascicle 6, Velut's ballade, Laissies ester vostres chans de liesse, No. 236, f. 100. Only semibreves and minims are used in the passage, and dots of division and syncopation clearly indicate that the semibreves are perfect, as they are in $\textcircled{C}$. Six units of $\textcircled{O}$, equivalent to three tempora of $\textcircled{C}$, sound at the same time as four and one-half tempora of $\textcircled{C}$ in the contratenor and the equivalent nine tempora of $\textcircled{D}$ in the tenor. A transcription of the $\textcircled{O}$ passage in 9/8 meter with common beams for each unit of $\textcircled{O}$, where possible, indicates the organization of the original, although a transcription in 6/8 meter in agreement with the contratenor, as Reaney has provided, may be easier to read.⁶⁵ In fact, the rhythmic organization suggests 6/16 ($\textcircled{C}$) as much as it does 9/16 ($\textcircled{O}$) (Example 20).

The second piece to use $\textcircled{O}$ is from fascicle 3, a rondeau by Dufay, Belle, veullies moy retenir, No. 102, f. 50v. The cantus has the $\textcircled{O}$ sign at the beginning and note values of breves, semibreves, and minims with no coloration. The tenor and contratenor have no mensuration signs but are in perfect tempus, with breves, semibreves, and only two minims in the contratenor voice. There is, therefore, nothing in the tenor or contratenor to indicate prolation, and the mensuration

⁶⁵Early Fifteenth-Century Music, 2:124, mm. 47-50.

Example 20

The image displays a handwritten musical score for Example 20, organized into three systems. Each system consists of three staves. The notation is a form of mensural notation, with notes represented by vertical stems and various symbols (circles, crosses, etc.) indicating pitch and rhythm. The first system begins with a large mensuration sign (a circle with a cross) and a time signature of 9/8. The second system starts with a 'C' time signature. The third system begins with a 'T' time signature. The notation includes various musical symbols such as clefs, accidentals, and dynamic markings like 'p' and 'f'. The handwriting is in ink on aged paper.

could be $\emptyset$, Θ , or $\bigcirc$. Note values are equal in all voices, however, and there is no reason to assume that the lower voices are not governed by the mensuration sign of the cantus.

Two scholars, nevertheless, have made this assumption. Heinrich Bessler transcribed the piece with the cantus in 9/8 meter and the

other two voices in $3/4$, with the measure lengths equal.⁶⁶ This is misleading, since Besseler normally uses $9/8$ meter for Θ and $3/4$ meter for O in his edition of Dufay's works, and a tempus of Θ is always one-third longer than a tempus of O .

Charles Hamm also assumes that the lower voices are in O and thus justifies his contention that diminution, as represented by the slash through the mensuration sign, means one-third rather than one-half.⁶⁷ Certainly the previous *Velut* example cannot be interpreted as diminution by one-third but is clearly diminution by one-half, and there is no reason to believe that Dufay was thinking differently. If he had wanted a tempus of Θ within the time of a tempus of O , he could have used the proportional sign $\frac{3}{2}$, instead of assigning an unusual meaning to the slash. The proportion $\frac{3}{2}$ is common enough in early fifteenth-century music, and Dufay used it in several pieces. It seems evident that the sign $\emptyset$ in the cantus of *Belle, veullies* was intended for all of the voices, as is frequently the case in other pieces in *Ox*. Otherwise, this would be a unique piece in which one voice moves in an indicated mensuration while the others have no sign to show that their mensuration is different. Dufay probably meant the piece to move twice as fast as normal; therefore, a transcription in one-half the normal values for Θ would be perfectly acceptable. If $\emptyset$ is transcribed in $9/16$ or $2 \times 9/16$, with a minim equalling a modern sixteenth note, the transcription would not produce any shorter notes or faster

⁶⁶Dufay, 6:52.

⁶⁷A Chronology of the Works of Guillaume Dufay, p. 66.

Clearly all three voices should be in modern 9/8 meter.

The proportional sign C is found in a total of four pieces in

Ox:

1. (5) No. 236, f. 100, Velut's Laissies ester
2. (7) No. 250, f. 109, Anon., Je suy assés
3. (8) No. 288, f. 123, Cordier's Amans amés
4. (8) No. 292, f. 124, Anon., Tant plus.

The unusual use of the sign to indicate tempus perfectum diminutum in Tant plus vous voy, No. 292, f. 124, has been discussed above. Note values in the other three are imperfect breves, perfect semibreves, and minims, so that two tempora of C equal one of normal C . A 12/16 or 2 x 6/16 meter would therefore be appropriate. Whereas the anonymous rondeau, Je suy assés, No. 250, f. 109, has only semibreves and minims,⁷⁰ a short passage in Velut's Laissies ester, No. 236, f. 100, has breves, semibreves, and minims (Example 22).⁷¹

In one of the two brief passages of C in Cordier's rondeau, Amans, amés, No. 288, f. 123, only semibreves are used.⁷² Therefore, Hamm's statement that in pieces of this sort a slash through a mensuration sign simply indicates a substitution of two minims for one does not adequately explain the mensural organization with the proportion.⁷³ When note values larger than a minim are present, the slash indicates

⁷⁰ See Reaney, Early Fifteenth-Century Music, 4:9, cantus, mm. 23-26.

⁷¹ Compare *ibid.*, 2:122, cantus, mm. 19-21.

⁷² See Davison and Apel, Historical Anthology of Music, 1:51, tenor, m. 11.

⁷³ A Chronology of the Works of Guillaume Dufay, pp. 23-24.

Example 22



that the entire mensuration is in duple proportion.

The sign C appears in only three pieces in Ox.⁷⁴ In Lebertoul's ballade, Depuis un peu un joyeux parlement, No. 285, f. 122v, a Latin canon specifies that the sign C indicates duple proportion of the basic mensuration (C).⁷⁵ In Dufay's Bien veignés vous, No. 59, f. 34v, a breve of C is equivalent to an imperfect semibreve of the tenor, which must by canon be reading in C.⁷⁶ The only remaining piece with C is Cordier's rondeau, Amans, amés, No. 288, f. 123. When the C passage occurs in the cantus, the tenor is in C, which provides

⁷⁴Not included in this reckoning are the anonymous fragments found on f. 16 with the sign C . These fragments are obviously later additions to the manuscript in a different handwriting. See Borren, Polyphonia Sacra, No. 49bis, p. 290.

⁷⁵See above, p. 220.

⁷⁶See above, p. 247.

a clear illustration of the duple relationship between the two (Example 23).⁷⁷

Example 23



The most frequently used mensuration sign with slash is ϕ , which appears in a total of 24 pieces. Two have ϕ at the beginning in all voices and maintain that mensuration throughout.⁷⁸ Eleven have sections in contrasting mensurations, in some of which all voices sing in ϕ . The problem of proportional relationships in these pieces will be discussed in Chapter VI. The concern here is with the 11 remaining pieces in which ϕ appears simultaneously with other mensurations.

⁷⁷Compare Davison and Apel, Historical Anthology of Music, 1:51, mm. 4-7, and Reaney, Early Fifteenth-Century Music, 1:7, mm. 4-6.

⁷⁸Both are by Feraguti, No. 3, f. 4v, Excelsa civitas Vincentia, and No. 5, f. 5v, Ave Maria gratia plena.

These pieces show that wherever $\emptyset$ is combined with any of the primary mensurations, it is always in duple proportion.

To begin with the oldest fascicles, 5-8, the first piece is a rondeau, Je ne vis pas, No. 227, f. 97, by R. Gallo, with triplum by Francus de Insula. The cantus and tenor voices are in (C) throughout, but the triplum begins in $\emptyset$, sings six units of $\emptyset$ against three tempora of the basic mensuration of (C), and then changes to C. Minims in $\emptyset$ have the same value as the numerous flagged semiminims in C (Example 24).⁷⁹

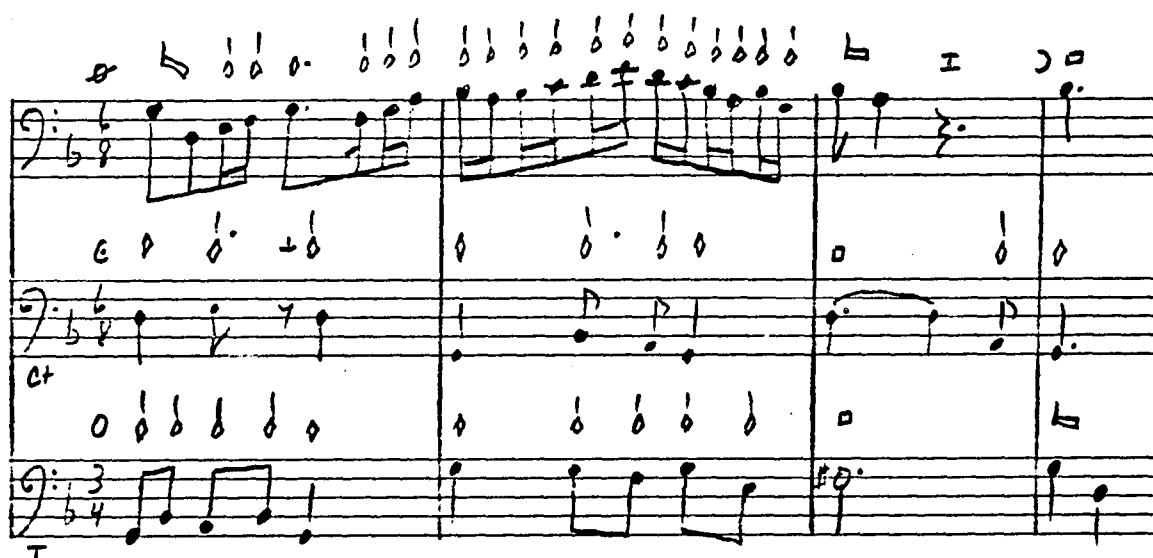
Example 24

The second piece in fascicle 6 to mix $\emptyset$ with other mensurations is Velut's ballade, Laissies ester vestres chans de liesse, No. 236, f. 100. For one brief, melismatic passage the cantus changes

⁷⁹See Reaney, Early Fifteenth-Century Music, 2:25, mm. 1-4.

from ϵ to ϕ , while the contratenor continues in ϵ and the tenor in $\circ$. The apparent reason for changing to ϕ in the cantus is that minims are easier to write than flagged semiminims. Because the passage of ϕ occurs at the same time as ϵ and $\circ$, the equivalence between the semi-breve in ϕ and the minims of both ϵ and $\circ$ is quite clear (Example 25).⁸⁰

Example 25



Obviously, examples need not be given of every piece in which ϕ is found with other mensurations. Pieces in the older fascicles include the anonymous rondeau from fascicle 7, Se fortune s'est tournés, No. 251, f. 109, which has ϕ against ϵ .⁸¹ In fascicle 8, Billart's

⁸⁰See *ibid.*, 2:123, mm. 42-44. A facsimile of f. 100 may be found in Heinrich Bessler, Bourdon und Fauxbourdon; Studien zum Ursprung der niederländischen Musik (Leipzig, 1950), Tafel IV, opposite p. 128.

⁸¹See Reaney, Early Fifteenth-Century Music, 4:10, mm. 23-25.

isorhythmic motet, Salve virgo--Vita, via--Salve regina, No. 267, f. 114v, has brief sections of $\emptyset$ in triplum and motetu. against a contratenor and tenor in changing mensurations, according to a rather complicated canon that has already been discussed.⁸² Also in fascicle 8 is Cordier's ballade, Dame excellent, No. 271, f. 116, which includes one passage of $\emptyset$ with coloration in the tenor, while the contratenor is performing in C, and the two upper voices are in C. Although the passage in $\emptyset$ has only a long and colored breves, and the contratenor in C has only breves and semibreves, it is once again clear that a semibreve in $\emptyset$ equals a minim of the basic mensurations (Example 26).⁸³

Also from fascicle 8 is Baude Cordier's often cited rondeau, Amans, amés, No. 288, f. 123, in which no minims are used in the sections in $\emptyset$, but the equality of minims in the four basic mensurations holds the piece together, and a singer would have no difficulty reading semibreves in $\emptyset$ to a minim beat or pulse.⁸⁴ Following Cordier's rondeau is the anonymous rondeau, Ma douce amour, No. 290, f. 123v, which has one section of $\emptyset$ in the cantus, while the tenor and contratenor are in C.⁸⁵ The last piece in fascicle 8 with the sign $\emptyset$ is the anonymous rondeau, Tant plus vous voy, No. 292, f. 124, but in this

⁸²See Borren, Polyphonia Sacra, pp. 159-66, and discussion above, p. 166.

⁸³See Reaney, Early Fifteenth-Century Music, 1:13, mm. 16-17.

⁸⁴See the facsimiles in Apel, The Notation..., p. 175, and in Die Musik in Geschichte und Gegenwart: allgemeine Enzyklopädie der Musik, 15 vols. to date, ed. Friedrich Blume (Kassel, 1949-), vol. 2, Cols. 1665-1666. Also see Reaney, Early Fifteenth-Century Music, 1:7.

⁸⁵See Reaney, Early Fifteenth-Century Music, 4:23.

Example 26



piece not only $\emptyset$, but most of the other signs are used in an unusual manner, as has been previously discussed.⁸⁶ In fascicle 9, only two pieces use the sign $\emptyset$, and in neither piece does it occur with other mensurations. No pieces with the sign $\emptyset$ are found in fascicle 10.

Of the six pieces using $\emptyset$ in fascicle 1, certainly the repository of the most recent music in Ox, only one uses other mensurations at the same time. In the Secunda pars of Sarto's motet, Verbum Patris hodie, No. 13, f. 12v, the tenor is under the influence of a Latin

⁸⁶See above, pp. 251-53.

canon, but the contratenor and cantus are not. The cantus is in $\emptyset$ and the contratenor is in C, and the relationship is the normal one of a semibreve of $\emptyset$ having the same value as a minim in C.⁸⁷ Both voices have flagged semiminims, a development which suggests a late date for the motet.

The only piece in Ox in which $\emptyset$ and Θ are used simultaneously is Dufay's isorhythmic motet, O sancte Sebastiane--O martir Sebastiane--O quam mira refulsit gratia--Gloria et honore, No. 51, f. 31v, in fascicle 2. Over a contratenor which performs throughout in Θ ,⁸⁸ the upper voices sing first in Θ and then diminish one-half to $\emptyset$. At this point, the tenor also changes to $\emptyset$, and in all three voices a semibreve is equivalent to a minim in the continuing Θ mensuration of the contratenor.

In fascicle 3, the two pieces that use $\emptyset$ have no other mensurations performing at the same time. In fascicle 4, none of the three pieces use $\emptyset$ with other mensurations, except Hugo de Lantins' Je suy exent, No. 121, f. 57, which has Θ in an unusual relationship against $\emptyset$ in another voice. A probable explanation of this passage has been given earlier.⁸⁹

In summary, not a single piece in Ox that uses $\emptyset$ in combination with other mensurations allows any interpretation of the sign other than as a duple proportion. In $\emptyset$, a semibreve always equals a minim

⁸⁷See above, pp. 203-204.

⁸⁸The sign is present in the copy in BL 211, f. 218v.

⁸⁹See above, pp. 253-57 and Example 13.

of the four primary mensurations. The conclusion is inescapable that, so far as the repertory of Ox is concerned, until about 1436, the last date in the manuscript, the minims of the four primary mensurations are still equal, and that $\emptyset$ is a method of writing ϵ in the next higher note values. In the pieces from the earliest to the most recent in Ox, the relationship between $\emptyset$ and the four primary mensurations remains unchanged.

Proportions by the Sign $\mathfrak{C}$ and by Numerals

Sesquitertia

Sesquitertia (4:3) is the most frequently used proportion in Ox. It is designated by the sign $\mathfrak{C}$ in 26 different pieces scattered rather evenly over the manuscript, with 11 in the older fascicles 5-8, six in the more recent fascicles 9-10, and nine in the most recent fascicles 1-4.⁹⁰ Obviously, there is no indication by this spread of pieces that $\mathfrak{C}$ is any less popular at the end of the time span which Ox covers than at the beginning. The list of composers using $\mathfrak{C}$ ranges from the earliest to the most recent, including Bartholomeus de Bononia, Velut, Billart, Malbecque, Cordier, Grossim, Prepositus Brisiensis, Lebertoul, both Arnold and Hugo de Lantins, as well as Binchois and Dufay.

The complete organization of the notes in $\mathfrak{C}$ is modus imperfectum, tempus imperfectum cum prolatio imperfecta. Longs are used in

⁹⁰Not included in this count is Velut's isorhythmic motet, Benedicta viscera, No. 241, f. 102v, in which the reversed semicircle appears in error for C in the triplum; see Borren, Polyphonia Sacra, p. 222, m. 109.

only two pieces⁹¹ and flagged semiminims in only one.⁹² Although C implies a proportional reduction of 4:3, the proportion varies at different note levels according to the basic mensuration in which the sign occurs. Within one of the four primary mensurations, the one constant is a 4:3 proportion of minims. At other note levels the proportions vary as follows:

	<u>In Θ</u>	<u>In C</u>	<u>In O</u>	<u>In C</u>
Breve level	3:1	2:1	2:1	4:3
Semibreve level	2:1	2:1	4:3	4:3
Minim level	4:3	4:3	4:3	4:3

Thus, in combination with Θ or C , one unit of tempus of C replaces one unit of major prolation. Composers normally wrote in units of time and prolation with the result that two tempora in C or, in modern terms, a measure of $2/4$, occupy the time span of one $6/8$ or $3/4$ measure. Similarly, a tempus of Θ would be replaced by a measure of $3/4$, or three units of tempus of C . Against normal C , four breves or two $2/4$ measures of C would equal three $2/4$ measures.

Apel's discussion of the use of C is misleading because he confuses the early use of the sign with a different later use in which C indicates a simple 2:1 proportion. In fourteenth- and early fifteenth-century usage, the practice was precisely as Apel quoted

⁹¹The anonymous rondeau, Se j'ay perdu, No. 266, f. 114 (see above, p. 245), and the anonymous isorhythmic motet, Clarus ortus--Gloriosa mater--Justus, No. 274, f. 117v (see above, p. 172).

⁹²Binchois' Credo, No. 2, f. 2v.

Gafurius, an indication of proportio sesquitertia.⁹³ The same meaning is reported by Prosdocimus de Beldemandis in his Tractatus Practice de Musica Mensurabili of 1408.⁹⁴

Coloration in C is found in 3 pieces with the same result that it produces in normal C.⁹⁵ In one piece the sign C immediately follows a mensuration sign (CC),⁹⁶ and in another it is an initial signature in the cantus against C in the tenor and O in the contratenor.⁹⁷ In both of these pieces it has its usual meaning. In five pieces, all voices change at the same time to C , demanding a clear understanding of the relationship of the sign to the previous mensurations in order to determine the correct tempo relationship.⁹⁸ With only one exception,⁹⁹ the C sign in Ox refers to the basic mensuration -- usually in the tenor -- and does not relate to a previous mensuration or other proportional sign in the same voice. Obviously, when all voices change

⁹³Apel, The Notation..., pp. 151-55.

⁹⁴Coussemaker, Scriptorum de musica medii aevi novam seriem, 2:216.

⁹⁵Binchois' Credo, No. 2, f. 2v; the anonymous rondeau, Se j'ay perdu, No. 266, f. 114 (see above, p. 245); and Cordier's ballade, Dame excellent, No. 271, f. 116.

⁹⁶Cordier's rondeau, Pour le deffault, No. 248, f. 108v.

⁹⁷The anonymous rondeau, Se j'ay perdu, No. 266, f. 114.

⁹⁸Binchois' Credo, No. 2, f. 2v; Prepositus Brisiensis' ballata, I ochi d'una ancolleta, No. 36, f. 24v; the anonymous isorhythmic motet, Clarus ortus, No. 274, f. 117v; Bartholomeus de Bononia's Credo, No. 319, f. 136v, and the same composer's ballata, Morir desio, No. 320, f. 137v.

⁹⁹The exception is in Cordier's rondeau, Pour le deffault, No. 248, f. 108, in the cantus; and example of this exceptional, cumulative use of the reversed semicircle is given below.

to $\mathcal{C}$ at the same time, they must be calculated against the basic mensuration immediately preceding the change.

In four pieces, passages in $\mathcal{C}$ within a basic mensuration of $\emptyset$ have no minims, and the 4:3 proportion applies to semibreves.¹⁰⁰ This is one more indication that $\emptyset$ was a way of writing ϵ in the next higher note values.

A few examples will suffice to show the standard use of $\mathcal{C}$ with the various mensurations in Ox. The earliest use of the 4:3 proportion was in combination with ϵ and θ and this combination appears in all but four of the 26 pieces in Ox in which $\mathcal{C}$ occurs. Within the basic mensuration of θ , the second of two passages in Bartholomeus de Bononia's Italian ballata, Vince con lena, No. 315, f. 135, introduces a brief syncopation of semibreves that is characteristic of $\mathcal{C}$ passages. This example is well known to every student of notation because of its inclusion in Apel's text.¹⁰¹ Syncopation and a wider range of notes, from long to minim, are used in the anonymous rondeau, Se j'ay perdu, No. 266, f. 114, where the relation of $\mathcal{C}$ in the contratenor against θ in the top voice shows the usual proportion of 4:3 semibreves and 2:1 breves.¹⁰²

The rhythmic patterns of $\mathcal{C}$ originated in the fourteenth century

¹⁰⁰Brollo's rondeau refrain, Ma belle amour, No. 72, f. 39; Hugo de Lantins' rondeau refrain, Je suy exent, No. 121, f. 57; the anonymous ballade, Il n'est dangier, No. 247, f. 108; the anonymous ballata, Biancha nel bruno, No. 320, f. 127.

¹⁰¹See The Notation..., Facsimile 32, p. 143, and transcription No. 20 in the appendix, mm. 6-7, cantus.

¹⁰²See above, p. 246 and Example 10.

and were then more often notated by means of special note shapes than by the sign of the reversed semicircle. A few of these shapes are still used in Tu B, alongside the sign C , but in Ox the special note shapes disappeared. Perhaps a vestige of their use may be seen in Johannes Tapissier's isorhythmic motet, Eya dulcis--Vale placens, No. 322, f. 139v, in which triplum and motetus have minims with dots of addition to create the same pattern as four semibreves of C within a tempus of C (Figure 24).¹⁰³

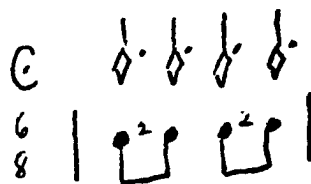


Figure 24

The 4:3 relationship of minims in the basic mensuration of C is the most common proportion in Ox. An example taken from the end of Malbecque's rondeau, Quant de la belle me departi, No. 289, f. 123v, has typical patterns of minim-semibreve-minim in the lower parts, while the cantus has more complicated syncopation caused by dotted semibreves (Example 27).¹⁰⁴

¹⁰³See Reaney, Early Fifteenth-Century Music, 1:72-78, mm. 19-21, 36, 74, and 112.

¹⁰⁴*Ibid.*, 2:99, mm. 33-41.

Example 27

The image displays a handwritten musical score for Example 27, consisting of two systems of three staves each. The notation is a mix of mensural notation (neumes on a four-line staff) and rhythmic symbols (circles, vertical lines, and flags). The first system includes a treble clef on the top staff, a bass clef on the middle staff, and a bass clef with a 'C' on the bottom staff. The second system also features a treble clef on the top staff, a bass clef on the middle staff, and a bass clef with a 'C' on the bottom staff. The notation is dense and includes various rhythmic markings such as 'C', '7', '2', and '9'.

In Baude Cordier's ballade, Dame excellent, No. 271, f. 116, both C and $\emptyset$ are used simultaneously in relation to the basic C . The same passage concludes with coloration in C , $\emptyset$, and C . In each case, the resulting rhythmic patterns correspond to the mensuration of the

tenor, which has changed to 0 (Example 28).¹⁰⁵

Example 28

The image shows a musical score for Example 28, consisting of four staves. The notation is a form of mensural notation used in early printed music. Above the staves, there are various mensural symbols, including the sign 'C' and '0', and proportional signs like '2' and '40.'. The staves themselves contain notes, rests, and other musical symbols, including the sign 'C' and '0'.

Velut's ballade, Laissies ester, No. 236, f. 100, shows that C is normally calculated against the basic mensuration even when it is preceded by another proportional sign (Example 29).¹⁰⁶

The sign C is found within a basic mensuration of C in only one piece in Ox, Lebertoul's Au pain faitich, No. 81, f. 43. The unusually large-note writing of the first part of this ballade has

¹⁰⁵Ibid., 1:13-14, mm. 19-23.

¹⁰⁶Ibid., 2:124, mm. 44-46.

Example 29



already been discussed.¹⁰⁷ That the first part should be read in diminution seems certain. As it is written, however, normal note relationships are in effect between the basic mensuration of C in the tenor and the O and C in contratenor and cantus. The proportion C has a 4:3 relationship with C on all note levels from longs to semibreves, the smallest note value used. On notation irregularity is the imperfection of a maxima by a single semibreve (Example 30).¹⁰⁸

Of the four pieces with C against a basic mensuration of O, only one has a passage of any length, the anonymous ballade, *Il n'est dangier*, No. 247, f. 108. At the end of the ballade, both cantus and contratenor have passages in C against (O) in the tenor. That all

¹⁰⁷See above, pp. 225-26.

¹⁰⁸See Reaney, *Early Fifteenth-Century Music*, 2:45, mm. 16-20.

Example 30

The image shows a handwritten musical score for Example 30, consisting of two systems of staves. The notation is in a historical style, featuring various note values, rests, and musical symbols.

First System:

- Staff 1 (Treble Clef):** Contains a series of notes and rests. Above the staff, there are several symbols: a large 'C' with a dot, a square, a diamond, a vertical line, a square, a diamond, and a series of four diamonds.
- Staff 2 (Bass Clef):** Contains notes and rests. Above the staff, there are symbols: a diamond, a vertical line, a diamond, and a series of four diamonds.
- Staff 3 (Clefless):** Contains a large 'C' with a dot and a square.
- Staff 4 (Bass Clef):** Contains notes and rests. Above the staff, there is a symbol: a diamond.

Second System:

- Staff 1 (Treble Clef):** Contains notes and rests. Above the staff, there are symbols: a diamond, a vertical line, a diamond, and a series of four diamonds.
- Staff 2 (Bass Clef):** Contains notes and rests. Above the staff, there are symbols: a diamond, a vertical line, a diamond, and a series of four diamonds.
- Staff 3 (Clefless):** Contains a large 'C' with a dot and a square.
- Staff 4 (Bass Clef):** Contains notes and rests. Above the staff, there is a symbol: a diamond.

voices begin in (ø) and not (0) is proven when the contratenor changes from 3 to ø and moves in note values equal to those of the tenor. The syncopation of the cantus passage in 3 makes even more unsettling the conflicting 4:3 proportion of semibreves between 3 and ø

(Example 31).¹⁰⁹

Example 31

The image shows a handwritten musical score on four staves. The notation is a form of mensural notation, likely from a medieval or early modern manuscript. The staves are labeled with various symbols and numbers. The first staff has a treble clef and a key signature of one flat. The second staff has a bass clef and a key signature of one flat. The third staff has a bass clef and a key signature of one flat. The fourth staff has a bass clef and a key signature of one flat. The notation includes various note values, rests, and accidentals. There are also some handwritten annotations in parentheses and numbers above and below the staves.

One piece in Ox treats a passage in C in a way that is inconsistent with the normal use of the sign. It is Baude Cordier's rondeau, Pour de deffault, No. 248, f. 108v, which has a basic mensuration of (ϵ) . A C passage in the cantus follows an initial melisma in $\text{O}2$, but here the 4:3 proportion applies to this sign rather than to the basic mensuration. Thus, four semibreves or two breves in C replace three semibreves or the breve in $\text{O}2$. Against the tenor in (ϵ) , the cantus has eight semibreves to two, or sixteen minims to six, as if written in C . The succeeding passage in $\frac{3}{2}$ substitutes three semibreves for two in C . Twelve semibreves in $\frac{3}{2}$ then take the place of eight in C . In relation to ϵ , twelve minims in the $\frac{3}{2}$ passage replace three, which makes it a simple quadruple proportion to the tenor.

¹⁰⁹Ibid., 4:50, mm. 45-49.

Thus, the $\frac{3}{2}$ and the previous C signs are cumulative in relation to the initial $\text{O}2$. On the other hand, CC at the beginning of the contratenor indicates that C is to be performed in its normal relation to C . These different results produced by the sign C in the same piece are shown in Example 32.¹¹⁰

In two pieces in Ox the figure 4 is used alone with the same meaning as the sign C . In Billart's isorhythmic motet, Salve virgo virginum--Vita, via, veritas--Salve regina, No. 267, f. 114v, only minims follow the figure 4. At the same time that the triplum is performing the 4:3 proportion, the motetus changes to C . Since only minims follow the sign 4, but both semibreves and minims are used in the C section, it may be that C was preferred for the latter, because it does specify a mensural organization of imperfect time and prolation which 4 only implies. The figure 4 could, of course, indicate 4:1, or 4:2, just as well as the 4:3 proportion that it does indicate.¹¹¹

The same lack of precise meaning is also evident in the one other piece in which the figure 4 occurs, the anonymous rondeau, Se fortune s'est tourné, No. 251, f. 109. Here a full range of notes is used, from long to minim. In two different passages, both voices change at the same time from the basic mensuration of (C) to 4. The first of these passages contains only semibreves in the top voice and longs, breves, and semibreves in the lower voice, although one minim is

¹¹⁰Ibid., 1:2, mm. 1-6.

¹¹¹See the transcription in Borren, Polyphonia Sacra, p. 159, mm. 9 and 37, and discussion above, p. 166.

Example 32

Handwritten musical score for the song "The Rose Tree". The score is written on three systems of three staves each. The first system is in 6/8 time, and the second system is in 3/4 time. The notation includes treble and bass clefs, key signatures of one flat (B-flat), and various musical symbols such as notes, rests, and accidentals. The lyrics "The Rose Tree" are written below the first system, and "The Rose Tree" is written below the second system. The score is handwritten in ink on aged paper.

later used in the top voice after an intervening passage of 3:2 proportion. In the sequence (c)-4-3-4-E of the top voice, the first section following the sign 4 contains only semibreves and might be interpreted as a 4:2 proportion of perfect semibreves in relation to the preceding basic mensuration. The passage following the sign 3 is cumulative,

Example 34

Dupla

In fifteen pieces in Ox the single numeral 2 is used. It always means duple proportion but produces different results according to the mensuration it follows, or the basic mensuration to which it refers. Of these 15 pieces, 13 are in a basic mensuration of C , even though the mensuration preceding the numeral may be either C or O . On the other hand, only two passages of 2 occur within a basic mensuration of O . Finally, a 2 passage occurs within and following O in only one piece.¹¹⁵ Therefore, 2 is obviously most often used in Ox as a proportion with the mensuration of C .

Traditionally, a numeral as a proportional sign has been

¹¹⁵The total of 16 passages in 15 pieces is explained by the fact that Dufay's ballade, *Resveillies vous*, No. 301, f. 126v, is in three sections, $(\text{C})-\text{O}-\text{C}$, in all voices, and passages of 2 occur in both C and O .

considered to relate to the immediately preceding mensuration in the same voice, rather than to the basic mensuration. There is ample evidence in Ox, however, that this is not always true. For example, when the 2 sign follows C in the anonymous ballade, De tous le biens, No 246, f. 107, the relation is not to the C , but to the basic mensuration of C .¹¹⁶ When 2 is used as an initial sign in the cantus and contratenor of Johannes Le Grant's rondeau, Se liesse est de ma partie, No. 30, f. 21v, the numerals can only relate to the basic C mensuration of the tenor because nothing precedes them.¹¹⁷

In Cordier's rondeau, Amans, amés, No. 288, f. 123, however, the numeral 2, which follows one tempus of C , must create a duple proportion of that mensuration, although it is also in a 2:1 relationship to C in the tenor (Figure 25).¹¹⁸

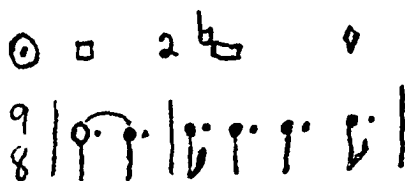


Figure 25

Figure 25 shows that, when 2 relates to C , there is a 2:1 proportion of units of tempus, and the meaning is the same as C . When 2 follows or appears with C and a full range of note values is used, the

¹¹⁶See Reaney, Early Fifteenth-Century Music, 4:48, mm. 16 (beat 3)-17, and 31 (beat 3)-32.

¹¹⁷Ibid., 2:68, beginning.

¹¹⁸Ibid., 1:7, m. 2.

result is a shift to II, 3, 2, which is the same as $\emptyset$. This shift is clearly evident in Dufay's isorhythmic motet, O gemma--Sacer pastor--Beatus Nicolaus, No. 308, f. 130v. The passage in 2 includes both flagged semiminims and three colored breves, which take the place of two perfect void breves (Example 35).¹¹⁹

In the two pieces in which 2 is found within a basic mensuration of $\emptyset$, the organization of the note values in 2 is presumably in a 2:1 proportion at all levels, which would give the same result as $\emptyset$. In Ox, however, this organization is mostly speculative. In one of the two pieces, only minims are used, with the apparent intention of avoiding flagged semiminims. Thus, these minims, with the value of semiminims, would be grouped in minim and semibreve units of the basic mensuration.¹²⁰ In the other piece, Hugo de Lantins' rondeau refrain, Je suy exent, No. 121, f. 57, the cadential melisma of the cantus introduces the numeral 2 after a passage in ϵ . The short passage of 2 takes the space of only one unit of prolation of ϵ and includes three colored minims, which, as usual, replace two.¹²¹

In the anonymous ballade, De tous les biens, No. 246, f. 107v, the basic mensuration is ϵ , and $\supset$ occurs several times with its normal meaning. One passage of 2 follows $\supset$, but a repeat of the same passage follows ϵ , indicating once again that proportional signs need not be cumulative. In both appearances of this passage of 2, nine flagged

¹¹⁹See Besseler, Dufay, 1:30-31, mm. 49-55.

¹²⁰See Dufay's Resveillies vous, No. 301, f. 126v, in Besseler, Dufay, 6:25, mm. 33-36.

¹²¹See above, p. 254.

Example 35

Handwritten musical score for "The Rose Tree" in 3/8 time. The score is written on five systems of staves. The first system includes a treble staff with a melody, a bass staff with a bass line, and a piano staff with chords. The second system continues the melody and bass line. The third system includes a treble staff with a melody, a bass staff with a bass line, and a piano staff with chords. The fourth system continues the melody and bass line. The fifth system includes a treble staff with a melody, a bass staff with a bass line, and a piano staff with chords. The score is written in a simple, handwritten style with some corrections and annotations.

semiminims must be organized exceptionally in groups of three as if they were colored minims. The rest of the notes are read as if in $\emptyset$, the normal meaning of 2 within a mensuration of ϵ (Example 36).¹²²

Example 36



The only piece to use the sign 02 is Cordier's rondeau, Pour le deffault, No. 248, f. 108v. The basic mensuration is ϵ , which the tenor maintains until it changes to γ at the very end of the rondeau. The initial sign in the contratenor is $\epsilon\gamma$, which proves to be simply an indication that the basic mensuration is ϵ and that the contratenor begins in γ . Just as the $\epsilon\gamma$ sign in the contratenor did not indicate some new or different mensuration, so the initial sign 02 in the cantus means that the mensuration is $\emptyset$, but in duple proportion.

¹²²See Reaney, Early Fifteenth-Century Music, 4:48, mm. 16-18.

As a part of the final cadence in the cantus, one unit of tempus in $\emptyset$ consists of three colored minims in a 3:2 proportion and the value of four semibreves in duple proportion after the sign 2. Because the cantus seems to agree harmonically and rhythmically with the coloration in the tenor and because of the placement of the duple proportion, the composer may have intended an organization of the penultimate measure in three groups, as indicated in Example 37.¹²⁵

Example 37

In summary, the sign 2 indicating a duple proportion is commonly used in Ox in C mensuration, occasionally in O , and once in $\emptyset$. In both C and O , the organization of the notes is II, 3, 2, as in $\emptyset$. The sign 2 is never found with C , probably because $\emptyset$ fulfilled the same function. In the one example of 2 in $\emptyset$, the proportion applies to the units of tempus in that voice. On the other hand, in the one

¹²⁵See Spurbeck, "A study of the Canonici Manuscript," p. 398.

instance of 2 after $\mathcal{J}$, the proportion applies to the basic mensuration of $\mathcal{C}$. Thus, it is always necessary to determine whether a proportion sign is to be read in relation to the basic mensuration or to the previous mensuration or proportion in the same voice. In most cases, both relations produce the same result because the sign usually appears in $\mathcal{C}$ or $\mathcal{O}$.

Sesquialtera

Sesquialtera proportion is achieved by four different numerals or fractions in $\mathcal{Ox}$, 3, $\frac{3}{2}$, 6, and $\frac{6}{4}$. They occur in 19 different pieces, of which 15 are in the older fascicles 6-10. Whatever numerals are used, sesquialtera proportion must always be read in relation to the previous mensuration or proportion in the same voice. Usually the proportion applies to minims, but it will apply to semibreves when they are the smallest note values. In all five pieces in which the sign 3 occurs within the mensuration of $\mathcal{O}$,¹²⁶ the 3:2 proportion is on the minim level, with only semibreves and minims in four of the pieces. The result is a tempus of $\mathcal{O}$ within the time of a tempus of $\mathcal{O}$ and sesquialtera passages are written according to the notational rules for $\mathcal{O}$.¹²⁷ In this way the proportional sign has exactly the same effect as coloration of semibreves and minims. A typical example of 3

¹²⁶The only use of the $\frac{3}{2}$ fraction within the mensuration of $\mathcal{O}$ occurs in a problematic passage in Cesaris' isorhythmic motet, A virtutis ignitio--Ergo beata nascio--Benedicta filia, No. 272, f. 116v; see discussion, pp. 170-71.

¹²⁷One breve is used in Dufay's ballade, Resveillés vous, No. 301, f. 126v; it is imperfected by a following semibreve rest and the breve and rest are equivalent to a tempus of $\mathcal{O}$ in the other voices; see Besseler, Dufay, 6:26, cantus, m. 49.

in O is a passage in Dufay's Italian ballata, Passato e il tempo omai, No. 313, f. 133v (Example 38).¹²⁸

Example 38



A sesquialtera proportion in ϵ produces the same result as in O when it applies to the basic mensuration. Thus, a tempus of θ will replace one of ϵ . This normal relationship occurs in only one of the four pieces with a basic mensuration of ϵ that have the single numeral 3. In every other instance the numeral follows another proportional sign, and its effect is therefore cumulative. The passage in the normal relationship to ϵ is found in the anonymous rondeau, Se fortune s'est tourn  s, No. 251, f. 109 (Example 39).¹²⁹

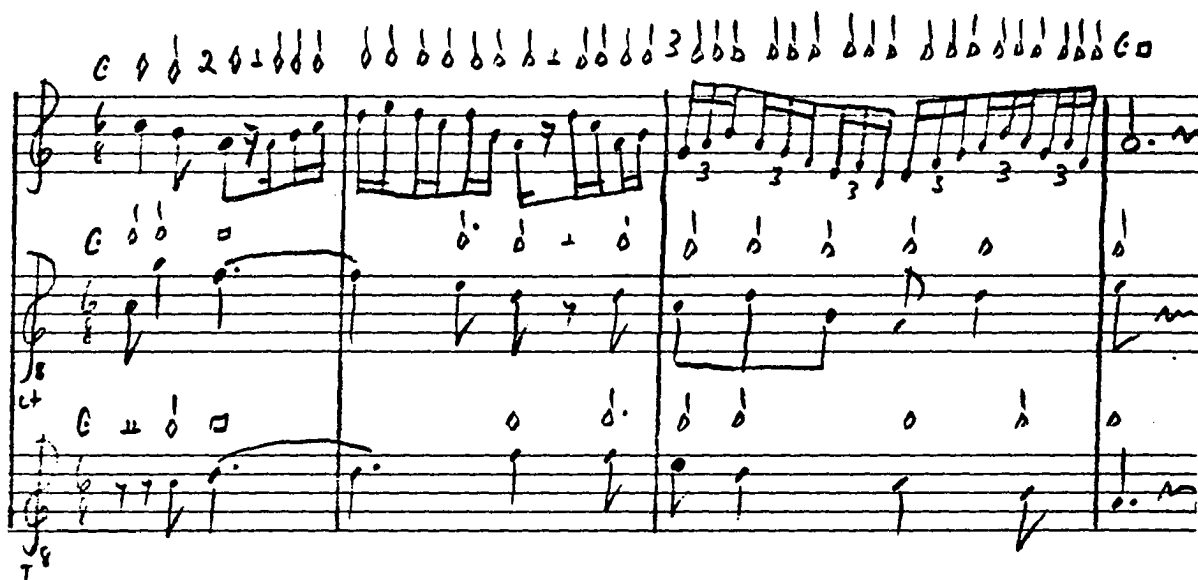
The cumulative function of 3 is demonstrated in the same rondeau, when the sign follows a sesquitercia passage indicated by the

¹²⁸See *ibid.*, p. 4, mm. 5-9; the O sign in the contratenor preceding Besseler's transcription is in error, as it does not appear in the manuscript.

¹²⁹See Reaney, Early Fifteenth-Century Music, 4:10, mm. 13-15.

(Example 40).¹³²

Example 40



When 3 follows the proportion C , the usual meaning is a 3:2 proportion of both semibreves and minims, which are then organized as if in C . In some cases, however, the proportion applies only to minims, and the basic value of the semibreve is triple as in C .¹³³ In the anonymous rondeau, *Je suy assés plus esbahais*, No. 250, f. 109, both interpretations appear in the same passage (Example 41). The first two measures after the number 3 obviously must be read as if in C . That the third and fourth measures in 3:2 proportion change to C is indicated by the dot of division, which forces alteration of the

¹³²See Besseler, *Dufay*, 6:26, mm. 57-59.

¹³³An example may be seen above, p. 338, Figure 27.

Example 41

The image shows a handwritten musical score for Example 41, consisting of four staves. Above the staves is a long line of rhythmic symbols, including various forms of 'C', 'O', and 'Ø'. The first staff is a treble clef with mensural notation. The second staff is a treble clef with mensural notation. The third staff is a treble clef with mensural notation. The fourth staff is a treble clef with mensural notation. Below the first staff, there are additional symbols: 'C', 'Ø', and 'C'. Below the second staff, there are additional symbols: 'C', 'Ø', and 'C'. Below the third staff, there are additional symbols: 'C', 'Ø', and 'C'. Below the fourth staff, there are additional symbols: 'C', 'Ø', and 'C'. The notation is dense and appears to be a transcription of a historical manuscript.

second of the following two minims.¹³⁴ It is possible that the scribe forgot to place a mensuration sign of C at the beginning of measure 4 in Example 41. Slightly later in the piece, the sign C is used with the same rhythmic values, which are normal in C but exceptional when the 3:2 proportion follows C .

In one piece, the anonymous rondeau, Ma douce amour, No. 290, f. 123v, the fraction $\frac{6}{4}$ instead of the numeral 3 follows C within a basic mensuration of C . The result is still a 3:2 proportion of both semibreves and minims and the passages must be read according to the rules for O or Ø . As may be seen in Example 42, $\frac{6}{4}$ after C and 2 after C produce exactly the same results, and both might equally well have

¹³⁴See Reaney, Early Fifteenth-Century Music, 4:9, mm. 16-20; Reaney changes the rhythm of the fourth measure, perhaps editing the first note following the dot to be a semibreve. However, he does alter the minim after a minim rest in the fifth measure.

Example 42

The image shows a handwritten musical score for Example 42, consisting of two systems of four staves each. The notation includes mensural signs, rhythmic values, and various musical symbols such as clefs, accidentals, and ligatures. The first system has a mensural sign 'C' with a '77' and a '4' below it. The second system has a mensural sign 'C' with a '4' below it. The notation is dense and characteristic of early printed music.

been written in ϕ .¹³⁵

The anonymous rondeau refrain, Toute bialté et toute honneur, No. 286, f. 122v, has an initial mensuration sign, ϕ_2^3 , in the cantus,

¹³⁵See *ibid.*, 4:21, mm. 15-23.

whereas neither tenor nor contratenor has any sign. Both lower voices move entirely in breves and semibreves with a few colored semibreves in the contratenor. The cantus, on the other hand, has breves, semibreves, and minims in both normal and colored notes. All three voices can be read in C , although the absence of minims in the lower voices prevents a determination of their prolation. There is no reason to believe that the scribe wrote the $\frac{3}{2}$ in error, and one must conclude that the anonymous composer wished the piece to be sung one-third faster than normal C pieces, substituting three minims in the time normally occupied by two. The piece should thus be performed as if a tempus of C were shortened to the time normally occupied by a tempus of C . In order to suggest this, the lower voices might be transcribed as if in C , above which the units of prolation of C_2^3 appear as triplets. This does not imply, however, that the lower voices without signs are in a different mensuration from the cantus, but simply that in modern notation the only practical way to shorten a measure of $6/8$ by one third is to transcribe in $2/4$ meter with triplets (Example 43).¹³⁶

Within a basic mensuration of C , sesquialtera proportion is indicated in four pieces by the numerals 3, $\frac{3}{2}$, or 6. The usual meaning is a 3:2 proportion of minims, or a tempus of C in the time of a tempus of C . In Hugo de Lantins' Italian ballata, Tra quante regione, No. 66, f. 36v, however, there are no minims, so that the proportion is 3:2 semibreves. It has already been suggested that the note values in

¹³⁶See Spurbeck, "A Study of the Canonici Manuscript," p. 362. This piece is inexplicably omitted in Reaney, Early Fifteenth-Century Music, vol. 4.

Example 43



the first and second parts of Tra quante are one level larger than normal, so that the meaning of 3 is not the only exceptional aspect of the piece.¹³⁷

A long contratenor passage in Cesaris' rondeau, Je ris, je chante, je m'esbas, No. 215, f. 94, illustrates the usual result of sesquialtera in C. Coloration groups of three semibreves produce the typical shifts from 6/8 to 3/4 rhythms, all within a measure of 2/4 (Example 44).¹³⁸

Cordier achieves the same 3:2 proportion in C with the sign $\frac{3}{2}$ in his ballade, Dame excellent, No. 271, f. 116, but coloration at the

¹³⁷See above, p. 263. Another example of sesquialtera is achieved by canon with the numeral 6, in Cesaris' Se par plour, No. 254, f. 110, which has been discussed above, pp. 241-43, Example 9.

¹³⁸See Reaney, Early Fifteenth-Century Music, 1:20, mm. 2-4.

Example 44

minim level introduces a further 3:2 proportion. The result is the same as that produced by minim coloration in $\mathcal{C}$, which introduces measures that must be read in $\mathcal{C}$.¹³⁹ Here, however, the measure of $\mathcal{C}$ in coloration replaces a measure of $\mathcal{C}$ in $\frac{3}{2}$, and each occupies a normal measure of $\mathcal{C}$ (Example 45).¹⁴⁰

In his ballade, *Se mes deux yeux*, No. 252, f. 109v, Hasprois uses the numeral 6 in a basic mensuration of $\mathcal{C}$ with the same meaning as 3 and $\frac{3}{2}$. There does not seem to be any reason for a composer's choosing 3, $\frac{3}{2}$, 6, or $\frac{6}{4}$ to indicate *sesquialtera* proportion. Hasprois was one of the earliest composers to use proportions when a standard way of indicating them had not yet been adopted, if it ever was.

¹³⁹See above, p. 290.

¹⁴⁰See Raaney, *Early Fifteenth-Century Music*, 1:15, mm. 33-36.

Example 45

The image shows a handwritten musical score for Example 45. It consists of five staves. Above the staves, there are several measures of mensural notation in a shorthand style, including notes, rests, and accidentals. The staves themselves contain more detailed mensural notation, with notes, rests, and accidentals. The time signatures change throughout the piece: C, 6/8, 3/4, 2/4, and back to 6/8. There are also some markings like '3' and '2' above groups of notes, possibly indicating triplets or other rhythmic groupings. The notation is somewhat idiosyncratic, with some notes written as simple vertical lines or dots.

Perhaps he used the 6 to show that a unit of tempus in C replaced the four minims of a unit in C. All three voices change to 6 at the same time, and the cantus continues in the proportion for 16 tempora of C after the lower parts have returned to that mensuration. The contra-tenor in 6 remains in 6/8, with a long passage of displacement synco-
pation, but coloration in the other two voices frequently changes the rhythmic organization from the basic 6/8 to 3/4. Gilbert Reaney is misleading, therefore, when he indicates triplets of quarter notes throughout the passage in 6.¹⁴¹ Only the units in coloration should be so indicated. Tempora of C in the proportional passage clearly

¹⁴¹See *ibid.*, 2:31, mm. 9-21.

consist of two triplets of eighth notes.

In only one piece, Hugo de Lantins' rondeau refrain, Je suy exent, No. 121, f. 57, is a 3 employed within a basic mensuration of $\emptyset$. With only semibreves and minims in the first passage, it is apparent that the 3 means a 3:2 proportion of minims with the basic $\emptyset$, as Apel explains in his text and as both he and Van den Borren transcribe.¹⁴²

In Binchois' Credo, No. 2, f. 2v, a $\frac{3}{2}$ proportion is found within one of the duet sections in which both voices are in 3 . Since only breves and semibreves are used in the $\frac{3}{2}$ section, the proportion is one of 3:2 semibreves, although a 6:4 minim relationship also obtains.¹⁴³

Tripla

When used alone and without canon, the numeral 3 always calls for a 3:2 proportion and never for proportio tripla, as might logically be expected. A 3:1 proportion is called for, however, by Latin canons in three different pieces that have already been discussed.¹⁴⁴ Moreover, the numeral 3 combined with a mensuration sign does indicate triple proportion. This occurs twice in Ox with different signs but

¹⁴²Apel, The Notation..., p. 178; Borren, Pièces polyphoniques, p. 53, mm. 5-6. Also see above, p. 254.

¹⁴³See the transcription by Borren, Polyphonia Sacra, p. 70, mm. 197-202. The Credo will be discussed in Chapter VI with other pieces in which there is a problem of tempo relationship between sections when all voices change at the same time.

¹⁴⁴Cesaris' rondeau, Se par plour, No. 254, f. 110 (see above, p. 243 and Figure 18); Hasprios' ballade, Ma douce amour, No. 287, f. 123 (see above p. 222); and Dufay's rondeau refrain, Je ne puis plus, No. 117, f. 55v (see above, p. 248).

therefore, but the theoretically perfect breve equals an imperfect semibreve in O (Example 47).

Example 47



Summary of Proportions

Proportional indications in Ox that are not explained by a Latin canon fall into three main categories:

- (1) normal mensuration signs with a slash,
- (2) reversed semicircle and reversed semicircle with slash,
- (3) numerals, either single or in fractions.

The most common sign in the first category is ϕ , which always indicates a duple proportion when it appears in combination with other mensural signs. The other signs with slash, ϕ , ℓ , and ℓ , are used much less frequently, but they, too, always indicate a duple proportion.

The second category, the reversed semicircle, is the most frequently used proportional sign in Ox. Its meaning is always sesquialtertia, usually in relation to minims within the four primary

mensurations and to semibreves within $\emptyset$. The numeral 4 is used in two pieces with the same meaning as the reversed semicircle.

In the third category, numerals indicate three proportions: dupla, sesquialtera, and tripla. Duple proportion is achieved with the numeral 2 mostly with C , but also with O and once with $\emptyset$. The organization of the notes, especially the smaller values, occasionally differs from one piece to another, but the standard meaning of 2 within C or O is the same as $\emptyset$. Occasionally, the organization is in C , and in a few passages of duple proportion, the organization shifts from $\emptyset$ to C with little warning. In almost every case the 2 sign refers to the basic mensuration and is not necessarily cumulative.

Sesquialtera proportion is indicated by numerals in four different ways: 3, $\frac{3}{2}$, 6, and $\frac{6}{4}$. The single numeral 3 always means 3:2, never 3:1, and 6 means 6:4. The proportion may be on either the minim or the semibreve level, depending on the smallest notes used within the proportional passage. Unlike duple proportion, sesquialtera is always calculated on the immediately preceding mensuration or proportion in the same voice. For this reason the organization of notes in sesquialtera passages varies according to what they follow.

Proportio tripla is called for by two signs, $\text{O}3$ and $\text{O}3$, both found only in one Cordier rondeau.

CHAPTER VI

THE PROBLEMS OF TEMPUS PERFECTUM DIMINUTUM

As has already been shown in Chapter V, when the sign $\emptyset$ appears in combination with any of the basic mensurations in the Oxford Manuscript (Ox), it always indicates a 2:1 proportion, or tempus perfectum diminutum. As an initial mensuration sign for all voices, $\emptyset$ appears in only two pieces that continue in that mensuration throughout. The sign 0 appears as an initial mensuration sign in only 8 or 107 other pieces in perfect tempus and minor prolation. The first problem that arises, then, is to determine which of the remaining 99 pieces without signature are to be read in 0 and which in $\emptyset$. The second problem concerns tempo relationships between pieces in 0 and $\emptyset$ and between sections of pieces with simultaneous changes of mensural signs, including $\emptyset$, in all voices.

In the thirteenth and fourteenth centuries, changes of notational practice always coincided with the introduction of new note shapes to indicate smaller note values. It is no surprise, therefore, to find that the appearance of $\emptyset$ in the early fifteenth century follows closely upon a greatly increased use of semiminims in $\mathcal{C}$. In some cases, writing semiminims was avoided by using the figure 2 to indicate a 2:1 proportion of notated minims. When breves and semibreves as well as minims came to be used in a 2:1 proportion in $\mathcal{C}$, the result is an

organization of notes in tempus perfectum diminutum. To a certain extent, then, $\emptyset$ was invented to avoid flagged semiminims in $\mathbb{C}$, which it eventually replaced. This development had the added advantage of making the semiminim note shape available to indicate a still smaller value. With the increased use of semiminims in $\emptyset$, the tempo must have slowed, and it becomes necessary to shift to the next higher note values in modern transcriptions as well. The question is to know when this should be done. In a transitional period such as that represented by Ox, decisions can probably never be based on more than subjective judgments.

Ultimately the semibreve in $\emptyset$ was surely slower than the minim in $\mathbb{C}$, but this may be difficult to prove by notational practices in musical sources. A slowing down cannot apply, however, to pieces in which the mensuration of $\emptyset$ is used at the same time as one or more of the primary mensurations in which the minim is identical in value to the semibreve of $\emptyset$. The tempo could change, of course, between sections of compositions in which all voices change to $\emptyset$ at the same time.

The introduction of $\emptyset$ as a mensural sign in all voices seems to have taken place during the time span covered by the compositions preserved in Ox. In the other fascicles 5-8, $\emptyset$ is used in a variety of forms and styles by a miscellaneous collection of both younger and older composers. It appears in brief passages as one among many proportional signs, but a few pieces have sections in which all voices are written in $\emptyset$. Pieces that have the sign or may be presumed to be in $\emptyset$ account for almost one-third of the repertory in the most recent fascicles 1-4. With only a few exceptions, moreover, the pieces in

both 0 and Ø in these fascicles are the ones that include either flagged or colored semiminims, indicating that the process of introducing ever smaller note values has once more begun.

Of the 24 pieces using the sign Ø, only eight have semiminims, which occur, with only one exception, in the cantus. The anonymous rondeau, Ma douce amour, No. 290, f. 123v, in fascicle 8 has a single pair of semiminims, and two pairs are found at the end of the first section of Dufay's Vergene bella, No. 321, f. 133v, from fascicle 9. All of the rest are in the most recent fascicles 1-4. The largest number are in Dufay's ballade, C'est bien raison, in fascicle 3, No. 116, f. 55v, which has four pairs of semiminims in both the first and third sections plus three in the contratenor in the third section. Only two semiminims are found in Binchois' Gloria from fascicle 1, No. 1, f. 1, and eleven in his Credo which follows, No. 2, f. 2v. Sarto's motet, Verbum Patris hodie, No. 13, f. 12v, also in fascicle 1, has six semiminims. In fascicle 4, Arnold de Lantins' Agnus Dei, No. 142, f. 68, from his Mass Cycle, has one pair. The eighth piece to use semiminims is also from Lantins' mass cycle, the Sanctus, No. 149, f. 70v, which has six pairs of black semiminims (♯). All of the other semiminims in Ø have been flagged. Van den Borren has noted that, in the Sanctus, two pairs of the black semiminims in Ox are changed to three colored minims in BL 141, f. 152v. The rest of the black semiminims in Ox are flagged in BL.¹

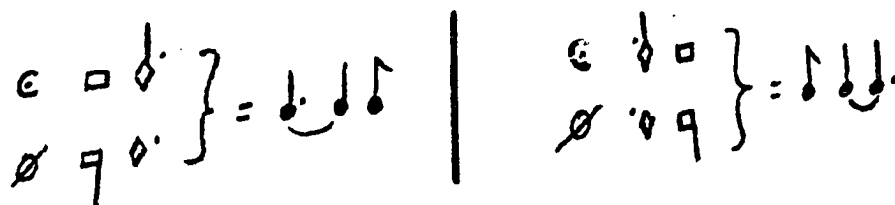
¹Charles van den Borren, ed., Polyphonia Sacra, A Continental Miscellany of the Fifteenth Century (University Park, Pennsylvania, 1963), p. xi, and transcription, pp. 29-33.

The appearance of semiminims in 0 was discussed in Chapter V. Here it need be mentioned that only 9 pieces with the sign have semiminims and all are found in the first four fascicles. The three pieces with the most flagged semiminims are Binchois' Gloria, No. 1, f. 1, Dufay's Quel fronte, No. 156, f. 73, and the Italian ballata by Prepositus Brisiensis, I pensieri, No. 27, f. 20v. The other six pieces have no more than two or four semiminims each. Arnold de Lantins' Sanctus, No. 149, f. 70v, the only piece to have black semiminims in Ø, has the same number, six pairs, in 0. It seems, therefore, that the presence or absence of semiminims cannot be used as a guide for determining whether or not a piece without signature is in 0 or Ø. It has been noted in Chapter V that proportional coloration of minims is also found in both 0 and Ø and is therefore equally unsatisfactory as a basic for distinguishing between the two mensurations.²

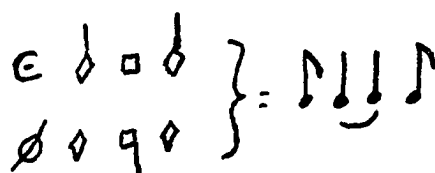
What does determine when pieces are in tempus perfectum diminutum is to be sought, then, in the use of larger note values, rhythmic patterns, and coloration groupings that are characteristic of € but are uncommon or are entirely absent in 0. Such indications are by no means hard to find in pieces with the sign Ø. Listed and illustrated below are a number of notational devices characteristic of both € and Ø that are almost never found in 0:

²See above, pp. 298-99.

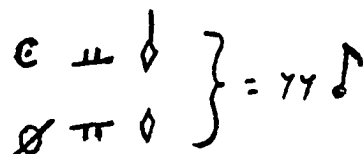
1. Imperfection ad partem remotam, after or before:



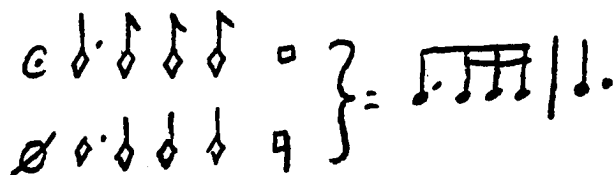
2. Imperfection ad partem remotam, before and after:



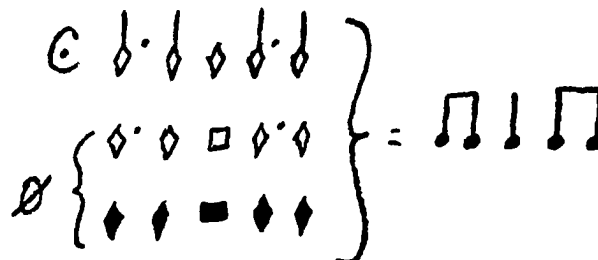
3. Characteristic pattern of rests:



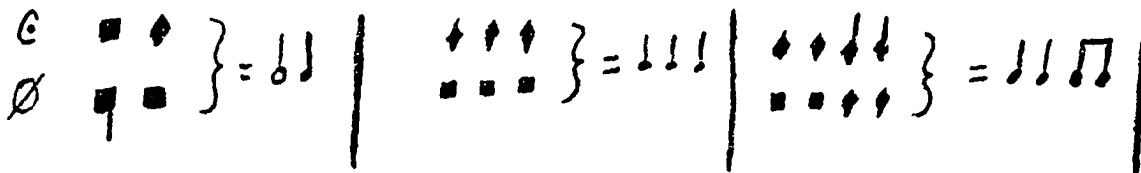
4. Cadential pattern:



5. Syncopation pattern:



6. Coloration:



It is apparent that when one or more of the above patterns are found in tempus perfectum with minor prolation but without mensuration signs, Ø rather than O is suggested. Special mention must be made of the coloration patterns. As has already been discussed, coloration is found in only 11 of the 50 pieces in Ox that have the sign O. Only one of these has a long in coloration and it must be read in diminution according to a canon.³ One piece without a mensuration sign in the music should perhaps be added to this group. Hugo de Lantins' Gloria, No. 123, f. 58v, which is marked O in the index, has one colored long in the contratenor, and the syncopation pattern shown

³It is the anonymous rondeau, Se j'ay perdu, No. 266, f. 114, discussed above, pp. 244-246 and Example 10.

above (No. 5).⁴ In spite of other instances of displacement syncopation at the tempus rather than prolation level, the predominant movement in semibreves and minims suggests that Lantins has added figures characteristic of $\emptyset$ to a piece that is really in 0 as the index specifies.⁵ Apart from these exceptional pieces, colored longs in 0 are not found in Ox. In the 24 pieces with the mensuration sign $\emptyset$, however, only eight have no coloration of any kind and 14 of the remaining 16 include colored longs. One may conclude that the presence of even one colored long in a piece in tempus perfectum without mensuration sign indicates $\emptyset$ rather than 0.

Of the patterns of coloration shown above (Nos. 5 and 6), few appear in exactly those forms in any of the 50 pieces with the sign 0, although 9 pieces do have coloration groupings with the value of three breves. Variations of the syncopated pattern (No. 5) are found in two pieces by Arnold de Lantins. The Gloria, No. 133, f. 64, from his Mass Cycle, has the pattern $\blacktriangle \uparrow \blacksquare \blacklozenge \downarrow \downarrow$, which is changed to $\uparrow \blacklozenge \blacksquare \blacktriangledown$ in his motet, 0 pulcherrima mulierum, No. 178, f. 80v. Two other pieces have incomplete coloration groups of only two breves. The other patterns are normal groupings of three breves or their equivalent.

If patterns of three breves or their equivalent in smaller notes do not provide incontrovertible evidence of $\emptyset$ mensuration, they are much less common in 0 than in $\emptyset$. A colored long, however, is a strong indication that a piece in tempus perfectum and imperfect prolation without mensuration sign is to be read in $\emptyset$ rather than 0. The

⁴See Borren, Polyphonia Sacra, No. 15, p. 110, mm. 1-2 and 10-11.

⁵See above, pp. 157-59.

pattern $\text{■} \text{◆}$ in C would not be found in O mensuration because it duplicates the values of the same void notes. The corresponding pattern $\text{■} \text{■}$ is omnipresent in O and confirms the hypothesis that O originated as another way of writing C . It also justifies a transcription of O in $6/8$ or $6/4$, rather than $3/8$ or $3/4$.

The presence or absence of the various patterns listed in the previous pages should make it relatively easy to determine whether a piece in tempus perfectum with imperfect prolation with no mensuration signs is to be performed in O or O . Such a determination is necessary for a total of 99 pieces in Ox, or 30.64 percent of the entire repertory of 326 pieces. It is inconceivable that all 99 pieces should be read in O simply because no sign of O is used, especially since 77 appear in the most recent fascicles 1-4. The sign O , as has been shown, is almost as common as is the sign O . With the gradual decline in the use of C as the favored mensuration and its replacement by O , there is little reason to doubt that most of the later pieces without sign should be read in O .

The foregoing discussion of the introduction and early use of O generally agrees with the concepts enunciated by Heinrich Bessler in Bourdon und Fauxbourdon⁶ and repeated in the introductions to his six-volume edition of the works of Dufay. It is in almost total disagreement, however, with the ideas about O that Charles Hamm proposes in A Chronology of the Works of Guillaume Dufay.⁷ Bessler's theories are,

⁶(Leipzig, 1950).

⁷(Princeton, New Jersey, 1964).

in large measure, impressionistic and non-specific. In Chapter 7 of Bourdon und Fauxbourdon,⁸ he suggests that a change from the earlier tempus imperfectum, prolatio major to tempus perfectum began around 1420 and by 1435 was complete, as could be seen from a comparison of the secular pieces in the older fascicles 5-6 and the most recent fascicle 4 of Ox.⁹ But 6 mensuration did not vanish entirely and, in addition, it lived on in the new tempus perfectum diminutum. Among other stylistic criteria, the new mensuration is associated with a new, more flowing rhythm (Stromrhythmus). By contrasting the older "prolation notation" with the newer "tempus notation." Besseler calls attention to the change from a motion primarily in semibreves and minims to one in breves and semibreves. To show the difference, Besseler prints two facsimiles from Ox. The first he labels a "typical picture of prolatio notation,"¹⁰ and the second, a "typical picture of tempus notation."¹¹ Certainly the appearance of the two pages is one of great contrast, perhaps greater than is truly typical. The prolatio notation has numerous changes of mensuration and proportional signs. At no single moment in the piece are all voices singing in 6 at the same time. Perhaps a better choice from the same fascicle 6 would have been folio 91v. which includes No. 204, the rondeau, Belle,

⁸pp. 121ff.

⁹See Besseler, Bourdon und Fauxbourdon, p. 124, table.

¹⁰Ibid., Tafel IV, opposite p. 128, which is Ox No. 236, f. 100, fascicle 6, Velut's ballade, Laissies ester.

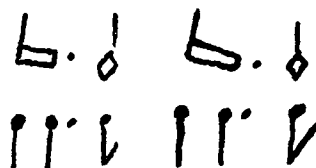
¹¹Ibid., Tafel V, opposite p. 136, which is Ox no. 3, f. 4v, fascicle 1, Feragut's motet, Excelsa civitas Vincentia (cantus and tenor only).

plaisant by Dufay, an anonymous rondeau refrain, No. 205, Adieu, mon gracieux amy, and Loqueville's rondeau refrain, No. 206, Je vous pri. All three are in (C) with normal semibreve coloration, a moderate number of flagged semiminims, and a typical motion in semibreves and minims in the top voices, with slightly less active contratenors and tenors. All three are without mensuration or proportional signs and are typical of the pieces in perfect prolation that Besseler is describing.

In the same fashion, Besseler's choice of Feragut's motet as an example of tempus notation overemphasizes the contrast with prolatio notation. Although Feragut's motet is one of only two pieces in Ox that begin with the sign Ø in all voices and continue in that mensuration throughout, it is also one of the few to include maximas, which, along with the many longs with fermatas, give an extraordinary impression of very large note values. Therefore, Besseler's choices are extreme examples that exaggerate the visual difference between the old C and the new Ø notations.

More distressing, however, is Besseler's imprecise manner of characterizing the new notation. Aside from harmonic analyses and other stylistic criteria, about the only notational detail that Besseler offers as evidence of Ø rather than O is the increased use of a new cantabile melody using the ligature cum opposita proprietate. This ligature indicates, to Besseler, a legato phrasing between the notes, often combined with a dotted rhythm in the formula shown

below:¹²



The eighth note of the pattern flows into the next unit of perfection, and the cantabile character of the melody is especially distinctive when larger intervals of a fourth, fifth, or sixth strengthen its expressive force.¹³ Besseler specifically identifies these characteristics with the "Melodiestimme," and his examples are all taken from upper, texted voices.¹⁴ It seems clear, nevertheless, that he did not mean to be so restrictive. A characteristic of pieces in $\emptyset$ is the use of larger note values in the lower voices and the increased use of ligatures that these note values make possible.

The theories presented by Besseler in Bourdon und Fauxbourdon were repeated in slightly changed fashion in the introductory remarks to his edition of the works of Dufay.¹⁵ Perhaps most revealing is the introduction to the secular works in volume 6, because so many of these pieces are found in Ox. Besseler divided the secular works by language, forms, and mensurations. Within each group of forms and

¹²Besseler, Bourdon und Fauxbourdon, p. 129.

¹³*Ibid.*, p. 130.

¹⁴*Ibid.*, p. 129, Beispiel 39; p. 130, Beispiel 40; and p. 131, Beispiel 41.

¹⁵Heinrich Besseler, ed., Guillelmi Dufay. Opera Omnia, 6 vols. (Rome, 1951-66).

mensurations, he attempted a chronological placement. Because the 59 rondeaux are the most numerous both in Dufay's total output and in Ox, Besseler's method of chronological arrangement is of particular interest. He specifically says about the rondeaux that they

...could only be arranged in some order if rhythm was the principle behind their position in the volume. Seven subdivisions were obtainable for the rondeaux by employing the contrast between the type of rhythm which does not overlap the bar-line and that which does. This coincides with the use of a normal bar-line or in contrast the Mensurstrich. In each of the subdivisions the compositions are arranged chronologically as far as possible.¹⁶

The seven subdivisions of the rondeaux are as follows:

	No.
1. Tempus imperfectum cum prolatione minore (bar-line) (vetustioris stili)	26
2. Tempus perfectum (bar-line) (vetustioris stili)	27-35
3. Tempus imperfectum cum prolatione majore (all works with normal bar-line) (opera omnia)	36-46
4. Tempus perfectum diminutum (bar-line) (vetustioris stili)	47-50
5. Tempus perfectum diminutum (Mensurstrich) (recentioris stili)	61-66
6. Tempus perfectum (Mensurstrich) (recentioris stili)	67-75
7. Tempus imperfectum (Mensurstrich) (recentioris stili)	76-84

What Besseler says about "bar-line" is that "Dufay's predecessors employed a rhythm clearly divided up into measures."¹⁷ This may be true for early fifteenth-century predecessors and even for Machaut and de Vitry, but it can scarcely apply to the syncopated style of some late fourteenth-century composers. Besseler uses

¹⁶Ibid., 6:v.

¹⁷Ibid., p. vi.

Mensurstrich, or bar lines between rather than through the staves, when melodies flow "over the bar-line in a somewhat irregular manner."¹⁸ He gives few dates for the subdivisions according to mensuration. He does say, however, that the flowing rhythm with which the Mensurstrich is used "originated in church music and is appropriate for masses and mass sections dating from c. 1430....It is quite characteristic of Dufay's secular music as well as his church music, though it appears somewhat later in the songs, generally c. 1440."¹⁹ This date is obviously too late for pieces in Ox, one of which appears in group 5, $\emptyset$ with Mensurstrich,²⁰ and one in group 6, O with Mensurstrich.²¹ After noting that the last date in Ox is 1436, Besseler himself says "hence the style of the works copied is not later than this year."²²

Besseler's first three subdivisions are not necessarily in chronological order, since there is no reason to believe that works written in C are any earlier than works written in O or ϵ . All pieces in ϵ and the "older style" of C and O are simply regarded as early works of Dufay. Chronologically, groups 1-3 undoubtedly overlap group 4, the works in $\emptyset$ "vetustioris stili." The pieces in group 5, $\emptyset$ with Mensurstrich, "continue without a break the tradition of such songs

¹⁸Ibid., p. ix.

¹⁹Ibid.

²⁰Craindre vous vueil, No. 4, f. 5, from fascicle 1.

²¹Las, que feray ne que je devenray, No. 153, f. 72, from fascicle 4.

²²Besseler, Dufay, 6:i.

with normal bar-line."²³ In group 6, a return is made to 0, but in a much slower tempo than in group 2 with bar-lines. Nevertheless, group 6 continues the 3/4 tradition. Finally, group 7 is made up of pieces with the signature $\emptyset$, all of which appear in manuscripts later than Ox and are of no concern here.

More than on notational practice, Besseler relies heavily upon the manuscripts in which pieces are preserved for establishing a chronology of Dufay's works. In some of his subdivisions he follows the general fascicle dating in Ox. For example, within group 4, pieces in $\emptyset$ with bar-line, he begins with Belle, vueillies, No. 276, f. 118v, from fascicle 8, one of the oldest fascicles, and follows with Pour l'amour de ma douce amye, No. 318, f. 135v, from fascicle 10, the slightly newer fascicle. The next eight pieces are found in the most recent fascicles 2, 3, and 4. The last four pieces in the group are from later manuscripts. Of the six pieces in group 5 ($\emptyset$ with Mensurstrich), the one from Ox is Craindre vous vueil, No. 4, f. 5, from fascicle 1. The same regard is not observed in group 2, pieces in 0 with bar-line. Of the nine pieces, the eight from fascicles 2, 3, 4, and 10 of Ox appear in no meaningful order.

Whether Besseler's complicated apparatus is valuable is a question each person will have to answer for himself. Certainly Besseler offers little support for his theories, although they are often persuasive. His methods of dating Dufay's works on the basis of mensural changes yield such limited and indecisive results that it is

²³Ibid., p. ix.

doubtful they could be applied to the works of other composers. Indeed, only the works of Dufay and Binchois are preserved in sufficient quantity and variety to attempt a study of a single composer's stylistic and mensural practice in the first half of the fifteenth century.

Such a study of mensural practice in Dufay's music is Charles Hamm's A Chronology of the Works of Guillaume Dufay. Since many aspects of this study involve music from Ox, the early chapters require comment because Hamm's conclusions differ considerably from some of those reached in this more general study of early fifteenth-century mensural practice.

Hamm's attempt to establish a chronology based on mensural practice is certainly valuable and should be the starting point for any further investigation. Nevertheless, his book is open to criticism on several counts. Perhaps the main one is that, by abstracting the work of Dufay from the context of mensural practice of other composers, Hamm builds theories that are not compatible with the common practice of the same time. Although Hamm frequently mentions other composers, his object in doing so is usually to prove that Dufay is consistent in his mensural practice whereas other composers are not. Another major criticism of Hamm's book is his inconsistent use of what might be a valuable tool for the analysis of early music. This tool is a count of note shapes that reveals whether the basic motion of a voice is in breves and semibreves or in semibreves and minims. By such a count, Hamm is essentially applying scientific measurement to Besseler's suggestion that pieces in prolatio notation will present a

different picture than pieces in tempus notation. However, Hamm's application of this scientific measurement is often invalidated because he either compares pieces of different forms and styles or compares a count of notes in all voices of one piece with a count of notes in only one voice of another.²⁴ Hamm complains that Besseler's table, which supports his thesis that major prolation is being abandoned, mixes dissimilar things.²⁵ Yet in one note count "of the upper two voices in each case," Hamm apparently compares the counts of cantus and contratenor in two sections of a mass movement with counts of cantus and tenor in two rondeaux.²⁶

In his first chapter, Hamm accepts without question the equivalence of minims in the mensurations of E, C, and O, but he dismisses major and minor modus as "matters for theorists, not performers."²⁷ This remark is especially curious in light of such motets as Dufay's O gemma--Sacer pastor Barensum, No. 308, f. 130v, in which a canon specifies the modus of the tenor.²⁸ The performer of that part must read it in both III, 2, 3 and III, 2, 2. Hamm places the motet in his

²⁴Hamm, A Chronology of the Works of Guillaume Dufay, p. 2, n. 1, indicates that the count of notes in all tables will be the superius voice only unless otherwise specified, but this is unfortunately not always the case, as will be pointed out below.

²⁵Ibid., p. 2.

²⁶Ibid., p. 28.

²⁷Ibid., p. 2.

²⁸See above, pp. 184-85.

Group 2, 1423-29, but discusses only the 2 and 3 signs.²⁹

Among the pieces that Hamm places in his Group 1, at least five could belong in later groups because they are as likely to be in (Ø) as in the (O) mensuration he assigns them. His first group includes only works in the primary mensurations, whereas pieces with the sign Ø are delayed until Group 3 (1426-31). It is especially likely, however, that the motet Flos florum, No. 38, f. 25v, is in Ø. Guillaume de Van found it to be in "diminished equivalent,"³⁰ and Besseler transcribed it in 6/8 meter.³¹ The motet includes colored longs in several coloration groups, begins with a long imperfected by a semibreve, includes numerous c.p.p. ligatures, and has two-semibreve rests followed by a semibreve. All of these rhythmic figures are associated with C and Ø, but not O.³² In addition, the tenor has several maximas and no notes smaller than a breve. The notation, therefore, is certainly typical of Besseler's "tempus notation."

Hamm includes both Flos florum and the isorhythmic motet, Vasilissa, ergo gaude, No. 310, f. 132v, in his Group 1 and considers both to be in (O), whereas only the latter is so considered by de Van and Besseler. It should be instructive, therefore, to compare the numbers of the different note shapes in each. When the notes of all voices are counted and the differences between the number of voices and the

²⁹Hamm, A Chronology of the Works of Guillaume Dufay, p. 28.

³⁰Van, Dufay, 1:11.

³¹Besseler, Dufay, 1:6.

³²See above, pp. 354-55.

lengths of the two pieces are equalized by converting the raw numbers into percentages, the contrasts in voice movement between the two motets are about what we might expect. The most significant are the greater percentages of maximsas and longs in Flos florum and of semi-breves and minims in Vasilissa, ergo gaude (Table 9).

TABLE 9
COUNT OF NOTE SHAPES IN TWO DUFAY MOTETS

	Maximas	Longs	Breves	Semibreves	Minims
<u>Flos florum</u>					
(S)	-	23	38	110	158
T	5	42	30	---	---
Ct	1	38	51	69	6
Total (571)	6	103	119	179	164
Percentage	1.05	18.04	20.84	31.35	28.72
<u>Vasilissa</u>					
(Cantus I)	-	2	29	42	116
(Cantus II)	-	1	31	101	69
Tenor	-	3	35	53	8
Ct	-	3	35	94	20
Total (642)	-	9	130	290	213
Percentage	-	1.40	20.25	45.17	33.18

If the note counts of Flos florum and Vasilissa, ergo gaude are made only of the top or top two voices, as Hamm frequently does, a significantly different picture will result (Table 10). The difference between the two motets is narrowed considerably, and the shift from the normal note values in 0 to the larger note values in Ø is, indeed,

"... so slight as to be undetectable without such a count and could not have been apparent to a musician performing the piece."³³ If one looks at the lower voices, however, the use of larger values and the scarcity or complete absence of minims in Flos florum could scarcely pass unperceived (Table 10).

TABLE 10
PERCENTAGES OF NOTE SHAPES IN UPPER
VOICES IN TWO DUFAY MOTETS

	Longs	Breves	Semibreves	Minims
<u>Flos</u> (S)	7.00	11.55	33.43	48.02
<u>Vasilissa</u> (CI)	1.06	15.34	22.22	61.38
<u>Vasilissa</u> (CI and CII)	0.77	15.35	36.57	47.31

A count of notes that considers only the top voice or voices, therefore, distorts the overall picture of the notation. For example, the percentage of minims in Vasilissa changes from 33.18 for all four of the voices to 47.31 for both upper voices, and to 61.38 when considering Cantus I alone. That is almost a 100 percent increase over the percentage for all four voices and raises doubts about the value of such statistics.

In addition to Flos florum, the other four pieces in Hamm's Group 1 that may well be (ø) rather than the (0) he assigns them are

³³Hamm, A Chronology of the Works of Guillaume Dufay, p. 45.

the following rondeaux:

1. Je donne a tous les amoureux, No. 166, f. 77
2. Se madame je puis veir, No. 137, f. 66v
3. Mon cuer me fait tous dispenser, No. 25, f. 19v
4. Je requier a tous amoureux, No. 139, f. 67.

Besseler considers all of these rondeaux to be in tempus perfectum diminutum.³⁴

Hamm begins his second chapter with the observation that 42 of the 47 pieces in major prolation in the fifth and sixth fascicles of Ox contain semiminims, but not one of the 12 pieces in minor prolation has semiminims.³⁵ He interprets this situation as a "detectable shift to the use of larger notes in pieces in minor prolation."³⁶ Such an interpretation overlooks the fact that pieces in both O and C had almost never used semiminims up to this time. The first change, which had begun in the late fourteenth century, was to an ever-increasing use of semiminims in major prolation. The later "shift to breve-semibreve movement in minor prolation" that Hamm observes, and that he finds "is not present in the works of such composers as Ciconia and Loqueville,"³⁷ coincides with the introduction of $\emptyset$, of which it is itself an indication.

The lack of historical perspective is less serious, however, than the method Hamm uses to prove a detectable shift to larger note

³⁴Besseler, Dufay, vol. 6, Nos. 52, 53, 54, and 32.

³⁵Hamm, A Chronology of the Works of Guillaume Dufay, p. 15.

³⁶*Ibid.*

³⁷*Ibid.*, p. 25.

values. His choice of four pieces, three rondeaux and a virelai, and the manner in which he makes the count cannot help but prove his point, although the relationship between the mensurations is obscured rather than clarified. The first piece is Binchois' rondeau, Amoureux suy, No. 182, f. 82, in (E), for which Hamm counts the notes in all three voices. The second rondeau, also in (E), is Vide's Amans, doubles, No. 189, f. 85, for four voices, but here Hamm counts only the notes of Cantus I. The third rondeau is Lebertoul's Ma douce amour, No. 199, f. 89, in tempus perfectum and minor prolation but without mensuration signs. Hamm assumes Ma douce amour to be in (O), although it has two longs in coloration, the dotted ligatures that Besseler suggested were a part of the new flowing rhythm of around 1430, and the anacrusis figure of two semibreve rests followed by a semibreve, analagous to the two minim rests and a minim in E. Moreover, the tenor includes two maximas³⁸ and no notes smaller than a breve, with every note written in ligatures. Thus everything about the piece suggests (Ø) rather than (O) and justifies Reaney's transcription in "diminished equivalent."³⁹ With all of these special features, Hamm chose to count the notes of all three voices. Naturally the number of longs and breves is significantly higher than in the other pieces. The fourth piece in Hamm's table is Guillaume Le Grant's virelai, Ma chiere mestresse et amye, No. 226, f. 96v, which is in (C). For this

³⁸No included in Hamm's note count, *ibid.*, p. 15.

³⁹Gilbert Reaney, ed., Early Fifteenth-Century Music, 4 vols. (Rome, 1955-69), 2:41.

piece Hamm again counted only the cantus, as was his announced intention in all cases not otherwise indicated.

A count of notes may be a strange occupation, and certainly it is no more conceivable that the medieval musician bothered to count the number of notes in a piece he was going to perform than that a modern musician would count the number of half and quarter notes in a piece by Beethoven or anyone else. Nevertheless, there must have been some way for musicians of the time to determine whether they should sing in O or $\emptyset$. Several clues to assist in making this determination have already been suggested, and they all can be easily recognized in a rapid scanning of a piece, as might have been done in the early fifteenth century. Even note counting presents a tool of some value, however, if it is properly controlled and interpreted. Hamm writes that it is not possible to detect unspecified use of $\emptyset$ by a comparison with pieces in which the signature is given.⁴⁰ The opposite opinion is advanced in this study. The same pieces with which Hamm illustrated the shift to larger values in minor prolation will clearly show the normal difference between C and $\emptyset$ and between $\emptyset$ and C . It should be noted, however, that the style of the virelai, with its predominantly note-against-note movement in semibreves in all voices, is quite unlike the normal rhythmic patterns of pieces in C . A count of all notes in every voice is given in Table 11, along with the total number of notes in each piece. (Rests are not counted, since Hamm does not.) Percentages under the totals help to clarify the primary movement of the

⁴⁰Hamm, A Chronology of the Works of Guillaume Dufay, p. 45.

voices. Even in these figures and percentages, some distortion results from including final longs, as Hamm does, for they are always used in all mensurations. In Ma chiere mestresse, for example, only one of the nine longs occurs during the course of the piece. The remaining eight are the final notes of the first section and of the ouvert and clos endings of the second section. In the two pieces in C, all the longs are final notes. Only in Ma douce amour do they appear, as one more indication of $\emptyset$, in the normal movement of the tenor part (Table 11).⁴¹

In his second chapter, Hamm begins his explanation of the slowing down of tempo that must have occurred sometime in the fifteenth century. That explanation hinges partly upon the difference in movement in voices in mensurations of perfect prolation and mensurations of imperfect prolation. After some discussion of what note gets a beat, as suggested by both later theorists and modern scholars, he comes ultimately to two conclusions: "I believe that the beat on the minim in major prolation was a fast beat...",⁴² and "I suggest... that in O and C the beat was on the semibreve."⁴³ Hamm acknowledges that minim equivalence would make the beat on the semibreve in O twice as slow as the fast beat on the minim in C and that there is no reason to doubt this relationship in the first group of Dufay's works or in

⁴¹The count sometimes differs by a few notes from the figures given by Hamm, *ibid.*, p. 15; repeated note counts fail to reconcile his figures with the count given in this table.

⁴²*Ibid.*, p. 24.

⁴³*Ibid.*, p. 25.

TABLE 11
COUNT OF NOTE SHAPES IN FOUR DUFAY PIECES

	Mx	L	Br	Sb	M	Sm
<u>Amoureux (C)</u>						
(S)	--	1	1	26	69	27
T	--	1	6	32	32	--
Ct	--	1	8	28	56	6
Total (294)	--	3	15	86	157	33
Percentage	--	1.02	5.10	29.25	53.40	11.23
<u>Amans (C)</u>						
(CI)	--	1	4	33	64	10
(CII)	--	1	3	37	57	22
T	--	1	13	39	11	--
Ct	--	1	9	39	16	--
Total (361)	--	4	29	148	148	32
Percentage	--	1.11	8.03	41.00	41.00	8.86
<u>Ma douce (D)</u>						
(S)	--	2	10	45	38	--
T	2	8	14	--	--	--
Ct	--	3	22	16	7	--
Total (167)	2	13	46	61	45	--
Percentage	1.20	7.78	27.54	36.53	26.95	--
<u>Ma chiere (C)</u>						
(S)	--	2	--	50	7	--
T	--	3	11	36	--	--
Ct	--	4	8	36	--	--
Total (157)	--	9	19	122	7	--
Percentage	--	5.73	12.10	77.71	4.46	--

the works of earlier composers. It is in the shift of values between ϵ and O that begins with his second group that Hamm finds "another tradition, one in which the beat on the minim in ϵ and that on the semibreve in O are not in a 2:1 ratio but approach one another in speed." This approach requires an adjustment of note values "so extreme in some pieces that the percentage of semibreves and minims in ϵ approaches the percentage of breves and semibreves...in O ." In this extreme adjustment, Hamm finds a suggestion that "minim equivalence between major and minor prolation was giving way to a practice in which a minim in ϵ was equated to a semibreve in O ."⁴⁴ Having gone so far, Hamm apparently refuses to acknowledge that his conclusion is but another way of saying that $\emptyset$ can and does replace ϵ as a new way of writing the same note values.

Before pursuing Hamm's arguments any farther, it may be well to give a more complete count of note values in two rondeaux that he himself uses only to illustrate "the shift of value between major and minor prolation in pieces from this period."⁴⁵ His incongruous comparison of these two pieces with a mass movement has already been mentioned and may be ignored here. The first rondeau, J'atendray, No. 104, f. 51, is in (ϵ) and is only 15 measures in length. The second, Bon jour, No. 85, f. 44v, is in perfect tempus with minor prolation, which Hamm assumes to be (O). Basseler, on the other hand, believes the piece to be in tempus perfectum diminutum (vetustioris stili) and gives

⁴⁴Ibid.

⁴⁵Ibid., p. 28.

it the next to last place in that group. Besseler's customary transcription in $6/4 \ 3/4$ extends the rondeau to a total of 43 measures, but transcription in Reaney's "diminished equivalent" would reduce that total to 22 measures, only slightly longer than J'atendray. Both pieces present somewhat atypical pictures of their mensurations. J'atendray has the text in all three voices in a nearly syllabic style except for short melismas at the close of each section of the form. In Bon jour both cantus and tenor sing the text, but the contratenor is textless, although it moves in approximately the same note values as the tenor. The only semiminims occur in one of the melismas at the ends of sections, which are textless and longer than those in J'atendray. In both pieces, the presence of text in the lower part or parts results in a much smaller number of large note values than one would normally find in each mensuration. Nevertheless, as may be seen in Table 12, the two rondeaux clearly illustrate Hamm's extreme adjustment, in which, to reverse the order, the percentages of breves and semibreves in $\emptyset$ approach the percentages of semibreves and minims in ϵ (Table 12).

The rhythmic similarity of pieces in ϵ and $\emptyset$ becomes even more apparent when the opening phrases of the two rondeaux are compared (Example 48). The near or complete identity of many patterns in the two pieces would seem to lead inevitably to the conclusion that the semibreve in $\emptyset$ is in a 2:1 proportion to the minim in ϵ . It should be noted, incidentally, that the cadential figure in Bon jour (listed as pattern 4 on p. 354) is characteristic of pieces in ϵ with semiminims. It appears in the Turin manuscript (Tu B), for instance, in no fewer than 26 of the 54 rondeaux and virelais in ϵ .

TABLE 12
COUNT OF NOTE SHAPES IN TWO DUFAY RONDEAUX

	Longs	Breves	Semi- breves	Minims	Semi- minims
<u>J'atendray (e)</u>					
Cantus	1	—	13	39	11
T	1	—	15	37	4
Ct	1	—	20	30	—
Total (172)	3	—	48	106	15
Percentage	1.74	—	27.91	61.63	8.72
<u>Bon jour (ø)?</u>					
Cantus	1	16	56	39	6
T	2	27	53	—	—
Ct	3	26	45	4	—
Total (178)	6	69	154	43	6
Percentage	2.16	24.82	55.39	15.47	2.16

When Hamm begins to discuss Dufay's works in which both e and ø are found (Group 3), he argues that the shift of values from 0 to ø "is so slight as to be undetectable" without a count of note values and "could not have been apparent to a musician performing the piece."⁴⁶ This may be true in a few cases, especially if one looks only at the upper voice or voices, as Hamm did. When the tenor and contratenor are considered, however, the shift proves to be not quite as slight as Hamm suggests. To illustrate the kind of shift that does occur between 0 and ø, two secular chansons from the most recent

⁴⁶Hamm, A Chronology of the Works of Guillaume Dufay, p. 45.

raison are given in Table 13.⁴⁸ To compensate for the different lengths of sections in O and Ø, percentages have been added. Observable differences between the mensurations in the cantus parts are clearly slight, although C'est bien raison begins with a three-breve coloration group that would surely have warned the performer to begin in Ø. In addition, c.o.p. ligatures in the cantus are to be found only in Ø. Ligatures, of course, are much more likely to be found in the slower moving tenor and contratenor parts, and it is in them that the more than doubled percentages of breves would make the presence of Ø easily detectable by any performer. Except as final notes, moreover, it is only in Ø that longs, including the one in coloration, make their appearance. Thus, even without applying other criteria proposed here for determining the presence of Ø, the count of note values in Table 13 suggests ways in which performers, without making such a count themselves, could have detected the unspecified use of Ø (Table 13).

As a footnote to these remarks about the unspecified use of Ø, it should be recalled that one of Hamm's lists in Group 2b⁴⁹ must be reconsidered, the rondeau refrain, Je ne puis plus, No. 117, f. 55v. As has been shown, the cantus and contratenor of Je ne puis plus must be read in Ø in order to satisfy the requirements of the canon accompanying the tenor.⁵⁰

⁴⁸Not counted is one group of colored minims in the first section of the cantus in C'est bien raison.

⁴⁹A Chronology of the Works of Guillaume Dufay, p. 35.

⁵⁰See above, pp. 247-50 and Example 11.

TABLE 13
COUNT OF NOTE SHAPES IN TWO DUFAY PIECES

	Longs	Breves	Semi- breves	Minims	Semi- minims
<u>Quel fronte</u> in O					
(S)	1	8	29	33	6
T	1	11	32	15	-
Ct	1	10	34	20	6
Total (207)	3	29	95	68	12
Percentage	1.45	14.01	45.89	32.85	5.80
<u>C'est bien</u> in (ø)-0-ø					
A. in (ø)					
(S)	1	17	32	46	8
T	6	28	10	-	-
Ct	2	24	39	7	-
Total (220)	9	69	81	53	8
Percentage	4.09	31.36	36.82	24.09	3.64
B. in O					
(S)	1	6	21	34	-
T	1	10	28	4	-
Ct	1	3	30	29	-
Total (168)	3	19	79	67	-
Percentage	1.79	11.31	47.02	39.88	-
C. in ø					
(S)	1	7	33	41	8
T	3	22	18	-	-
Ct	2	22	28	2	-
Total (187)	6	51	79	43	8
Percentage	3.21	27.27	42.25	22.99	4.28

In his Chapter 3, Hamm discusses for the first time pieces in which the sign $\emptyset$ appears. His Group 3 (dated 1426-31) includes only those pieces in which both $\emptyset$ and ϵ are used, either simultaneously or in alternation. Just as he had suggested that a fast beat on the minim in major prolation was no longer in a 2:1 proportion to the slow beat on the semibreve in minor prolation, so he now suggests that the sign $\emptyset$ "calls for a beat on the semibreve somewhat faster than the beat on the semibreve in ϵ and somewhat slower than the beat on the minim in ϵ ."⁵¹ He adds that, when a composer changes to a mensuration moving faster than the one he has been using, he will tend to use larger notes. As evidence of this change, Hamm provides a count of the notes in three mensurations in the motet Rite maiorem from the Bologna manuscript (BL), No. 174, f. 196v-197. The sections in ϵ consist of 50 measures and sections in ϵ of 62 measures, but sections in $\emptyset$ consist of only 16 measures in 6/8 meter. Comparisons of short passages within a piece are of little value, but the significant factor here is that Hamm is faced with a combination of $\emptyset$ in the top voice against a continuing ϵ in the three other voices. He must therefore reconcile his presumed difference in tempo between the two mensurations of ϵ and $\emptyset$. His solution is to suggest that when the top voice changes to $\emptyset$ and the other parts continue in ϵ , the person singing the top part or a time-beater reading that part would slow down the beat somewhat to match the new tempo indicated by the $\emptyset$ in the top voice. Beating time, Hamm says, was probably a menial task, and many paintings of the fifteenth

⁵¹A Chronology of the Works of Guillaume Dufay, p. 39.

century show a boy giving the beat. Whether singing or not, the time-beater would probably follow the superius part.⁵²

It is obvious that Hamm has strained hard to find some way out of his dilemma. Throughout Ox, it is clear that minims are still equal in the four primary mensurations and cannot possibly move at different speeds when two or more mensurations are performed together. It is clear too, that the semibreve of $\emptyset$ is equivalent to the minim of the four primary mensurations and, when sounding at the same time as ϵ , must be in duple proportion. If time-beaters followed the superius and kept the singers together when that part changed to $\emptyset$, we may wonder what happened when the top voices remain in ϵ and the tenor changes to $\emptyset$, as in Cordier's ballade, Dame excellent, No. 271, f. 116.⁵³ Neither does it seem reasonable that Je ne vis pas, No. 227, f. 97, should begin in a slower tempo because the triplum by Francus de Insula is in $\emptyset$ while the other parts are in ϵ and should then speed up when the triplum changes to ϵ in agreement with the other voices for the rest of the piece.⁵⁴

It must be emphasized again that, although the tempo of a mensuration when used alone may be different than it would be when used in combination with other mensurations, there is no evidence in the musical sources of the first third of the fifteenth century that minims of the four primary mensurations ceased being equivalent. Equally

⁵²Ibid., p. 39.

⁵³See Reaney, Early Fifteenth-Century Music, 1:13, mm. 16-17.

⁵⁴Ibid., 2:25, mm. 1-4.

lacking is any firm evidence that the beat on the semibreve in $\emptyset$ was not exactly as fast as the beat on the minim in ϵ . Yet Hamm persists in considering $\emptyset$ as a tempo indication rather than as a new way of writing ϵ . In discussing the offertory of Dufay's Missa Sancti Jacobi, he points out that if a section in $\emptyset$ had been written in ϵ , nearly a fourth of the notes would have become semiminims, a percentage much greater than is found in any Dufay piece.⁵⁵ But this is arguing in circles. One of the obvious reasons for using $\emptyset$ was to avoid having to write flagged semiminims. In Rite majorem, for example, the two short passages in $\emptyset$ occur as the final measures of the two isorhythmic periods in ϵ , and they are the only passages in which semiminim values are to be found. If the note values in $\emptyset$ are counted by themselves, 37.5 percent of the total would be semiminims. Adding the diminished values of $\emptyset$ to the values in ϵ , however, reveals a rather conservative use of imperfect time and major prolation in Rite majorem (Table 14).⁵⁶

Further evidence of the proportional relationship between $\emptyset$ and ϵ is given by Hamm himself in this third chapter. He lists a number of pieces by composers other than Dufay in which the two mensurations are combined. Moreover, he notes that the Anthonius Romanus motet, Ducalis sedes inclita, BL 243, f. 146v, has ϵ in the contratenor and tenor, with ($\emptyset$) in triplum and motetus, but a three-voice version of the same motet in MS Bologna, Biblioteca Universitaria 2216 (BU), No. 56, f. 38v-39,

⁵⁵Hamm, A Chronology of the Works of Guillaume Dufay, p. 42.

⁵⁶Compare the note count, *ibid.*, p. 39.

TABLE 14
COUNT OF NOTE SHAPES IN RITE MAJOREM

	Breves	Semibreves	Minims	Semiminims
6	16	62	70	—
ø (diminished)	—	14	36	30
Total (228)	16	76	106	30
Percentage	7.02	33.33	46.49	13.16

has all voices in 6.⁵⁷

In Chapter 4, Hamm discusses a small group of pieces that use ø and flagged semiminims but do not use major prolation. This group, which he dates 1426-33, includes the last of Dufay's pieces in Ox. Once again, Hamm states his position that ø does not necessarily mean diminution by half and argues that counts of notes in 0 and ø do not show the difference in movement one would expect to find "if the tempo relationship between the two were anything approaching 2:1."⁵⁸ This is certainly true when counts are made of contrasting sections in which all voices change from ø to 0 within a piece. Hamm's example is Dufay's Vergene bella, No. 312, f. 133v, but whether the tempo relationship between the two is 2:1, or 3:2 as Hamm believes, or simply a somewhat faster beat in ø, can neither be proved nor disproved.

In support of his thesis that diminution of triple mensurations

⁵⁷Ibid., p. 44.

⁵⁸Ibid., p. 59.

took away a third, not a half, Hamm offers three examples, one of which is from Ox.⁵⁹ Of the two later pieces, an anonymous Gloria from the Trent, Castello del Buon Consiglio, MS 92, f. 147v (Tr), introduces coloration in C against a change from C to $\emptyset$ in the tenor with semi-breve equivalence in coloration and $\emptyset$. In the second piece, a setting of Victime pascale laudes by Pylloys, Tr 90, f. 286v, two voices have the signature C3 against $\emptyset$ in the third, and again the two mensurations are equivalent. It might be noted that, as C3 must be read as if in C, a signature of C3 in all voices would have been a more accurate and less equivocal indication of the mensural organization and the desired tempo.

Hamm's example from Ox is Dufay's Belle veullies moy retenir, No. 102, f. 50v, in which the cantus has $\emptyset$ against lower parts in tempus perfectum with no mensuration signs and only two minims in the contratenor. As has already been shown, there is no reason to believe that the lower voices are to be read in O, with the cantus diminished by one third.⁶⁰ In Dufay's usage, and that of Ox in general, the equivalence of minims in combined mensurations is so consistently maintained that had he wanted a 3:2 relationship between $\emptyset$ and O he would surely have indicated it more precisely.

Needless complications arise in Hamm's attempt to explain "the most troublesome piece from this period of Dufay's life,"⁶¹ the

⁵⁹Ibid., pp. 64ff.

⁶⁰See above, pp. 304-308 and Example 21.

⁶¹Hamm, A Chronology of the Works of Guillaume Dufay, p. 67.

five-voice motet Ecclesie militantis, from Tr 87, f. 95v. The mensural scheme of this isorhythmic motet is as follows:

Cantus I and II:	(ø)	℄	ø
Contratenor:	ø	℄3	ø
Tenors I and II:	c	℄	c
	℄	o	ø

Hamm's difficulties result from his explanation of the proportional relationships in terms of where the beat falls. At the beginning of the motet, he assumes that the beat is on the minim in c and the semi-breve in ø, the normal 2:1 relationship of these two mensurations. Later, however, a beat on the semibreve in o in the tenor becomes a beat on the breve (imperfect) in ø and ℄ in the other parts. This is contrary to Hamm's "findings," but those findings are no more than assumptions that Dufay's motet disproves. There is nothing at all troublesome about the piece if one accepts that it is based on minim equivalence in the primary mensurations. Against this constant value, all the proportional signs produce the normal and expected results: ℄, ø, and c are all diminished by half; ℄3 is in sesquialtera relationship to c.

Nothing in Ox supports Hamm's flat statement that "minim equivalence had given way to other relationships in general mensural practice." Neither did "Dufay set himself the problem in Ecclesie militantis of using mensurations against one another which would not go together according to performance practice of the time."⁶² Minim equivalence remained a practical as well as a theoretical concept well into

⁶²Ibid., p. 70.

the second half of the fifteenth century if not beyond. Ockeghem's Missa prolationum is but one of many examples that might be cited. As late as Isaac's Choralis Constantinus, moreover, $\emptyset$ still would go together with O and C in a 2:1 relationship.⁶³ Given the inconsistency of composers in using and theorists in explaining proportions and proportional signs, it is folly to predicate a "general mensural practice" on assumptions that can never be verified. This is especially true of a transitional stage in the development of notation such as that represented by the repertory of Ox. For the practice of that MS, however, we can say that minim equivalence allowed any or all of the primary mensurations to go together. In addition, that equivalence provided the basis for calculating all proportional signs, including $\emptyset$.

From the foregoing discussion, it should be apparent that the tempo relationships of the four primary mensurations, $\emptyset$, and the frequently used proportions can be ascertained whenever different mensurations and proportions are performed at the same time. It is not unreasonable, therefore, to assume that the same tempo relationships are maintained when all voices of a composition change at the same time from one mensuration to another or to the same proportional sign. Therefore, when a piece such as Johannes Franchoy's Credo, No. 160, f. 74v, changes in all voices at the same time from O to C and then to C, the minim, whether transcribed as an eighth note in 3/4, 6/8, or 2/4,

⁶³See Willi Apel, The Notation of Polyphonic Music 900-1600 (Cambridge, Mass., 1953), Facsimile 35, p. 169.

or as a quarter note in 3/2, 6/4, or 4/4, has the same value in each section. Other examples of simultaneous changes in all voices from one to another of the four primary mensurations are so numerous that to list them would serve no useful purpose.

In the same manner, when all voices change from any one of the four primary mensurations to $\emptyset$, a semibreve of the latter should take the same amount of time as a minim in the primary mensuration. Two units of tempus of $\emptyset$ are thus required to fill the time of one unit in C or C. Similarly, when all voices change from C to $\mathcal{C}$, as in the anonymous isorhythmic motet, Clarus ortus, No. 274, f. 117v, a breve of $\mathcal{C}$ is equal to a semibreve of C. If two tempora of $\mathcal{C}$ are barred together in modern notation, a measure of $\mathcal{C}$ would then be equivalent to a measure of C.

These examples may be taken as the standard tempo relationships when all voices change at the same time to one of the primary mensurations or one of the more frequently used proportions. Three pieces have less common changes, however, and deserve special consideration.

Only one piece in Ox calls for all voices to change at the same time to the proportion sign 3, Grossin's Tres douchement et soutiement, No. 94, f. 47v. The chanson is in three separate sections, of which the first has no mensuration sign but is clearly in (C). The other two sections are marked in all three voices by the signs C and 3. To complicate matters, the cadential measures in all three sections are musically identical. Although it would seem that the three identical cadences were meant to be in the same tempo, this is not possible because of the way in which they are notated:

Three tempora of (C) before final long
 Six tempora of 0 before final long
 Six tempora of 3 before final long.

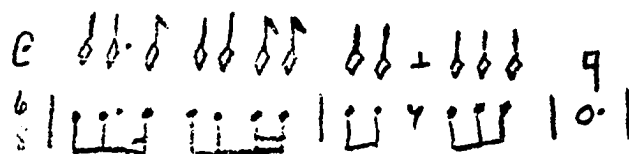
Thus the cadence in C is rewritten in the next higher note values in 0, but the cadence in 3 has the same note values as the cadence in 0. The cadence in 0 would therefore be twice as slow as the first cadence, and the cadence in 3 should be one third faster than the cadence in 0, if the proportional relationship is on the semibreve level. However, minims in the top voice show that the prolation is perfect in 3. As has been demonstrated earlier, 3 usually indicates a 3:2 relationship only on the minim level, with the result that a tempus of 0 replaces one of 0. Thus, the perfect semibreves of 3 would be no faster than the imperfect semibreves of 0, and the cadences in 0 and 3 would be in the same tempo, twice as slow as the cadence in C. For the three cadences to be in this relationship makes no sense, especially if the second and third cadences are written under different signs but sound the same.

The dilemma is solved if one assumes that the scribe made an error at the beginning of the second section, which should have been in Ø rather than 0. Thereby, the six cadence measures of the second section would be twice the speed, but sound the same as the three cadence measures of the first section in C. Thereupon the 3 cadence would relate in the normal manner of 3:2 minims, with a perfect semibreve in 3 being equal to an imperfect semibreve of the second section in Ø (rather than 0). It too would then be identical in tempo to the first cadence in C.

If it seems far-fetched to suggest that the scribe gave the

wrong mensuration for the entire second section, proof that he was not at his best while copying Tres douchement can be found in the notation of the cantus in the third cadence.⁶⁴ In the previous measures in 3, semibreves and minims must be read in perfect prolation, but one unit of tempus in the third cadence cannot be read with perfect semibreves (Figure 28).⁶⁵

Cadence 1:



Cadence 3:

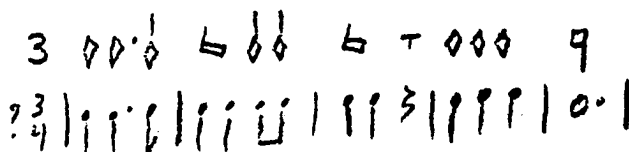


Figure 28

The scribe apparently reverted to a notation correct in 0 but impossible in 3, which has the normal meaning of 3:2 minims everywhere else in the section. If the third cadence were truly meant to be in 3, it might have been written as in Figure 29, which would change the cadence in 0 only slightly and would keep the harmonic structure of the

⁶⁴Another scribal error seems apparent in the last two notes of m. 13 and all of m. 14 in the contratenor, which were copied a third too high; compare mm. 36-38, in Reaney, Early Fifteenth-Century Music, 3:26-28.

⁶⁵Reaney's transcription, *ibid.*, mm. 64-66, makes no sense and is to be discarded.

Cadence 2 (mm. 35-42)

Handwritten musical score for "The Rose Tree" in G major, 2/4 time. The score is written on four staves. The first staff is the melody, the second and third are accompaniment for the right hand, and the fourth is for the left hand. The music is in G major (one sharp) and 2/4 time. The melody starts with a treble clef and a key signature of one sharp. The accompaniment staves also have treble clefs and a key signature of one sharp. The left hand staff has a bass clef and a key signature of one sharp. The score is written in a simple, handwritten style with some corrections and a final double bar line.

Cadence 3 (mm. 60-69)

Handwritten musical score for the song "The Rose Tree" (Дерево Розы). The score is written on three staves in 6/8 time, with a key signature of one flat (B-flat). The lyrics are in Russian and are written above the first staff. The notation includes notes, rests, and bar lines, with some notes beamed together. The lyrics are: 3 0 т 0 б 0 0 т 0 0 б 0 0 (р) 0 0. б б б б б т 0 0 0 9. The score is a handwritten transcription of a musical piece.

Binchois' Gloria and Credo, Nos. 1 and 2, f. 1-4, are neither as problematic as Grossim's Tres douchement, nor as full of scribal errors. In fact, the only major error is in the Qui cum patrem section of the Credo, in which the tenor is marked 0 instead of $\emptyset$. Both movements are divided into alternating sections of two-voice and three-voice texture. These sections are undesignated in Ox but are marked unus and chorus in BL 120 and 121, f. 130v-134. In the Gloria, the two-voice sections for cantus and contratenor have the text in both parts, and only the tenor is textless in the trios. In the Credo, however, the contratenor has only text incipits for the duets in both Ox and BL, and neither of the lower parts has the text in the chorus sections. It seems probable, nevertheless, that the contratenor should sing the text in the duets, as Van den Borren has indicated in his transcription.⁶⁶

With regard to mensural practice, the chief interest of Binchois' Gloria-Credo pair lies in its alternation of primary and proportional mensurations. The pattern of the Gloria is simple: 0 for all the duets and $\emptyset$ for all the trios except the final Amen. The relationship of these two mensurations is particularly interesting because it directly contradicts some of Hamm's "findings." In the first two sections of the cantus, for example, the note-count as given below shows an almost exact shift to the next higher values in $\emptyset$:⁶⁷

⁶⁶Borren, Polyphonia Sacra, pp. 63-74.

⁶⁷See Hamm, A Chronology of the Works of Guillaume Dufay, p. 59.

	<u>Longs</u>	<u>Breves</u>	<u>Semibreves</u>	<u>Minims</u>	<u>Semiminims</u>
0	-	2	14	19	7
Ø	2	13	19	15	-

It is curious and unusual that sections in 0 should have so many flagged semiminims and equally curious that sections in Ø have almost none. The implication clearly seems to be that Ø is in a 2:1 relationship to 0.

The pattern of mensurations is considerably more complex in the Credo, as may be seen in the following outline of its 15 sections:

	<u>Cantus</u>	<u>Tenor</u>	<u>Contratenor</u>
1. Patrem	C	C	0
2. Et in unum	Ø	-	Ø
3. Et ex patre	C	C	0
4. Genitum	Ø	-	Ø
5. Qui propter	C	C	0
6. Et incarnatus	Ø	-	Ø
7. Crucifixus	C	C	0
8. Et resurrexit	Ø	-	Ø
9. Et iterum	C	C	0
10. Et in spiritum	3 and $\frac{3}{2}$	-	3
11. Qui cum patrem	Ø	0 (-Ø)	Ø
12. Et unam sanctam	3	-	3
13. Et expecto	Ø	Ø	Ø
14. Et vitam venturi	3	-	3
15. Amen	C	C	C

The first nine sections follow the pattern of the Gloria, except that C and 0 now appear together as the primary mensurations. Moreover, the primary and proportional mensurations have changed position in relation to the duets and trios. It is the latter that are now in C and 0, while the duets are in Ø. As in the Gloria, the notation in these nine sections suggests a 2:1 relationship. To determine the proportional relationships of the remaining six sections is more

difficult. The problem consists of relating the reversed semicircle with slash (section 10) and without (sections 12 and 14) to the primary mensurations C and O and to tempus perfectum diminutum.

The solution to this problem can only be found in the use and meaning of the various signs in other pieces in Ox. It should be noted first, however, that a wide range of notes in all of the mensurations includes flagged semiminims even in $\emptyset$ and $\mathcal{J}$. Consequently, the tempo of the Credo must have broadened considerably from earlier uses of C, O, and $\emptyset$. To avoid unduly rapid notes in section 10, which uses the reversed semicircle with slash and a syllabic setting that includes syllables on minims, a transcription into modern notation must also employ larger note values. Van den Borren's usual transcription of O as 3/2 and C as 4/4, with minims in both equal to a quarter note, is therefore particularly appropriate here. If we assume, as Van den Borren does, that $\emptyset$ indicates a 2:1 diminution, the duet sections may be transcribed in 3/4 or 6/4, with a semibreve instead of a minim now equal to a quarter note. Flagged semiminims in C and O would then be eighth notes, and the few such notes in $\emptyset$ would be sixteenths, a not unreasonably small note value for the music of this time.

Additional justification of the duple relationship between $\emptyset$ and O may be found in the duet sections with reversed semicircles. It is significant that section 10 in $\mathcal{J}$ follows C and O in section 9, whereas sections 12 and 14 in $\mathcal{O}$ follow sections in $\emptyset$. If the reversed semicircles relate to the preceding mensurations, as they do in several instances in Ox, both $\mathcal{J}$ and $\mathcal{O}$ would be in the same tempo. This cannot have been a coincidence. Binchois must have introduced it

deliberately to create a subtle rhythmic organization.

In the normal meaning of a reversed semicircle in relation to C and O, four semibreves or minims replace three. The reversed semicircle with slash would then double that number, substituting eight minims or semibreves for three in C or O:

	<u>Semibreves</u>	<u>Minims</u>
in O and C	3	6
in $\mathcal{O}$	4	8
in $\mathcal{O}$	8	16

Consequently, four tempora of $\mathcal{O}$ would equal one tempus of O or one and one-half tempora of C. A double diminution of values in modern transcription results in the minims of $\mathcal{O}$ becoming sixteenth notes.⁶⁸ Two different ways of introducing sesquialtera further enrich section 10 in $\mathcal{O}$. The cantus first has three semibreves in coloration and closes with a passage in $\frac{3}{2}$. As only breves and semibreves are used in $\frac{3}{2}$, a 3:2 proportion of semibreves is obviously intended. The entire duet section 10 is transcribed in Example 50.

⁶⁸Borren's transcription, Polyphonia Sacra, p. 70, would thus require four measures of his $\frac{2}{8}$ meter to move in the time of a previous measure of O in the contratenor in $\frac{3}{2}$.

Example 50



Following section 10 in $\mathcal{J}$, a trio has $\emptyset$ in all voices. That the relationship between these two mensurations is the same as that in the succession $\emptyset - \mathcal{J}$ may be shown in the following way:

	<u>Semibreves</u>	<u>Minims</u>
$\emptyset$	3	6
$\emptyset$	6	<u>12</u>
$\mathcal{J}$ $\mathcal{J}$	8	16

Thus, a measure of our tempora in $\mathcal{J}$, which equalled one tempus of $\emptyset$ in 3/2, would now equal two tempora of $\emptyset$ in 6/4. The two sections in $\mathcal{J}$ that follow sections in $\emptyset$ therefore relate in the normal manner: four semibreves of $\mathcal{J}$ substitute for three in $\emptyset$. Since the minim of $\emptyset$ is an eighth note in 6/4, the minim of $\mathcal{J}$ would diminish to a sixteenth, and the smallest value, flagged semiminims, would be thirty-second notes in modern transcription. When this is done, section 10 in $\mathcal{J}$ following $\emptyset$ and C and sections 12 and 14 in $\mathcal{J}$ following $\emptyset$ all prove to be in the same tempo. Sections 12 and 14 both have flagged semiminims, but only the first section uses coloration to produce a 3:2 proportion of both

semibreves and minims. Duet section 12 is transcribed in Example 51.

Example 51



It should be noted that Van den Borren does not treat the sections in C in the manner here proposed. Instead, he transcribes these sections in $2/4$ and in note values one degree higher than the values in the section in C . Although he indicates the modern note value of the breve in the different mensurations and proportions, Van den Borren does not indicate the temporal relationships between sections. Presumably, however, he regarded the sections in C as being in the normal $4:3$ relationship to the primary mensurations, not to the C that they follow. Two factors make the interpretation suggested here seem the more probable of the two possibilities: the normal meaning of C when

it follows $\emptyset$ in Ox , and the balanced structure of the Credo that results when $\mathcal{J}$ and $\mathcal{O}$ stand in the same relationship to the primary mensurations. Thus the relationship between sections 9 and 10 returns in reverse order between sections 14 and 15 to bring the Credo back full circle to its original tempo in C for the Amen.

From the foregoing discussion a number of conclusions may be drawn. The increasing use of semiminims, first in $\mathcal{C}$, then in C, $\mathcal{O}$, and $\emptyset$, makes it clear that the general tempo of music must have been slowing down. In a transitional period such as this, therefore, we need not assume that the minims of every piece in the repertory would be performed at the same rate of speed. For individual pieces, however, we must assume an unchanging value of the minim, whether a piece remains in one mensuration throughout, combines two or more primary mensurations, or introduces proportional relationships. It is obvious that minim equivalence of the primary mensurations provided the sole basis for their combination and for the calculation of proportions used with them. The situation is less clear in sectional pieces that change mensurations or introduce proportions simultaneously in all voices. In some cases, perhaps, the temporal relationships between sections can neither be proved nor disproved. Clues to these relationships, however, are only to be found in simultaneous combinations of the primary mensurations and proportions. It is these clues, therefore, that provide the only reliable guide to the temporal relationships between sections in such pieces as Binchois' Gloria and Credo. Proposals of other relationships—whether right or wrong—can

never be based on anything but inferential speculation.

Summary

The music preserved in Ox is written in a notation that evolved directly from late fourteenth-century practices. Indeed, several pieces in Ox in addition to those also preserved in the manuscript Chantilly (Ch) must have been written before 1400. The evolution of notational practice in the early fifteenth century is one of gradual change, clarification, and simplification. None of the special note shapes devised by late fourteenth-century composers continue to be used in Ox, although the syncopated style lives on in a number of older pieces. The use of modus and the occasional isorhythmic structures in mass movements of the fourteenth century are no longer to be found in the mass movements of Ox. Modus still plays an important part in the mensuration of the 17 isorhythmic motets, 12 of which are isorhythmic in all voices. Imperfect modus begins to predominate, however, and tenors ad longum are added to some motets to provide simplified versions of tenors that are in perfect modus or ruled by canons. The upper voices of isorhythmic motets in Ox tend to be more complicated than most of the motets in Ch and in MS Modena (Mod) and include changes of meter, proportional signs, and other devices widely used in the secular songs.

In addition to the isorhythmic motets, Ox contains 21 non-isorhythmic motets that are generally more modern and less complex in their notation. Only one has a canon, and modus is largely absent in all of them. Six have passages in which one or more voices change mensuration, and five of these include proportional signs. Twelve are

progressive in having sections in $\emptyset$ or in being entirely in that mensuration.

Whereas motets and mass movements constitute a small percentage of the pieces in Ox, secular French chansons and 25 Italian pieces fill most of the pages of the manuscript. With the exception of one ballata by Hugo de Lantins, the Italian pieces are much less complicated than the French chansons. The 239 French secular songs exhibit the widest variety of notational practice, ranging from the complexities of late fourteenth-century mannered style to simple and straightforward rhythms in an unchanging mensuration throughout a piece. The secular songs illustrate practically every problem and device of interest to a study of the notation of the late fourteenth and early fifteenth centuries. Nevertheless, a majority of the secular pieces keep the same mensuration in all voices throughout an entire composition and have little in common with the flamboyant, polyrhythmic pieces associated with composers of the late fourteenth century. About half of the pieces are in perfect and half in imperfect prolation, although imperfect prolation begins to predominate in the later fascicles of Ox. In addition to pieces in the four primary mensurations, the new mensuration of $\emptyset$ receives increasing attention from composers whose works are preserved in Ox. In comparison with earlier manuscripts, the mensuration signs are used more frequently in Ox, not only to indicate changes of mensuration, but also to specify the mensuration of a piece.

Within the standard mensurations, flagged semiminims are used increasingly in Ox, especially in ϵ , but later to some degree in $\emptyset$ and even in $\emptyset$. The older form of the flagged semiminim seems to be giving

way to the black semiminims in the more recent music. Coloration is frequent and much less experimental than in Ch and Mod. It most commonly involves a change of mensuration from 6 to 0. Reverse coloration is not found, nor is void red with the meaning of a 4:3 proportion. In 0 and C, coloration of minims and semibreves changes the proportion to perfect. In C this coloration is often ambiguous, for it may replace a tempus of C with either a tempus of 6 or a tempus of 0. It is significant that pieces marked with the sign 0 rarely have larger note values in coloration. Colored longs in pieces without mensuration signs may therefore be an indication that composers were writing in ϕ rather than in 0.

In Ox, when a stroke is drawn through one of the four primary mensuration signs, the notes are written in values one step larger than usual and must be read in diminution. The organization of the notes does not change, so that perfect semibreves in 6 are still perfect in ϕ . Thus the stroke causes two units of tempus to be performed in the space of time normally required by one. All evidence leads to the conclusion that the stroke means a 2:1 proportion in Ox. The most important because the most frequently used sign with a stroke is ϕ . During the last part of the fourteenth and the early part of the fifteenth century, ϕ appears to have evolved as a replacement for 6. Perhaps the most significant finding of this dissertation is a method for deciding with some degree of accuracy whether composers were thinking in 0 or ϕ . After identifying the common rhythmic patterns in 6 that are also found in pieces marked ϕ , the presence of those patterns in pieces not marked with either 0 or ϕ can be used to determine when ϕ

was intended.

With the possible exception of Tu B, proportional signs are more numerous and more consistently used in Ox than in earlier manuscripts. The numerous devices for indicating a 4:3 proportion in Ch and Mod were already simplified in Tu B, and the proportion is always indicated by the sign $\supset$ in Ox. Other proportions, especially the most common ones of 3:2 and 2:1, are usually indicated by single numbers, 3, or 2, with no need for explanatory canons. The figure 2 is most frequently used in the mensuration of ϵ , or occasionally in $\circ$, to indicate a change to II, 3, 2. In other words, 2 is often the equivalent of $\emptyset$. The figure 3 normally means a 3:2 proportion of minims in relation to the previous mensuration in the same voice.

From a study of the relationship of one mensuration or proportion to another when both are sounding together, the tempo relationships between the four primary mensurations and $\emptyset$ or the other frequently used proportions can be established. In this way the relative tempos of sections that change mensuration simultaneously in all voices can also be determined.

In summary, the Oxford manuscript is one of the principal anthologies of early fifteenth-century music. Its repertory bridges the gap between the notation of the late fourteenth century and that of the third and fourth decades of the fifteenth century. It may be said with some justification that most of the problems connected with the notation of this period have been solved and most of its ambiguities explained. About the only real problem that remains is to find

new and better ways of expressing in modern notation the subtle nuances of this music that is so old yet is ever new.

APPENDIX

PROBABLE DISTRIBUTION OF RONDEAUX

WITHOUT MENSURATION SIGN

IN O OR Ø

I. Fascicles 5-8

Probably O

1. No. 278, (8) f. 119v	Francus de Insula

Probably Ø

1. No. 180, (5) f. 81v	Grenon
2. No. 199, (5) f. 89v	Lebertoul
3. No. 217, (6) f. 94v	Anonymous
4. No. 221, (6) f. 95v	Anonymous
5. No. 261, (7) f. 111v	Anonymous
6. No. 265, (7) f. 113v	Anonymous
7. No. 276, (8) f. 119v	Dufay
8. No. 295, (8) f. 124v	Anonymous

II. Fascicles 9-10

Probably O

1. No. 324, (1) f. 140	Dufay

Probably Ø

1. No. 307, (9) f. 129v (Same as No. 64, (3) f. 39v)	Arnold de Lantins
2. No. 318, (10) f. 135v	Dufay

III. Fascicles 1-4

Probably O

1. No. 4, (1) f. 5	Dufay
2. No. 58, (2) f. 34v	Dufay
3. No. 61, (3) f. 35	Hugo de Lantins

4.	No. 62, (3) f. 35	Reson
5.	No. 69, (3) f. 37v	Brollo
6.	No. 117, (3) f. 55v	Dufay
7.	No. 172, (4) f. 78v	Dufay
8.	No. 176, (4) f. 80	Dufay

Probably Ø

1.	No. 10, (1) f. 9v	Binchois
2.	No. 25, (2) f. 19v	Dufay
3.	No. 28, (2) f. 20v	Dufay
4.	No. 52, (2) f. 32v	(Hugo de Lantins)
5.	No. 57, (2) f. 34	Dufay
6.	No. 63, (3) f. 35v	Hugo de Lantins
7.	No. 64, (3) f. 35v (same as No. 307, (9) f. 129v)	(Arnold de Lantins)
8.	No. 71, (3) f. 38v	Arnold de Lantins
9.	No. 79, (3) f. 42	Binchois
10.	No. 85, (3) f. 44v	Dufay
11.	No. 87, (3) f. 45	Hugo de Lantins
12.	No. 88, (3) f. 45v	Hugo de Lantins
13.	No. 89, (3) f. 45v	Hugo de Lantins
14.	No. 91, (3) f. 46v	Hugo de Lantins
15.	No. 105, (3) f. 51v	Hugo de Lantins
16.	No. 106, (3) f. 51v	Hugo de Lantins
17.	No. 114, (3) f. 54	Benoît
18.	No. 118, (3) f. 56	Arnold de Lantins
19.	No. 119, (3) f. 56v	Binchois
20.	No. 127, (4) f. 61	Binchois
21.	No. 135, (4) f. 66	Binchois
22.	No. 136, (4) f. 66v	Binchois
23.	No. 137, (4) f. 66v	Dufay
24.	No. 151, (4) f. 71v	Dufay
25.	No. 152, (4) f. 71v	Binchois
26.	No. 153, (4) f. 72	Dufay
27.	No. 154, (4) f. 72	Binchois
28.	No. 161, (4) f. 76	R. Libert
29.	No. 163, (4) f. 76v	Binchois
30.	No. 164, (4) f. 76v	Adam
31.	No. 165, (4) f. 77	Vide
32.	No. 166, (4) f. 77	Dufay
33.	No. 168, (4) f. 77v	Adam
34.	No. 169, (4) f. 78	Binchois
35.	No. 171, (4) f. 78v	Binchois
36.	No. 174, (4) f. 79v	Binchois
37.	No. 175, (4) f. 79v	Arnold de Lantins

Transitional

1. No. 54, (2) f. 33	J. Franchois
2. No. 84, (3) f. 44	Arnold de Lantins
3. No. 110, (3) f. 52v	Arnold de Lantins
4. No. 112, (3) f. 53v	Reson
5. No. 138, (4) f. 67	Arnold de Lantins
6. No. 139, (4) f. 67	Dufay
7. No. 141, (4) f. 67v	Anonymous
8. No. 155, (4) f. 72v	Arnold de Lantins
9. No. 162, (4) f. 76	Adam

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- Br Brussels, Bibliothèque Royale de Belgique, MS 19609.
- BU Bologna, Biblioteca Universitaria 2216.
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- Esc A Escorial, Biblioteca del Monasterio, MS V. III. 24.
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- FP Florence, Biblioteca Nazionale, Panciatichiano 26.
- Fri Fribourg, Bibliothèque Cantonale et Universitaire de Fribourg en Suisse, Z 260.
- Iv Ivrea, Biblioteca Capitolare (without shelfmark).
- Lab Washington, Library of Congress, M. 2. 1. L 25 Case = Laborde Chansonier.
- Mach A Paris, Bibliothèque Nationale, f. frç. 1584.
- Mach C Paris, Bibliothèque Nationale, f. frç. 1586.
- Mach E Paris, Bibliothèque Nationale, f. frç. 9221.
- Mach G Paris, Bibliothèque Nationale, f. frç. 22,546.

- Mod Modena, Biblioteca Estense, a. M. 5. 24 (olim 568).
- McdB Modena, Biblioteca Estense, a. x. I, 11 (olim VI. H. 15 and lat. 471).
- MuO Munich, Staatsbibliothek, mus. 3232 a.
- OH Old Hall, Library of St. Edmund's College (without shelfmark) (Old Hall Manuscript).
- Ox Oxford, Bodleian Library, Canonici Misc. 213.
- PC Paris, Bibliothèque Nationale, nouv. acq. frç. 4379.
- Pic Paris, Bibliothèque Nationale, Coll. de Picardie 67, f. 67.
- PR Paris, Bibliothèque Nationale, nouv. acq. frç. 6771.
- Rob London, British Museum, MS Add. 28550 (Robertsbridge Codex).
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