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THE FLORIDA STATE UNIVERSITY

SCHOOL OF MUSIC

# THE RHYTHM OF MEDIEVAL MUSIC: A STUDY IN THE RELATIONSHIP OF STRESS AND QUANTITY AND A THEORY OF RECONSTRUCTION WITH A TRANSLATION OF JOHN OF GARLAND'S DE MENSURABILI MUSICA

by

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Marilyn P. Grombacher
Professor Directing Dissertation



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Im Anfang war der Rhythmus.

Hans von Bülow

Scholaticism is essentially a method of measurement and classification . . . Its yardstick is the definition; its laboratory the syllogism; its master, Aristotle.

F. E. Peters, Aristotle and the Arabs

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## PREFACE

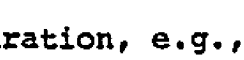
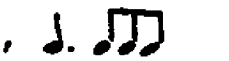
Anyone who has attempted to prepare an edition of or to perform early music will have devoted much of his attention to problems of rhythmic interpretation. Although the notational system for denoting pitch relationships has remained basically stable since the perfection of the staff and clef signs in the eleventh century, systems of temporal and rhythmic notation have undergone considerable development and alteration. Perhaps the most significant developments in rhythmic notation are the meter signatures and barlines which came into general use in the seventeenth century. Although meter signatures evolved from the mensuration signs used in earlier centuries, they took on new significance in the seventeenth century. Barlines and meter signatures came to denote particular counting and grouping patterns with inherent stress characteristics.

There is relatively little disagreement among modern scholars and editors regarding pitch relationships and how these should be notated in modern editions. However, there is little agreement or consistency regarding the use of barlines and meter signatures.

Some authorities take the position that meter signatures are modern equivalents of the older mensuration signs, and that barlines are appropriate indicators of the counting and grouping patterns inherent in the particular mensurations. Editions of early music using these principles give the appearance of being very similar in terms of rhythmic organization to the music of the eighteenth and nineteenth centuries, i.e., with regular stress patterns determined by counting patterns.

Recognizing that such editions often present an inaccurate picture of stress patterns, many choral conductors and modern editors have argued that although bars should be maintained, they should be ignored in performance. They suggest that stress should be determined solely by the text accentuation. However, such a compromise has proven unacceptable for two reasons. First of all, barlines and meter signatures have specific connotations for modern musicians and these connotations, i.e., counting patterns upon which modern concepts of rhythm are based, cannot simply be ignored. Secondly, text accentuation in such editions cannot be depended upon since text placement is most often editorial and depends to a large extent upon the editor's pre-conceived notions of where the musical stresses are.

Some scholars have chosen to use neither barlines nor meter signatures, but rather, lines placed between the staves (Mensurstriche) to denote units of measurement Although they consider such an approach to be non-committal

in terms of rhythmic significance, problems still arise. Mensurstriche denote counting units and since counting patterns denote stress patterns for modern musicians, initial and secondary stresses are still implied. Furthermore, eighth notes and smaller values are beamed in terms of the mensuration, e.g.,  as opposed to  .

More recently, attempts have been made to avoid any implications of such groupings by omitting even the Mensurstriche and not beaming any of the smaller values. In place of the Mensurstriche, arrows (↓↑) have been used to indicate the tactus. Again, modern concepts interfere with the intention of being noncommittal. Downward movements of the tactus (↓) are associated with conductor's downbeats, indicating points of stress.

Recognizing that there is no real virtue in being noncommittal or vague, a few modern scholars (notably, the late Otto Gombosi) have ventured to use modern notational devices such as meter signatures, barlines, and beams with their inherent modern connotations to indicate what they consider to be the actual rhythms. Deemed by many authorities to be unnecessarily complex and arbitrary, these interpretations have not been widely received.[1]

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[1]Recently, however, Gustave Reese has employed some of Gombosi's techniques. See, "An Editorial Problem in a Mass by Heinrich Isaac," in Notations and Editions, ed. by Edith Borroff (Dubuque, Iowa: Wm. C. Brown Co., 1974), pp. 33-42.

It would seem that if modern notational devices are going to be used in modern editions of early music, then the notational signs must be used with their intrinsic and essential modern significance. To use notational devices and yet insist that they do not actually indicate what they seem to evince is incongruous. The model for preparing modern editions, whether for study or performance, is to be found in the process for making transliterations of literature preserved in written systems employing a foreign or unfamiliar system of signs. Transliterations use modern graphic signs with their accepted connotations to signify the phonetic relationships denoted in the original.

Working from this conviction, several years ago I began to attempt to "transliterate" musical examples of the late fifteenth and early sixteenth centuries. It soon became apparent that if there was to be any real value in these transliterations, they could not be based on mere intuition. Some guiding principle had to be found.

If mensuration signs, methods of counting or conducting patterns (i.e., the tactus) were not considered to be determinants of stress, and if text placement could only be accomplished after the musical stresses had been determined then the guiding principle had to be related to durational patterns. It appeared that stress was a factor of longer duration; in early music the accents were purely agogic.

This hypothesis presented itself as a very attractive

solution and, when applied to the polyphonic compositions with which I was working, it produced satisfactory results. However, the hypothesis needed theoretical support. Therefore, I turned to the writings of fifteenth and sixteenth century musical theorists. It soon became apparent that I could not begin in the fifteenth century, for the mensural system was not an isolated phenomenon. It had its roots, in fact, its very foundation, in the modal system of the thirteenth century.

Confronted by modern commentaries on modal rhythm, it appeared that my hypothesis was invalid, that stress and duration were not necessarily related. Modern scholars insist that the modal foot or perfection, like the modern bar, is always characterized by an initial stress, regardless of the quantitative pattern.

Upon closer scrutiny, it became evident, however, that modern writers could offer no theoretical support for this conclusion, other than the observation that since the perfection represented s unit of measurement, and thus, a method of counting, it bore a close resemblance to the modern bar. This was an assumption that was put forth in the nineteenth century and, thus far, had remained unchallenged.

Many inconsistencies in modern commentaries were discovered. For example, some modern scholars claimed that Mode II (short-long, short-long, etc.) represented the classical iambic rhythm, and thus was characterized by a

stressed short. Others argued that Mode II was characterized by a stressed short and thus could not be an iambic rhythm. Some argued that when used without a text (e.g., in discant) the pattern short-long, short-long, etc. was characterized by a stressed short, yet when used with a text (e.g., in a corresponding motet) the short was not stressed. In order to allow for interpretations of texted examples which began with a weak short, modern scholars argued that such examples were not Mode II (as the medieval theorists described them), but rather, Mode I with an anacrusis--a form for which there is no medieval theoretical model.

Because of the unsupported, confused, and often contradictory testimony of modern scholars, it was obvious that before any conclusions about the mensural system could be reached, it would be necessary to concentrate upon the rhythm of medieval music, specifically the relationship between stress and quantity in the modal system. As might be expected, this led even further back to the models for the modal system itself, and ultimately, to a consideration of what rhythm really is.

The present study may, perhaps, raise more questions than it answers. However, if it serves only to define and clarify the issues, by raising some of the proper questions, it will not have been in vain.

I am very much indebted to the valuable assistance of many individuals who have made the present study possible.

I wish to thank the members of my committee, particularly my major professor, Marilyn Gombosi, for her direction, critical suggestions, support, and encouragement, and Professor Joseph Plescia for his assistance in the translation of John of Garland's treatise. I would also like to acknowledge the assitance of Professors Susan Dannenbaum and Lee Pearcy of St. Olaf College, who assisted in editing and translating the Old French and Latin texts for the motet transcriptions. Of great value also were the comments and suggestions of Professors Janet Knapp of Vassar College, William Waite of Yale University, Traugott Lawler of Northwestern University, and Father William Hinnebusch of the Dominican House of Studies in Washinton, D.C., all of whom took the time to reply to my written communications. Thanks also the the staffs of the Robert Manning Strozier Library and Warren D. Allen Music Library at the Florida State University, and the Music Library and Rølvaag Memorial Library at St. Olaf College, who have facilitated my access to valuable materials. And finally, I wish to thank my wife Deana and my children, Amanda, Lisa, DeDe, Mark, and Richard, without whose moral support, understanding, and patience the completion of this project would have been impossible

## CHAPTER I

## THE QUALITIES OF RHYTHM

Rhythm is the essence of music and poetry, yet it is almost impossible to find a satisfactory definition of the term.[1] Because of the numerous difficulties associated with the study of rhythm, Leonard Meyer has suggested that "it would be pleasant to ignore the subject altogether."[2] However, it cannot be ignored, for rhythm "denotes something real . . . without which poetry and music . . . could scarcely be conceived."[3]

Derived from a Greek root (ῥέειν) meaning "to flow,"[4] rhythm (ῥυθμός) has to do with the perception of movement.[5]

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[1]Willi Apel, Harvard Dictionary of Music (1964), s.v. "Rhythm": "It would be a hopeless task to search for a definition of rhythm which would prove acceptable even to a small minority of musicians and writers on music."
On the difficulties involved in finding a satisfactory definition of rhythm, see Curt Sachs, Rhythm and Tempo (New York: W. W. Norton & Co., 1953), pp. 11-16.

[2]Leonard Meyer, Emotion and Meaning in Music (Chicago: University of Chicago Press, 1956), p. 102.

[3]William Beare, Latin Verse and European Song, A Study in Accent and Rhythm (London: Methuen & Co., 1957), p. 11.

[4]Francois August Gevaert, Histoire et théorie de la musique de l'antiquité, 2 vols. (Gand:Typ. C. Arnoot-Braeckman, 1875-1881; reprint ed., Hildesheim: Georg Olms, 1965), 2, bk. 3:1.

[5]Edward A. Sonnenschein, What is Rhythm? (Oxford: Basil Blackwell, 1925), p. 15.

Yet, in poetry and music nothing actually moves from one location to another. Although one may speak of movement in poetry and music, it is only in a metaphorical sense. Perhaps it would be better to say that rhythm is the illusion of movement created by the ordering or grouping of successive acoustical events.

While "to produce an impression of rhythm, it is necessary to have a series of stimuli,"[6] the mere succession of events is not sufficient, for "a succession . . . of sounds which are all equal in duration and all equal in strength does not engender rhythm."[7] For example, the undifferentiated ticks of a clock or metronome produce no rhythm unless the mind imposes on them some sort of pattern or organization. If every second or every third sound is singled out as being structurally more important than the others, a rhythm may be perceived.[8] This can be diagrammed as follows:

. . . . . = no rhythm

! . ! . ! . ! . ! . ! . = binary rhythm

! . . ! . . ! . . ! . . = ternary rhythm

! . ! . . ! . ! . . ! . = multiple rhythm

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[6]Herbert Woodrow, "A Quantitative Study of Rhythm," Archives of Psychology 2(1908-1911):1.

[7]Gevaert, Histoire, 2, bk. 3:14: "Une succession . . . de sons tous égaux en durée et tous égaux en force n'engendre pas de rhythme."

[8]Meyer, Emotion, p. 106; Seymour Chatman, A Theory of Meter (London: Mouton & Co., 1965), p. 25; and Grosvenor Cooper and Leonard Meyer, The Rhythmic Structure of Music (Chicago: University of Chicago Press, 1960), p. 9.

The organization of successive events into patterns, delineated through grouping, creates the impression of movement, and thus, rhythm. Ordering or grouping is a mental activity which selects certain events as more prominent than others.[9] These prominent events are generally described as accented.[10]

An event is considered to be more prominent or accented only when, upon comparison with another event, it might be classified as "greater than" another event. Comparison requires a system of measurement[11] and classification whereby the relative magnitudes may be ranked.

Individual sounds may be classified or grouped in terms of the relative degrees of prominence among three observable qualities of sound: pitch, stress, and duration.[12] Of the three qualities, duration is the most

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[9]On prominence as a grouping factor, see Chatman, Theory of Meter, p. 25.

[10]Meyer, Emotion, p. 103: "Basically anything is accented when it is marked for consciousness in some way."

[11]Webster's Third International Dictionary, s.v. "Measure," gives as one of the common definitions of the term measure, "a basis of comparison."

[12]In the first century B.C., Varro described these three characteristics as "three dimensions of the body of speech." Cited in W. Sidney Allen, Accent and Rhythm, Prosodic Features of Latin and Greek: a Study in Theory and Reconstruction, Cambridge Studies in Linguistics 12 (Cambridge: Cambridge University Press, 1973), p. 4.

Stress is the most difficult of all phonological characteristics to classify or describe. W. F. Twadell, "Stetson's Model and the 'Supra-Segmental Phonemes,'" Language 29(1953):420, points out that stress (articulatory energy) does not necessarily mean louder "in a physical sense (i.e., with a sound wave of greater amplitude or greater intensity)." Allen, Accent, p. 76, puts forth

readily quantifiable,[13] and therefore, classical theories of rhythm are generally expressed in terms of temporal measurement. This does not mean that classical rhythms were devoid of the perception of stress, but only that since stress could not be measured, and thereby quantified, it was not considered to be a real quality of rhythm,[14] and therefore, it played no role in the theoretical system.

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a working hypothesis which describes stress in terms of motor activity on the part of the listener: "whereas in the case of pitch the relationship between audition and interpretation, however, complex, is relatively direct, stress is primarily interpreted in indirect, 'kinaesthetic' terms, i.e., in terms of the movements the hearer himself would make in order to produce the perceived effect."

[13]Pitch is also more easily measured than stress (Beare, Latin Verse, p. 47), but since pitch relationships traditionally have been established in terms of string tensions, they are related to length and thus to duration. (See below, pp. 23-24.)

[14]Alfred Jules Ayer, Language, Truth and Logic (New York: Dover Publications, 1946), p. 67, points out that "to say of a certain quality that it is the real quality of a given thing is to say that it characterises those elements of the thing which are the most conveniently measured of all the elements which possess qualities of the kind in question."

## CHAPTER II

## METER AND RHYTHM: THEORY AND PRACTICE

From the time of the ancient Greeks through the Middle Ages, classical descriptions of rhythm were concerned with temporal measurement. Aristoxenus (a pupil of Aristotle and born ca. 354 B.C.) equated rhythm with time "divided by any of those things which are capable of being rhythmed." Nicomachus (second century A.D.) defined rhythm as "a well-marked movement of times," while Bacchios the Elder (who flourished during the reign of Constantine, 306-337 A.D.) described rhythm as "a measuring of time by some kind of movement."[1]

The Greeks, who considered music and poetry to be part of mathematical philosophy which--to the Pythagoreans--represented the whole of philosophy,[2] developed an abstract system of acoustical measurement that culminated in a theoretical system known as metrics. The invention of this art of metrics arose from the need to explain the rhythms of both music and poetry in quantifiable terms, and thereby

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[1]These and other similar descriptions are quoted in C. F. Abdy Williams, The Aristoxenian Theory of Musical Rhythm (Cambridge: Cambridge University Press, 1911), p. 24.

[2]Paul Henry Lang, Music in Western Civilization (New York: W. W. Norton & Co., 1941), p. 16.

in numerical ratios.

Latin grammarians and poets followed the Greek models, defining rhythm in terms of temporal measurement. The Romans used the terms numerus[3] and modus[4] for the Greek ῥυθμός, and Cicero described rhythm as "that which . . . can somehow be measured by the ear."[5]

As a linguistic phenomenon, metrics was conceived and taught in terms of grammar. Greek and Roman grammarians recognized two syllabic values: long and short syllables. From these were constructed feet; each foot was characterized by a particular arrangement of long and short syllables.

The smallest unit of measurement (chronos protos)[6] corresponded to the short syllable and was described as having a temporal value of one tempus. The long syllable was said to be equal to two short syllables and thus to two tempora. The basic feet and their theoretical durational patterns were classified as follows (♪ = one tempus):

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[3]Augustine De musica 3. 1. 2.

[4]See the definition of Censorinus in Heinrich Keil, ed., Grammatici latini, 7 vols. (Leipzig: B. G. Teubner, 1857-1880; reprint ed., Hildesheim: Georg Olms, 1961), 6:609.

[5]Cicero Orat. 67: "quicquid . . . sub aurium mensuram aliquam cadit."

[6]Chronos protos is conveniently translated as "primary time." Theoretically, the primary time (also known as tempus and as instans) is indivisible, and "it is described as the smallest time division that is perceptible to the senses." (Williams, Aristoxenian Theory, p. 28.)

| | | |
|---|---|---|
| trochee | = long-short | ( ♩ 𝅘𝅥𝅯 ) |
| iamb | = short-long | ( 𝅘𝅥𝅯 ♩ ) |
| dactyl | = long-short-short | ( ♩ 𝅘𝅥𝅯𝅘𝅥𝅯 ) |
| anapest | = short-short-long | ( 𝅘𝅥𝅯𝅘𝅥𝅯 ♩ ) |
| spondee | = long-long | ( ♩ ♩ ) |
| tribrach | = short-short-short | ( 𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯 ) |

It was not possible to classify every line of poetry or every musical rhythm in terms of these six feet, so other forms, such as the cretic (long-short-long) and the bacchius (short-long-long), were created.

The trochee, iamb, and tribrach each were given a theoretical value of three tempora, while the dactyl, anapest, and spondee were assigned theoretical values of four tempora. However, these values were not necessarily those observed in practice, i.e., in poetic recitation or in musical performance. Although Cicero declared, "The long is of two tempora, the short of one, as every school-boy knows,"[7] it has been pointed out that "there are a good many things 'known to school-boys' that are not exactly true."[8]

Aristoxenus, for example, declared that music was for the ear; it had to be heard; it could not be silently perceived or verbally described. He rejected the Pythagorean

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[7]Cicero Orat. 9: "Longam esse duorum temporum, brevem unius, etiam pueri sciunt."

[8]Sonnenschein, What is Rhythm?, p. 40.

preoccupation with mathematical speculation and, under the influence of Aristotle, sought to accurately describe the empirical qualities of music and poetry. Being more concerned with accurate descriptions of acoustical phenomena than with theoretical speculation, Aristoxenus spoke of irrational (ἀλογία) values, meaning those which did not conform to the prescribed proportions of 2:1.[9] He described longs which were greater than two tempora and longs which were less than two tempora in duration. He also spoke of shorts which did not correspond to the normal measure of one tempus.[10]

Aristoxenus was not the only Greek to speak of durational values which exceeded normal measurement, i.e., those which did not correspond to the temporal values prescribed by Pythagorean metrics. Bacchios described values longer than the short and shorter than the long.[11] Aristides Quintilianus (De musica 1. 21) also discussed temporal values other than the long of two tempora and the short of one tempus.[12]

Among Latin writers, Marius Victorinus (a contemporary of Augustine) distinguished between what was taught in

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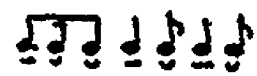
[9]August Rossbach and Rudolf Westphal, Theorie der musischen Künste der Hellenen, 2 vols. (Leipzig: 1885-1886; reprint ed., Hildesheim: Georg Olms, 1966), 1:131-145.

[10]Williams, Aristoxenian Theory, p. 40. [11]Ibid.

[12]Marcus Meibom, Antiquae musicae auctores septem, 2 vols. (Amsterdam: Ludovicum Elzevirium, 1652), 2:45-46, and R. P. Winnington-Ingram, Aristides Quintilianus de musica (Leipzig: B. G. Teubner, 1963), pp. 41-43.

theory (metrics) and what was observed in practice. He stated that, whereas grammarians assigned strict values of one and two tempora to syllabic quantities, such values were not observed by musicians; they sometimes lengthened longs and shortened shorts.[13]

Dionysius of Halicarnassus described a form of the dactyl which differed from the theoretical pattern of a long of two tempora and two shorts of one tempus each.[14] In more recent times this form of the dactyl has been called a cyclic dactyl[15] with syllabic ratios of 3:1:2, i.e., a long of 1½ tempora, a short of ½ tempus, and a short of 1 tempus (  ). Having a value of three tempora, the cyclic dactyl could be joined with a trochee (as in glyconic rhythms)[16] with no resulting hitch in the flow of the rhythm: 

Dionysius also described a cyclic form of the anapest, termed κυκλικός.[17] Just as the dactyl could be combined with the trochee, so the anapest could be substituted for

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[13]Keil, Grammatici latini, 6:39. Victorinus also recognized three syllabic values (Ibid., 6:29).

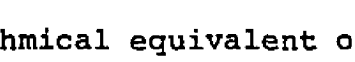
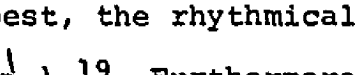
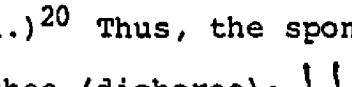
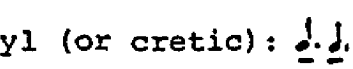
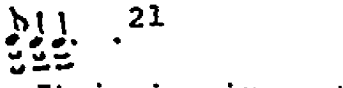
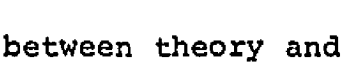
[14]De compositione verborum 17. See Williams, Aristoxenian, appendix A-10 and pp. 40-41. See also Amy Dale, The Lyric Meters of Greek Drama (Cambridge: Cambridge University Press, 1968), p. 6.

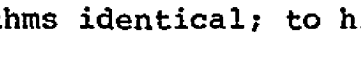
[15]Rossbach and Westphal, Theorie, 1:6 & 51; Gevaert, Histoire, 2, bk. 3:64, 98, & 115-116; Sachs, Rhythm and Tempo, p. 137; and D. P. Walker, "Musical Humanism," Music Review 2(1941):296, n. 157.

[16]Williams, Aristoxenian Theory, p. 91.

[17]Allen, Accent, p. 255.

an iamb:  .[18]

The dactyl (or anapest) might also be performed with a long of three tempora, a short of one tempus and a short of two tempora, in which case the dactyl would be the rhythmical equivalent of the cretic (  ) and the anapest, the rhythmical equivalent of the bacchius (  ).[19] Furthermore, the spondee was often performed as a foot of six tempora (with two longs of three tempora each.)[20] Thus, the spondee might be combined with the double trochee (dichoree):  ; the choriamb:  ; the dactyl (or cretic):  ; or the anapest (or bacchius):  .[21]

It is in circumstances such as these that the dichotomy between theory and practice becomes evident. Whereas grammarians (metricists) were theorists, primarily concerned with speculation and abstraction, musicians (rhythmicists) were concerned with the pragmatic problems of performance. Although the grammarian would distinguish between a dactyl and a cretic, the musician would have considered the two rhythms identical; to him it made no difference if  was classified as a long and two shorts or as long-short-long. Metrics describes how grammarians conceptualized and

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[18]Gevaert, Histoire, 2, bk. 3:117.

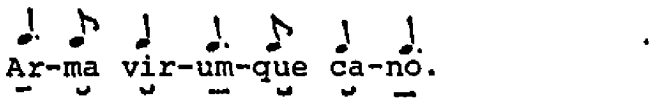
[19]Ajax Dain, Traité de métrique grecque (Paris: C. Klincksieck, 1965), pp. 26-27.

[20]Ibid.

[21]Rossbach and Westphal, Theorie, 1:127.

classified acoustical relationships, not what was actually perceived or observed in practice.

Augustine explicitly stated that musicians (rhythmicists) often performed theoretically short units as longs, i.e., by giving two tempora to a unit which normally received one. He referred to the famous hexameter of Virgil (Arma virumque cano), stating that although grammarians considered the first syllable of cano to be short, musicians performed it like a long.[22] Augustine was obviously describing a cyclic form of the dactyl. If the cyclic dactyl is used for Virgil's line, the first syllable of cano does, in fact, receive two tempora like a long:




This is a consequence of great magnitude, for it would seem to indicate that a considerable body of classical verse was performed in a manner very similar to the late medieval system of rhythmic modes.[23] If this is the case, it means that the medieval concept of the perfection, i.e., counting in threes, was not an invention of the thirteenth century. This hypothesis is supported by early examples of Greek musical notation which also denote temporal values: chronos protos of one tempus, diseme (—) of two, and

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[22]Augustine De musica 2. 1. 1.

[23]See below, chapter 7.

triseme (⏑) of three. The triseme corresponds to the medieval perfection and is equal to a single long (when followed by another long), a long plus a short, a short plus a long, or three shorts.[24]

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[24]See the transcription of the Skolion of Seikelos (2nd century B.C.) with the original notation, below, appendix B.

For an explanation of this system of Greek notation, see Dietmar Najock, ed., Anonyma de musica scripta Bellermanniana (Leipzig: B. G. Teubner, 1975). Concerning the Skolion of Seikelos, see Emile Martin, Trois documents de musique grecque (Paris: C. Klincksieck, 1953), pp. 49-55.

# CHAPTER III

## STRESS AND QUANTITY

The fundamental feet of metrics and their durational equivalents in modern musical notation are illustrated in the following example:

trochee 

iamb 

dactyl 

anapest 

spondee 

tribrach 

The relationship between stress and duration remains to be determined. For example, would the iamb have been performed with a stressed long or a stressed short? Would the dactyl have been performed with a secondary stress on the first or on the second short? In order to answer these questions it is necessary to review the relationship between stress and quantity in the Greek and Latin languages and poetry.

Although Greek poetry was based on the arrangement of long and short syllables, Gilbert Murray has pointed out,

> One cannot of course be sure that when they spoke of 'duration' the Greeks meant nothing but duration, and paid no regard, for instance, to volume of sounds. The fact that the difference between 'long' and 'short' vowels was originally a difference between 'open' and 'close' sounds seems to suggest

> that there was something in it besides mere duration.[1]

Other modern writers, such as Curt Sachs and W. Sidney Allen, Professor of Comparative Philology at the University of Cambridge, are also of the opinion that stress was not unknown in classical Greek and that stress patterns corresponded to metrical patterns in poetry.[2] Whatever its role in ancient Greek poetry, by the second century A.D. stress had definitely become a dominant feature of the Greek language.[3]

The Latin language, on the other hand, was characterized by stress accent from the beginning. Early Latin poetry was based on accentual--not durational--principles. Long and short syllables were not recognized, although stressed and unstressed syllables were.[4]

With the ascendancy of the classical period in Latin verse, poets and grammarians turned to the authority and models of the Greeks. "About 240 B.C. . . . the principles of Greek versification were introduced and artistic Latin

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[1]Gilbert Murray, The Classical Tradition in Poetry (Cambridge, Mass.: Harvard University Press, 1927), p. 84.

[2]Sachs, Rhythm and Tempo, pp. 140-143, and Allen, Accent, pp. 260-334.

[3]L. P. Wilkinson, Golden Latin Artistry (Cambridge: Cambridge University Press, 1963), p. 90.

[4]M. Owen Lee, Word, Sound and Image in the Odes of Horace (Ann Arbor: University of Michigan Press, 1969), p. 38; Frederick Brittain, The Medieval and Romance Lyric (Cambridge: Cambridge University Press, 1951), p. 1; and Clarence W. Mendell, Latin Poetry, Before and After (Hamden, Conn.: Archon Books, 1970), pp. 3 & 5.

verse from that time onward was written on the Greek quantitative principle."[5] Concepts of syllabic quantity (long and short syllables) were imposed on an accentual language in order that it might resemble its Greek model.

It appears that these quantitative distinctions were not strictly observed in everyday speech. Cicero implied that measured syllables were perceptible only in song:

> One sees that the discourse is without some measures when it is not sung, and that chiefly with those famous poets who are called lyric poets by the Greeks; when they are deprived of the chant, their verses are almost nude.[6]

Syllabic quantities were not the only phonological elements of the Latin language. In addition to long and short syllables, grammarians spoke of accented and unaccented syllables. Although some long syllables were not accented and some short syllables were, accent and quantity were related phenomena.

Quintilian (1. 5. 30) observed that the placement of the accent was confined to the last three syllables of a word, "specifically to the penultimate or antepenultimate of these." If the penultimate was long, then it was accented. If, however, the penultimate was short, then the accent was moved back to the antepenultimate syllable.

It is clear that quantity served as a determinant of

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[5]Brittain, Medieval, p. 1.

[6]Cicero Orat. 55: "A modis quibusdam, cantu remoto, soluta videtur esse oratio; maximeque id in optimo quoque eorum poetarum, qui lyrici a Graecis nominatur: quos cum cantu spoliaveris nuda pene remanet oratio."

accent;[7] only a long syllable (or its temporal equivalent of two shorts) could bear an accent. A short syllable could not be accented unless it was immediately followed by another short (ˊ˘ = ˊ ).[8] In words of only two syllables the first syllable was accented. If, however, the first syllable was classified as a short and the final syllable was long, the quantity of the final was diminished, becoming a short (ˊ– becomes ˊ˘ ); vídēn tu becomes vídĕn tu, quíd hōc clamoris becomes quíd hŏc clamoris, etc.[9]

While there is little doubt that the accent of early Latin was one of stress, modern writers disagree about the phonological nature of the accent in classical Latin. Although both Servius and Pompeius (fifth century A.D.) offer clear evidence that the Latin accent was one of stress,[10] earlier classical authors are not clear on the subject. It seems very unlikely that, since both early and late (medieval) Latin were characterized by stress accent, classical Latin would have known only pitch accent and have been totally devoid of stress. The

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[7]W. Sidney Allen, "On Quantity and Quantitative Verse," In Honour of Daniel Jones (London: Longmans, 1964), pp. 5-6.

[8]Allen, Accent, p. 170.

[9]For a discussion of this phenomenon known as iambic shortening or brevis brevians, see Allen, Accent, pp. 113, 179-185, & 191-199; Philip W. Harsh,"Iambic Words and Regard for Accent in Plautus," Stanford University Studies in Language and Literature 7(1949):32; and Beare, Latin Verse, p. 162.

[10]Keil, Grammatici Latini, 4:426 and 5:127.

recent studies of Professor Allen confirm the fact that the phonological nature of the accent in classical Latin was that of stress.[11]

It is clear that the rhythms of classical Latin poetry were not devoid of stress. In poetry, unaccented short syllables were considered to be metrically equivalent to unaccented long syllables and it is questionable that the average Roman was able to distinguish between them. Rudmose-Brown has stated that "an uneducated Roman, even as early as the classical period . . . heard only the 'accentual'rhythm. The quantitative meter of Greek importation meant nothing to him."[12] Allen adds:

> Given the probably greater intensity or stress in Latin, as its accentual feature, it is thus conceivable that the untrained ear would have been more aware of dynamic patterns than of quantitative patterns--perhaps even to the exclusion of the latter. The need felt even by poets for some patterning factor additional to mere quantity is seen in their high regard for the reinforcement of quantity by stress in the last two feet of the line.[13]

By the fourth century A.D. the artificial theoretical distinction between long and short syllables was lost and stress remained as the only rhythmical element of Latin Long and short syllables were no longer recognized, except perhaps in the accented penultimate and antepenultimate

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[11]See his arguments in Allen, Accent, pp. 151-154.

[12]T. B. Rudmose-Brown, "Some Medieval Latin Meters," Hermathena 53(1939):33.

[13]Allen, Accent, p. 340.

syllables.[14] Augustine observed that the only way to know if a syllable was long or short was to consult the writings of grammarians, for theoretical quantities could not be perceived in ordinary speech patterns.[15]

Poets began writing a new kind of poetry based on rhythmical patterns of stressed and unstressed syllables, and not on the metrical arrangement of long and short syllables. One of the earliest examples of post-classical Latin poetry based on accentual patterns is a poem by Auspicius addressed to Arbogastes (ca. 460), which begins:

> praecelso et spectabili
> hic Arbogasti comiti
> Auspicius, qui diligo,
> salutem dico plurimam.[16]

The rhythmic pattern, resulting from the alternation of stressed and unstressed syllables, corresponds to the iambic pattern of classical metrics.

Although accentual poetry generated rhythm through the alternation of stressed and unstressed syllables, it was not totally unlike classical quantitative poetry. The rhythms of medieval accentual poetry were modeled on classical metrical patterns.[17]

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[14]Brittain, Medieval, pp. 2 & 57; Beare, Latin Verse, p. 217; and Wilkinson, Golden Latin, p. 108.

[15]Augustine De musica 2. 1. 1 and 2. 2. 2.

[16]Beare, Latin Verse, p. 251.

[17]See the descriptions of Marius Victorinus and Bede: Keil, Grammatici latini, 6:206-207 and 7:258. See also Rudmose-Brown, "Medieval Latin Meters," pp. 32-33.

Poets were no longer bound by the artificial metrical requirements of Greek import, but were again able to write poems and hymns whose rhythms were generated by the natural stress patterns of the Latin language. This new accentual poetry reached perfection during the eleventh and twelfth centuries in the sequence.[18] A sequence such as

veni sancte spiritus
et emitte caelitus
lucis tuae radium

can only be scanned accentually, for the pattern of long and short syllables is "meaningless."[19] Such accentual poems and hymns were called modi (singular: modus) in the twelfth century,[20] rhythmi (singular: rhythmus) in the thirteenth,[21] and accenti (singular: accentus) in the sixteenth.[22]

The primary rhythmical element in the poetry, music and speech of medieval men was stress. The average person

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[18]On the sequence, see Beare, Latin Verse, p. 281; Sachs, Rhythm and Tempo, p. 151; and Frederic James E. Raby, A History of Christian-Latin Poetry (Oxford: Clarendon Press, 1927), p. 22.

[19]David S. Raven, Latin Metre (London: Faber & Faber, 1965), p. 38.

[20]Henry Osborn Taylor, The Medieval Mind, 2 vols. (Cambridge, Mass.: Harvard University Press, 1951), 2:244.

[21]John of Garland, The Parisiana Poetria of John of Garland, ed. and translated by Traugott Lawler (New Haven: Yale University Press, 1974), pp. 160-161. (Future references to Lawler, Parisiana poetria are to this translation.)

[22]Willi Apel, Gregorian Chant (Bloomington: Indiana University Press, 1958), p. 288.

did not speak Latin for it had ceased to be a living language.[23] Its offshoots, the Romance languages, became the everyday form of speech and "stress accent" was "of capital importance for the development of the Romance languages."[24] The languages of Gaul (Old French and Provençal) were characterized by strong, expiatory, stress accents.[25] During the Middle Ages

> None of the languages of Europe, including the post-Roman Latin of scholars and priests, based its verses on the metric alternation of syllables long and short. Whether Romance or Germanic, Slavonic or Finno-Ugric, the tongues contrasted accented and unaccented syllables.[26]

Just as it is unlikely that classical Greek and Latin poetry were totally devoid of stress, it is also unlikely that the poetry of the Middle Ages was recited with syllables equal in duration; stressed syllables were probably lengthened. Allen states unequivocally that in medieval Latin "the accented vowels were of longer duration."[27] It has also been observed that after the fourth century A.D. "a vowel in a stressed syllable tended to be lengthened, and at the same time a long vowel in an unstressed position

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[23]Beare, Latin Verse, p. 218.

[24]Alfred Ewert, The French Language, 2nd ed. (Cambridge: Cambridge University Press, 1961), p. 31.

[25]Mildred K. Pope, From Latin to Modern French (Manchester: Manchester University Press, 1956), p. 15. See also Ewert, French Language, chapter 3; and Charles Bruneau, Petite histoire de la langue francaise, 2nd ed., 2 vols. (Paris: Librairie Armand Colin, 1958), 1:75-77.

[26]Sachs, Rhythm and Tempo, p. 149.

[27]Allen, Accent, p. 88, n. 3.

might be shortened."[28] After 750 A.D. "the unaccented syllable definitely loses its quantity and becomes short and the accented syllable generally becomes long."[29]

The association of length and stress is evidenced not only in medieval Latin and the Romance languages, but in English and German as well. Although both English and German are characterized by stress accent and their poetry is based on the alternation of stressed and unstressed syllables, literary critics and grammarians continued to refer to long and short syllables in these languages for many centuries. English grammarians and literary critics described stressed and unstressed syllables as long and short into the sixteenth century.[30] Even the stressed syllables in German were described as being "longer" than unstressed syllables.[31] Seventeenth century grammarians

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[28]James W. Halporn, Martin Oswald, and Thomas G. Rosenmeyer, The Meters of Greek and Latin Poetry (Indianapolis: Bobbs-Merrill, 1963), p. 117.

[29]Henri F. Muller . . . and Pauline Taylor, A Chrestomathy of Vulgar Latin (Boston: D. C. Heath & Co., 1932), p. 15; see also p. 29.

[30]See the various writings of Roger Ascham, Thomas Lodge, Gabriel Harvey, William Webbe, et al. in Elizabethan Critical Essays, ed. by George G. Smith, 2 vols. (Oxford: Clarendon Press, 1904).

Allen, Accent, p. 275, points out that although poets had been writing with regard to stress for centuries, "not until well into the eighteenth century was the rôle of stress in English verse widely recognized."

[31]Finck Practica musica 2. 1: "praeterea si sechzehen dictionem numerari vis, ibi tres syllabas habes . . . quaemuis prior syllaba duplici quantitate superat reliquas ." "moreover, if you wish to say the number sechzehen, you have three syllables . . . the first syllable by reason of

continued to call a syllable short "when they really meant that it was unstressed."[32]

In music the concept of stress as something apart from greater duration was not described until the seventeenth century in Descartes's Compendium musicae (published in 1650 but first written in 1618). Descartes observed for the first time that a tone was sounded more strongly and distinctly at the beginning of each measure.[33]

Until the time that stress was recognized as a phonological element distinct from pitch and duration, the terms acute and grave were used to denote prominence and lack of prominence. The term acute was "applied to the positive, culminating feature."[34]

Used by the Greeks to denote a rising inflection of the voice,[35] "acute" was adopted by Latin grammarians to denote stress and "grave," the opposite.[36] As has already been demonstrated, long syllables attracted the accent in classical Latin and stressed syllables were made longer in medieval Latin. Because of the association of acuteness and duration, by the eighth century A.D. the

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its double quantity is longer than the remaining syllables." (as translated by Michael Collins, "The Performance of Sesquialtera and Hemiola in the 16th Century," JAMS 17 [1964]:14.)

[32]Walker, "Musical Humanism," p. 304.

[33]Harold Heckman, "Der Takt in der Musiklehre des siebzehnten Jahrhunderts," AfMW 10(1953):121.

[34]Allen, Accent, p. 230. [35]Ibid., p. 151.

[36]Ibid., p. 86. See also Beare, Latin Verse, p. 47.

meaning of the term acute had been expanded to include the concept of length;[37] an acute sound was considered to be long and a grave sound, short. In the thirteenth century, accent was defined in terms of duration:

> Grammar designates and imposes two measures of accents, namely, long and short, of which the long is of two tempora and the short of one.[38]

The concepts acute = high = stressed = long, and grave = low = unstressed = short are embodied in the original Greek terms.[39] If a string is pulled tighter in order to produce a sharper or higher sound (acute), the string will, at the same time, be made longer.[40] The concepts of

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[37]Revised Medieval Latin Word List, ed. by Ronald E. Latham (London: Oxford University Press, 1965), s.v. "Acuitas," "Acutus," and "Acuo."

[38]Heinrich Sowa, ed., Ein anonymer glossierter Mensuraltraktat 1279 (Kassel: Bärenreiter, 1930), pp. 25-26: "Grammatica, duas mensuras accentum desinet et importat scilicet longum et brevem, quorum longus est duorum temporum, brevis unius."

[39]As Allen, Accent, p. 230, explains, the terms acute and grave "used to denote accentuation in Greek are themselves suggestive of its nature; of these τάσις or τόνος (lit. 'stretching') may be taken to derive their meaning from the string tension whereby the pitch of a musical instrument is varied, the 'sharp' accent being commonly associated with ἐπίτασις 'tightening,' and the 'heavy' with ἄνεσις 'slackening'--terms which are also applied to stringed instruments."

[40]Ibid., p. 47. Nicomachus said of stringed instruments: "those with the greater tensions express the more acute sounds . . . those with the lesser give the more languid and grave." (Quoted in Sir John Hawkins, A General History of the Science and Practice of Music, 2 vols. [London: 1776, 1853; reprint ed., New York: Dover Publications, 1963], 1:74.) Aristoxenus also defined pitch relationships in terms of string tensions. See Richard Crocker, "Aristoxenus and Greek Mathematics," Aspects of Medieval and Renaissance Music, ed. by Jan LaRue (New

pitch, stress, and duration cannot be entirely separated.[41]

Returning to the question posed at the beginning of this chapter, it would appear that, until the seventeenth century, the phonological elements of stress and duration were generally considered to be one and the same. From the standpoint of linguistics, temporal length was associated with stress, and in classical Latin quantity served as a determinant of accent. In the Middle Ages the relationship was exactly reversed: linguistic accent became the sole determinant of syllabic length. At no point can the contradictory model (accented short followed by unaccented long) be found.

Augustine stated that long values in metrical patterns had a pre-eminence over shorts.[42] Thus, it would seem that

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York: W. W. Norton & Co., 1966), p. 100.

[41]For example, Frederic M. Wheelock, Latin, an Introductory Course, 3rd. ed. (New York: Barnes & Noble, 1963), p. 105, points out that the Latin adjective altus (high) "literally means having been nourished, and so, grown large." Curt Sachs, Music in the Ancient World (New York: W. W. Norton & Co., 1943), p. 260, observes that the Greeks recognized that pitch and duration were related. Dionysius of Halikarnassas "expressly stated that rhythm and harmony were essentially one."

Medieval musical theorists also thought of pitch and rhythm in similar terms. Aribo, De Musica, ed. by Joseph Smits van Waesberghe, Corpus Scriptorum de Musica 2 (Rome: American Institute of Musicology, 1951), p. 52, equates melodic intervals with durations and metrical feet, as does John de Muris (CS 2:233). J. W. A. Vollaerts, Rhythmic Proportions in Early Medieval Ecclesiastical Chant (Leipzig: E. J. Brill, 1960), p. 25, observes that the word altius was used in early chant MSS to indicate long values.

[42]Augustine De musica 2. 7.

the long values in metrical patterns should be stressed and not the shorts. A short may be stressed only when followed by another short, never when followed by a long. Thus, a trochee should bear an initial stress and an iamb, a terminal stress. For the dactyl and anapest, since the second of the two shorts is longer (actually equal to a long), it should bear a secondary stress, and not the first of the two shorts.

## CHAPTER IV

## THE RHYTHMICAL FOOT

In classical rhythmic theory the basic unit of movement is the foot (πούς → pes)[1] which is described as consisting of two parts: ἄρσις (arsis) and θέσις (thesis). Aristides Quintilianus called arsis and thesis "qualities of rhythm," and characterized these qualities as "sound and stillness."[2] Marius Victorinus observed that "arsis is the raising of the foot without sound, thesis the lowering with sound."[3]

Arsis corresponds to the lifting of the foot, and thesis corresponds to the point at which the foot strikes the ground in marching or dancing. Thus, thesis is associated with rhythmically strong values (acute) and arsis with

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[1]Dale, Lyric Meters, p. 211, considers the term foot to have been derived from "the movements of the human foot in its simplest form of progress." On the other hand, Gevaert, Histoire, 2, bk. 3:16, supposes that the term foot "corresponds to the manner in which the ancients indicated measurement to themselves in singing and in playing." ("Le mot pied se rapporte à la manière dont les anciens se marquaient la mesure à eux-mêmes, en chantant et en jouant.")

[2]Winnington-Ingram, Aristides Quintilianus, p. 31: "καὶ τὰ τούτων πάθη καλοῦμεν ἄρσιν καὶ θέσιν, ψόφον καὶ ἡρεμίαν." Meibom, Antiquae musicae, 2:31: "hujus adfectiones dicimus elationem et positionem strepitum et quietam."

[3]Keil, Grammatici latini, 6:40: "arsis sublatio pedis

weaker, less prominent values (grave).[4]

Some feet (e.g., trochee and dactyl) were ordered thesis-arsis (acute-grave), while others (e.g., iamb and anapest) were ordered arsis-thesis (grave-acute). Aristoxenos explained: "feet differ from each other by antithesis (κατ' ἀντίθεσιν) in having the arsis and thesis reversed in position."[5] Rhythms produced by joining feet which were ordered arsis-thesis were sometimes called rising rhythms, while those ordered thesis-arsis were called falling rhythms.[6]

Aristides described antithetical feet as "the one has the greater time first and the less time second, and the other vice versa."[7] Thus, a rising rhythm, e.g., an iamb,

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sine sono, thesis positio cum sono."

[4]Sachs, Rhythm and Tempo, pp. 131 & 141; Williams, Aristoxenian Theory, p. 27; and Beare, Latin Verse, p. 60. William Thomson, The Rhythm of Speech (Glasgow: Maclehose, Jackson & Co., 1923), pp. 26 & 77, points out that thesis was sometimes called ictus, while there was no corresponding term for arsis. Concerning ictus, see also Allen, "On Quantity," p. 5.

[5]Rudolf Westphal, Aristoxenos von Tarent, 2 vols. (Leipzig: B. G. Teubner, 1893; reprint ed., Hildesheim: Georg Olms, 1965), 2:84.

[6]Quintilian speaks of rising and falling rhythms: "Vehement are those which rise from shorts to longs; more gentle those which descend from longs to shorts." (Williams, Aristoxenian Theory, p. 102: "Acres quae ex brevibus ad longas insurgunt; leniores, quae a longis in brevibus descendunt." ) On rising and falling rhythms, see also Dain, Traité, p. 23; Sachs, Rhythm and Tempo, p. 130; and Sonnenschein, What is Rhythm?, p. 9.

[7]Quoted by Robert C. Taliaferro in his translation of Augustine's De musica (Writings of St. Augustine New York: CIMA, 1947 , vol. 2), p. 227, n. 8.

was considered to be antithetical to a falling rhythm, e.g., a trochee, both in terms of the durational patterns and the ordering of arsis and thesis.

The trochee and dactyl generate falling rhythms (thesis-arsis), while the iamb and anapest generate rising rhythms (arsis-thesis). However, the spondee and tribrach generate no rhythms on their own,[8] but may be used for either rising or falling rhythms, depending upon the arrangement of arsis and thesis:

| | | |
|---|---|---|
| trochee | ´ ˘ | (thesis-arsis) |
| iamb | ˘ ´ | (arsis-thesis) |
| dactyl | ´ ˘ ˘ | (thesis-arsis) |
| anapest | ˘ ˘ ´ | (arsis-thesis) |
| spondee | ´ — | (thesis-arsis) |
| | or | or |
| | — ´ | (arsis-thesis) |
| tribrach | ´ ˘ ˘ | (thesis-arsis) |
| | or | or |
| | ˘ ´ ˘ | (arsis-thesis) |

As units of temporal measurement, metrical feet are often compared to the modern musical "measure" or "bar." It has been observed that, "the foot performed the same function in some respects as our simple bar, but while our bar must always begin with an accented note, the Greek foot might begin with either its accented or unaccented

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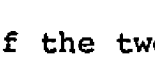
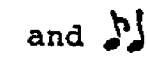
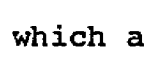
[8]Raven, Latin Metre, p. 25.

portion."[9]

Failure to note the difference between the foot and the modern "bar" led nineteenth century prosodists to the untenable conclusion that, whereas the trochee was characterized by a stressed long, the iamb was characterized by a stressed short.[10] Furthermore, the failure to recognize that the dactyl and anapest of four tempora existed only in theory led to an interpretation that forced a stress on the first of the two shorts, i.e.,  and  . In actual practice the dactyl and anapest were most likely performed as  and  which allow a secondary stress on the second of the two shorts.

In both classical metrical poetry and medieval accentual poetry a symbiotic relationship existed between stress and duration. In classical metrical rhythms durational patterns generated stress patterns; in medieval accentual rhythms stress patterns generated durational patterns. The rhythms of both were identical, although they were generated and described in different ways. Indeed, these basic rhythms have such universal application in the languages, poetry, and music of Western culture that they might be considered to be Western proto-rhythms. These proto-rhythms may be notated as follows (barlines and meter signatures indicate primary and secondary stresses; brackets indicate

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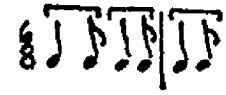
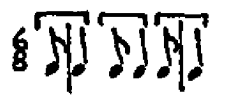
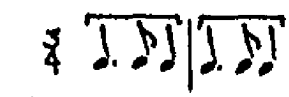
[9]Williams, Aristoxenian Theory, p. 27.

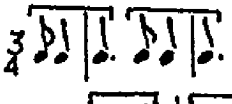
[10]Beare, Latin Verse, p. 80.

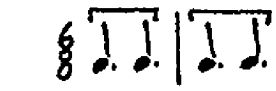
feet):

trochaic:  etc.

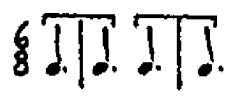
iambic:  etc.

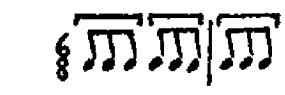
dactylic:  etc.

anapestic:  etc.

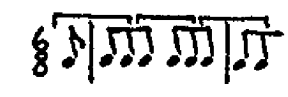
spondaic:  etc.

or

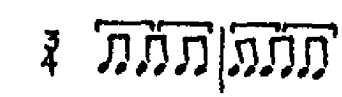
 etc.

tribrachic:  etc.

or

 etc.

or

 etc.

or

 etc.

Whether composed from a purely quantitative standpoint (as is classical verse) or in terms of linguistic accent (as is medieval accentual poetry and Middle English stress counted verse) early Western rhythms can be explained

in terms of these proto-rhythms.

Two kinds of movement can be produced by these patterns: the simple alternation of strong and weak units (–⏑ –⏑–⏑ or / . / . / . ) and the alternation of a single strong unit and two weaker units (–⏑⏑–⏑⏑ or / . . / . . ). Various alterations are also possible. For example, a single long might replace two shorts (or vice versa), or a three-component unit might be used in place of a two-component unit (or vice versa).[11]

The internal rhythms of trochaic and iambic (or dactylic and anapestic) patterns are identical.[12] The terms trochaic, iambic, dactylic, and anapestic have real meaning only in relation to the way in which a rhythm begins.

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[11]For example, a spondee may be substituted for a dactyl in the hexameter (Ārmă vĭrūmqŭe cănō, Trōiāe qūī prīmŭs ăb ōrīs). A dactyl may also be substituted for a trochee or an anapest for an iamb. (See above, pp. 9-10.)

[12]Raven, Latin Metre, p. 43, observes, "In general, the two types of verse run so much after one pattern that it is sometimes helpful to conceive of both (as the poets unquestionably did) merely as alternations of anceps and long elements . . . x-x-x-x . . . the use of the terms 'iambic' and 'trochaic' depending only on whether a segment begins with anceps or long." See also Thomson, Rhythm of Speech, p. 491, and Gevaert, Histoire, 2, bk. 3:23.

Augustine De musica 5. 4. 5; 5. 6. 11; 5. 8. 16; & 5. 10. 21, makes it clear that there is no real difference between iambic and trochaic beginning with an incomplete foot (or, in modern terminology, trochaic with an anacrusis). He also observed (De musica 5. 10. 20) that the terms trochaic, iambic, dactylic, and anapestic are only theoretical concepts: "something not proper to the ear but to the mind." Iambic and trochaic with an anacrusis do not denote two different kinds of rhythms, but rather, two different ways of classifying or describing the same phenomenon. The failure to recognize this fact has resulted in much confusion in the rhythmic interpretation of early poetry and music by modern writers.

Two kinds of initial rhythms are found: those which begin with a rise (⏑— and ⏑⏑— or . / and . . /), and those which begin with a fall (—⏑ and —⏑⏑ or / . and / . .). If, within the course of a verse, one of the internal values is replaced by a pause, then it might be said that a change or transmutation of meter has occured. Thus, Aristoxenos classified ⏑—⏑—|—⏑— as iambic becoming trochaic,[13] and ⏑⏑—⏑⏑—|—⏑⏑—⏑⏑ as anapestic becoming dactylic.[14]

In addition to the way in which a rhythm begins and the way in which it proceeds, there is a third important characteristic: the way in which a rhythm terminates. Just as a rhythm may begin with either a rise or a fall, so it may terminate with either a rise (⏑— or . /) or a fall (—⏑ or / .).[15] However, the falling cadence was apparently performed in a special manner from classical times through the Middle Ages. Aristides Quintilianus considered the final value of any rhythm to be indifferent (ἀδιάφορος).[16] Augustine also considered final values to be indifferent, for, whether long or short, the final value was always performed

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[13]Westphal, Aristoxenos, 2:clxviii.

[14]Ibid., 2:clxix. Augustine De musica 5. 8-9, also discusses such transmutations, stating that a line should terminate with an incomplete foot so that, following a pause, the same rhythm would continue, e.g., —⏑—|—⏑— .

[15]In modern musical parlance, these are called masculine and feminine cadences.

[16]Winnington-Ingram, Aristides Quintilianus De Musica, p. 44.

as a long.[17] Positive evidence is also provided in the practical examples. The classical catalectic iambic meter terminates, theoretically, with a short (⏑–⏑–⏑–⏑–⏑ ). Yet, in practical examples, almost invariably, it terminates with a long, i.e., a spondee is substituted for the final foot.[18]

A similar situation is found in medieval accentual poetry. In the thirteenth century, John of Garland observed that there were only two kinds of terminal rhythms: iambic (⏑–) and spondaic (– –).[19] He provided examples which make it clear that a catalectic trochaic meter, for example, terminates with a rising, iambic rhythm, while a trochaic meter ending with a complete foot (–⏑) actually terminates with a spondee:

| | |
|---|---|
| Pulcra casta Katerina, | / . / . / . / / |
| Flos et gemma Grecie, | / . / . / . / |
| Sub scolari disciplina | / . / . / . / / |
| Donum sumpsit gratie.[20] | / . / . / . / |

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[17]Augustine De musica 4. 1. 1.

[18]Westphal, Aristoxenos, 2:clxvii.

[19]Lawler, Parisiana poetria, p. 165.

[20]Ibid., p. 164. "Beautiful, chaste Catherine, flower and gem of Greece, under scholarly discipline received the gift of grace." (Ibid., p. 165.) See below, p. 239.

## CHAPTER V

## RHYTHM IN MEDIEVAL MUSIC: LITURGICAL CHANT

Invented and codified by the Greeks, the art of metrics was passed down through Rome to medieval Europe. The art of metrics formed the very foundation of medieval musical theory.[1]

From the time of Augustine through the Middle Ages the hymns of the Church and liturgical chant were performed with notes of varying durations based on metrical principles. Augustine, Bede, Alcuin, Guido, Aribo, and other theorists made many references to a metrically based performance of chant.[2] It appears that around the ninth or tenth century this tradition began to weaken or at least underwent fundamental changes. In the tenth century, Aurelian of Réomé complained that singers, "not being

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[1]Vollaerts, Rhythmic Proportions, p. 165: "From S. Augustinus in the fifth, until Walter Odington in the twelfth [sic] century, there was a very definite terminology for rhythmic concepts." Ibid., p. 203: "everywhere, the medieval treatises deal with rhythm, which is channeled into metrical direction . . . teachers continually used metrical terms and comparisons . . . in the field of general music theory, everything was metrical (Cf. Augustinus, Boetius, Cassiodorus, Martinus Capella, Marius Victorinus, Remigius of Auxerre)."

[2]For detailed discussions of the statements of medieval theorists concerning the rhythmic performance of chant,

careful and adopting improper usage, lengthen what is short, and shorten what is long."[3] In the eleventh century, Aribo declared:

> In earlier times not only the inventors of melodies but also the singers themselves used great circumspection that everything should be invented and sung in proportion. This consideration perished some time ago and is now entirely buried.[4]

Since the time of Aribo, scholars of every century have attempted to rediscover and restore the proper rhythms to the performance of liturgical chant. In the thirteenth century, Jerome of Moravia formulated rules for measuring chant in longs and shorts.[5] A Franciscan Gradual of the fourteenth century dealt with the treatment of long and short syllables in chant performance.[6] In the sixteenth century, the relationship between chant and syllabic quantities was investigated, notably by Blasius Rosetti in his

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see Peter Wagner, Neumenkunde, vol. 2 of Einführung in die Gregorianischen Melodien (Leipzig: 1912; reprint ed., Hildesheim: Georg Olms, 1970), pp. 354-466; and Vollaerts, Rhythmic Proportions, pp. 198-204.

[3]GS 1:58-59: "non devitantes usu improbo consectantes correptiones producunt, et corripiunt productiones."

[4]De musica (GS 2:227 & Corpus Scriptorum ed., p. 49): "Antiquitus fuit magno circumspectio non solum cantus inventoribus, sed etiam ipsis cantoribus, ut quilibet proportionaliter et invenirent et canerent. Quae consideratio iam dudum obiit, imo sepulta est." (As translated in Apel, Gregorian Chant, p. 132.)

[5]For a summary of part of Jerome's rules, see Gustave Reese, Music in the Middle Ages (New York: W. W. Norton & Co., 1940), p. 145.

[6]Wagner, Neumenkunde, pp. 482-496.

Libellus de rudimentibus musicae (1529).[7] Seventeenth century reforms culminated in the publication of the now infamous Editio Mediceae of 1614.[8]

Two of the most important centers for scholarly studies in liturgy and music in the nineteenth century were Ratisbon and Solesmes. Unlike the work at Ratisbon, which culminated in a re-edition of the Editio Mediceae,[9] that at Solesmes led to an entirely new interpretation of chant rhythm.

One of the leading figures at Solesmes was Dom Pothier. Basing his conclusions on the inaccurate assumption that the change from quantitative to accentual Latin verse in the early Middle Ages meant that there existed no perceptible quantitative distinction between accented and unaccented syllables in medieval Latin, i.e., that all syllables were of equal duration,[10] Pothier rejected

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[7]P. Raphael Molitor, Die nach-tridentinische Choralreform zu Rom, 2 vols. (Leipzig: F. E. C. Leuckart, 1901-1902), 1:122. Augustine A Gatard, Plainchant (London: Faith Press, 1921), p. 48, cites a letter to Cardinal Sirleto in 1579 in which Cimello advises, "It is necessary in reforming plainchant to have a knowledge of metre, and especially to know how the accents can be kept, and also the short syllables in rising passages as well as the long syllables in descending passages."

[8]Graduale de tempore et de sanctis . . . cum cantu Pauli V. Pont. Max. iussu reformato (Rome: Mediceae, 1614).

[9]Known today as the "Ratisbon Edition": Graduale de tempore et de sanctis . . . cum cantu Pauli V. Pont. Max. jussu reformata cui addita sunt officia postea approbata sub auspiciis sanctissimi domini nostri . . . (Ratisbon: F. Pustet, 1871).

[10]John Rayburn, Gregorian Chant, A History of the Controversy Concerning its Rhythm (New York: n.p., 1964), p. 2; and Apel, Gregorian Chant, p. 278.

mensural interpretations of chant, insisting that notes were of equal duration.[11]

Pothier's interpretations were modified by Dom Mocquereau who "developed what has become known as the Solesmes system of 'free musical rhythm.'"[12] In this system, all notes are given equal value, and these equal values are grouped into irregular binary and ternary groups.

In spite of the fact that "the outstanding trait of Gregorian cantillation, mentioned through all the Middle Ages . . . is the mingling of long and short notes, " and that "the contemporary writers insist again and again on a careful distinction between the two values,"[13] Mocquereau rejected the evidence of medieval theorists, stating that they "not only contradict one another, but often, alas! do not really know what they are talking about."[14] There is absolutely no historical or theoretical (grammatical or musical) justification for Mocquereau's interpretation, but it

> seems to derive its main justification from results in actual performance and recordings that, so far at least, have not been challenged by similar attempts on the part of the mensuralists. Regarding the historical accuracy of the Solesmes interpretation, it has been said that it probably stands in the same

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[11]Apel, Gregorian Chant, p. 217.

[12]Harvard Dictionary of Music (1974), s.v., "Gregorian Chant."

[13]Sachs, Rhythm and Tempo, p. 152.

[14]Monographies grégoriennes 7(1926):31; quoted in Rayburn, Gregorian Chant, p. 57.

> relation to its medieval counterpart as a Romanesque church of 1880 to its 11th-century model.[15]

It is clear from the writings of medieval theorists that chant rhythm was based on traditional metrical patterns, and that an equalist interpretation (as espoused by Pothier and Mocquereau) was unknown in the Middle Ages. Many twentieth century scholars have attempted to unravel the mystery of chant rhythm, with differing and often contradictory results.[16]

The key to the mystery is to be found in both the descriptions of the theorists (who must have known what they were talking about) and in chant notation.

Prior to the ninth century there was no system of musical notation in general use in Europe. Isidore stated that there was no way to preserve the melodies except by memory, for they could not be written down.[17] The great corpus of liturgical chant was taught, performed, and preserved for many centuries via a strong and carefully guarded oral tradition.

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[15] Harvard Dictionary of Music (1974), s.v., "Gregorian Chant."

[16] Rayburn, Gregorian Chant, presents a short summary of the major writings and conclusions of leading modern scholars on chant rhythm. See also Apel, Gregorian Chant, pp. 126-132.
The present study draws on the work of modern scholars and offers some new interpretations. Fundamental to the interpretations which follow is the conviction that the medieval theorists did know what they were talking about.

[17] Oliver Strunk, Source Readings in Music History (New York: W. W. Norton & Co., 1950), p. 93.

As the Church spread through Europe, local variants of the sacred melodies evolved and the oral tradition began to weaken. As it declined, a simple form of musical notation developed which served as a mnemonic aid for the oral transmission of chant. The notational signs were called neumes,[18] and the basic neumes were:

| | | | |
|---|---|---|---|
| virga |  | porrectus |  |
| punctum |  | torculus |  |
| clivis |  | climacus |  |
| podatus |  | scandicus |  |

According to Mocquereau, the neume "reveals neither the duration, the intensity, nor the rhythmic movement of the notes."[19] Sachs observes that "neither the neumes nor

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[18]The term neume comes from the Greek νεῦμα, meaning "sign" or "nod." (Wagner, Neumenkunde, p. 14, and Lang, Music in Western Civilization, p. 85.) Apel, Gregorian Chant, p. 99, expresses the opinion that the term neume "refers to the fact that originally these symbols were written representations of manual signs by which the up-and-down motion of the melody was indicated." However, historical evidence seems to indicate that the manual signs used for directing chant served a rhythmic function. Richard Crocker, "Musica Rhythmica and Musica Metrica in Antique and Medieval Theory," JMT 2(1958):18, points out that Guido refers to such manual signs as indicating durational values. Wagner, Neumenkunde, pp. 105 & 365-366, and Vollaerts, Rhythmic Proportions, pp. 226-228, cite an eleventh century source (Monte Casino, Codex 318, fol. 15) which states that the precentor should measure the chant by clear hand movements, indicating rhythmic proportions. Dale Bonge, "The Theory and Practice of Measure" (Ph.D. dissertation, University of Michigan, 1975), pp. 14-15, cites a passage of the 13th century theorist Elias Salomon in which he describes the director "forming disyllables" with his hand. (For a brief discussion of medieval conducting patterns, see Ibid., pp. 43-44.)

[19]Dom André Mocquereau, Le Nombre Musical Grégorien, A Study of Gregorian Musical Rhythm, translated by Aileen

the plainsong notation of the Middle Ages indicates time values."[20] Apel considers neumes to have only "melodic significance and lack the indication of rhythmic values."[21]

On the other hand, Winfred Douglas describes neume notation as "one of the most ingenious inventions of the human mind, " expressing "not only rhythm and phrasing, but at times the most minute expressional nuances."[22] Douglas's position is substantiated by medieval theorists.

Hucbald (ca. 840-930) spoke of the inadequacy of the neumes in indicating pitch relationships, but stated that they indicated "long and short tones as well as trembling sounds."[23] Berno of Reichenau (d. 1048) exhorted singers to "pay attention to the neumes where ratios of short and long sounds ought to be measured."[24] Guido (ca. 995-1050) compared the neumes to metrical feet: "the neumes replace the feet, the periods the verses; the neumes may be dactylic, spondaic, or iambic . . . "[25] Guido also observed

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Tone (Paris: Desclée, 1951), p. 168. (Future references to Mocquereau, Le Nombre, are to this translation.)

[20]Sachs, Music in the Ancient World, p. 309.

[21]Apel, Gregorian Chant, p. 99.

[22]Winfred Douglas, Church Music in History and Practice, revised with additional material by Leonard Ellinwood (New York: Charles Scribner's Sons, 1962), p. 49.

[23]GS 1:118: "tarditatem seu celeritatem cantilenae, et ubi tremulam sonus contineat vocem."

[24]GS 2:77: "ubi attendas in neumis ubi ratae sonorum morulae breviores ubi vero sint metiendae productiores."

[25]GS 2:16: "neumae loco sint pedum, et distinctiones

that the neumes indicated "which sounds are liquescent; whether they should be sung connected or separate; which ones long and tremulous, and which are short," adding, "all this is shown in the shape of the neume itself."[26]

From these statements it is clear that the neumes indicated rhythmic values. But what values? Which sign indicates longs and which, shorts? Which neume indicates a dactylic foot and which an iambic foot? As Peter Wagner points out,[27] the key to the rhythmic significance of the neumes is provided by an anonymous writer of the ninth century:

> What is song? The knowledge of the art of music, the inflection and modulation of the voice . . . Its origin and also its notation arise from the accent tones and from syllabic feet. From the accents the tones are demonstrated as acute, grave, and circumflex. From syllabic feet they are revealed as short and long.
>
> The figure which is called a neume originated from the accents. If it is a single short note, then it is notated as a punctum; if, however, it should be a long, then it is a producta. But the punctum appears in three forms: as a brevis, a grave, and a lower note. Similarly, the long appears in three forms: as a producta, an acute, and a circumflex.[28]

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loco versuum, utpote ista neuma dactylico, illa vero spondaico, illa iambico . . ."

[26]GS 2:37: "quomodo autem liquescant voces, et an adhaerenter vel discrete sonent. Quaeve sint morosae et tremulae, et subitaneae . . . facili colloquio in ipsa neumarum figura monstratur."

[27]Wagner, Neumenkunde, p. 355.

[28]Rome, Biblioteca Vaticana, latin palat. 235, fol. 38v.: "Quid est cantus? Peritia musicae artis, inflexio vocis et modulatio . . . Ortus quoque suus atque compositio

It is generally assumed that the Greek accent signs, from which the neumes evolved, were used to indicate only rising and falling melodic inflections.[29] As a result, many modern scholars share Dom Mocquereau's opinion that the medieval grammarians attached to the accent signs "no idea of duration or force," for they "belonged solely to the realm of pitch."[30] Thus, they argue, the original neumes must have indicated only melodic inflections. However, if the term neume refers to the manual signs used for directing the performance of chant, and if these manual signs served to indicate rhythms,[31] then the accent neumes must indicate more than melodic inflections.

The signs used in Greek orthography to denote the various accents are of relatively late invention:

> The Greeks did not in classical times indicate the accents in writing. Signs to denote accent are said to have been first used by Aristophanes of Byzantium, in the third century B.C. For several centuries after this time these signs were used only occasionally and as an aid to

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ex accentibus toni vel ex pedibus sillabarum ostenditur. Ex accentibus vero toni demonstratur in acuto et gravi et circumflexo. Ex pedibus denique sillabarum ostenditur in brevi et longa. De accentibus toni oritur nota quae dicitur neuma. Si ipsa simplex fuerit et brevis, facit unum punctum; si autem longa fuerit, erit producta. Sed hic punctum tribus modis ostenditur, in brevi et gravi et subpositio. Similiter et longa tribus ostenditur, in producta et acuta et circumflexa." (Quoted in Wagner, Neumenkunde, p. 355.)

[29]See, for example, Reese, Middle Ages, p. 132, and Harvard Dictionary of Music (1974), s.v., "Neumes."

[30]Mocquereau, Le Nombre, p. 144.

[31]See above, p. 39 , n. 18.

> students of literary, mostly poetical, texts, written, as was the habit, without division between words. Not until the ninth or tenth century A.D. was the accent indicated for every word.[32]

By the time that the signs for acute, grave, and circumflex had come into common use, the Greek accent had become one of stress and was no longer melodic.[33] Furthermore, since medieval grammarians used the terms acute and grave to indicate stressed and unstressed syllables as well as long and short,[34] they would have certainly attached to the accent signs significance of duration and force.

The association of rhythmic values with the accent signs led Vossius to declare in the seventeenth century, "the marks for the accents were applied by the grammarians to no other use than the instructing of youth in the metrical art." He added, "the grammarians, at length, seized the opportunity of accommodating the musical accents to their own use, to show the times and quantities of syllables."[35] In associating the accent signs with metrical values, Vossius verbalized concepts which had been around since the early Middle Ages. Many centuries earlier, Marius Victorinus had catalogued five orthographic signs under the heading of accents: acute, grave, circumflex, longa, and brevis, the very signs described in the ninth century

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[32]Beare, Latin Verse, p. 48. [33]See above, p. 22.

[34]See above, pp. 22-23.

[35]De poematum cantu et viribus rhythmi, p. 17. Quoted in Hawkins, General History of Music, 1:175.

excerpt quoted above.[36] Two of these signs denoted shorts--grave (\) and brevis (◡); two denoted longs--acute (/) and longa or producta (–); the circumflex (^), being acute plus grave, also denoted a long.[37]

These graphic signs, both individually and in composite forms, were introduced into poetical and liturgical manuscripts, with the acute retaining its original form as the virga, and the grave transformed into a simple point (punctum),[38] as rhythmical indications. Just when they began to be used in this way is not known.

Tenth century manuscripts of poetical works, e.g., Beowulf, use accent neumes to denote long syllables, points of stress, and pitch inflections.[39] Reese supposes that

> neumes existed as early as the 6th century. For it is difficult to conceive how the complex task of codifying plainsong melodies could have been undertaken during the time of Gregory the Great without the aid of a system of notation.[40]

Although eighth century fragments are extant, the earliest complete liturgical manuscripts employing neume notation date from the ninth century.

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[36]Compare Victorinus De accentibus (Keil, Grammatici latini, 6:193) with p. 41, above.

[37]Apel, Gregorian Chant, p. 109, points out that another sign--anticircumflex (v)--was introduced in the fifth century.

[38]Ibid.

[39]Robert D. Stevick, Suprasegmentals, Meter, and the Manuscript of Beowulf (The Hague: Mouton, 1968), pp. 21-23.

[40]Reese, Middle Ages, p. 133.

The components of neume notation were the virga and virga jacens, i.e., producta, indicating longs; and the punctum and hook, i.e., brevis, indicating shorts.[41] The neumes constructed from these components correspond to metrical feet.[42] The clivis or flexa (/), derived from the circumflex, denotes a trochee; the podatus or pes (⌣), derived from the anticircumflex, denotes an iamb; the climacus (/..), acute-grave-grave, denotes a dactyl; the scandicus (./), grave-grave-acute, denotes an anapest, etc.[43]

One of the most obvious, and perhaps most important, characteristics observed in this interpretation is the correspondence between rhythmic and melodic patterns.[44] Not only does a rising rhythm (♩or ./) rise from a short to a long, but also from a lower to a higher pitch (♩ or ♩♩.). A falling rhythm (/ or /..), falling from a long to a short, involves a pitch pattern from high to low (♩ or ♩.♪). Thus, a rising rhythm, e.g., an iamb or anapest, would ideally manifest itself in an ascending melodic pattern, while a

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[41]Wagner, Neumenkunde, pp. 115-117 & 381. See also Apel, Gregorian Chant, pp. 109 & 132.
Mocquereau, Le Nombre, p. 171, considers the virga jacens to be a form of the punctum, calling it a punctum planum. As is shown below, p. 46, the horizontal stroke is indeed a variant of the punctum, but it denotes a short having the value of a long.

[42]As noted on p. 40, above, Guido observed that the neumes corresponded to metrical feet.

[43]Wagner, Neumenkunde, pp. 118-120.

[44]See the discussion of pitch and rhythmic relationships in medieval musical theory, above, p. 24, n. 41.

falling rhythm, e.g., a trochee or dactyl, would appear as a descending melodic pattern.[45]

Perhaps, in its earliest stages liturgical chant was no more than simple cantillation based on this principle; a form of heightened speech in which important syllables were stressed by being made higher in pitch and longer in duration. As the repertory expanded, expressive melismas were added. Although vocalized to a single text syllable, the rhythms of these melismas would have been based on the proto-rhythms of the more simple syllabic formulae. As the repertory became more complex, adaptations or alterations of the fundamental pitch-rhythm principle had to be made.

The neumes were altered in several ways which sometimes affected their rhythmic significance and at other times simply made the implied rhythms more explicit. One alteration was the substitution of a horizontal stroke (*producta* —) for a *punctum* or hook, indicating that a theoretical short was to be performed as a long. For example, the podatus (  ), which normally indicates an iamb: short-long, sometimes appears as  or  , signifying two longs; the *torculus* (  , short-long-short) sometimes appears as , in which the final short becomes a long. On the other hand, two forms of the *scandicus* (  and  )

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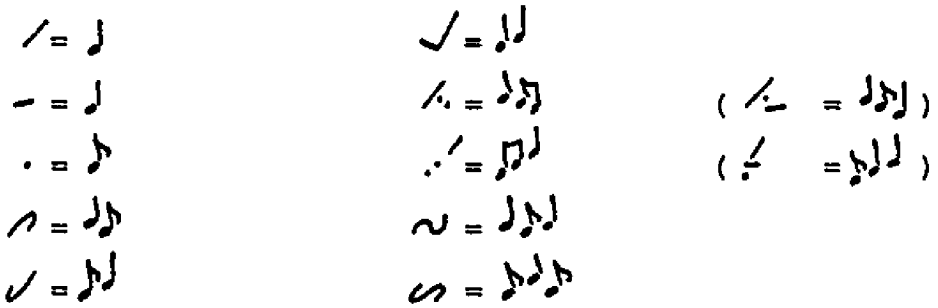
[45]The principle of stress relationships serving as determinants of pitch has recently been used in Thomas Cable, *The Meter and Melody of Beowulf* (Urbana: University of Illinois Press, 1974), pp. 102-106, to reconstruct the melodic recitation of *Beowulf*. While Cable's transcriptions indicate only approximate pitch relationships, it would seem

seem to be interchangeable, as do two forms of the climacus (  and  ). The altered forms of the climacus and scandicus seem to be only notational refinements which only emphasize and do not alter the rhythmic significance.[46]

Applying the value of two tempora (  ) to the long and one tempus (  ) to the short, Wagner gives the following rhythmic interpretations of the basic neumes:[47]



Statements of both Guido and Aribo indicate that all neumes have the same total durational value. Guido stated that the neumes "must still mutually resemble and balance each other, either by the number of tones or by the measurement of their durations."[48] To Guido's description Aribo added:

> Equals agree with equals when neumata containing one, two or three sounds are each answered by neumata containing respectively one, two, or three sounds. 'And this by the number of sounds,' for in equal neumata, two sounds reply to two, and

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that the pitch-rhythm principles could also be applied.

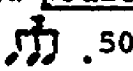
[46]See below, p. 49.

[47]Wagner, Neumenkunde, pp. 116, 119, 120, & 395.

[48]GS 2:15: "semper tamen aut in numero vocum aut in ratione tonorum neumae alterutrum conferantur." Concerning this passage, see Vollaerts, Rhythmic Proportions, p. 17.

> three to three. 'Or by the proportion of their sound-durations'; neumata numbering two, four or three sounds, correspond respectively to neumata consisting of one sound, two sounds, one sound.[49]

Thus, it would appear that, regardless of the number of notes in each neume, all neumes must have the same total durational value; clivis and podatus should have the same total value as climacus and scandicus. Wagner's interpretations do not fulfill this requirement.

George Louis Houdard has proposed that each neume be given the value of a quarter note. Thus, he transcribes both the clivis and podatus as  , and the climacus and scandicus both as  .[50] Houdard's interpretations meet the requirement that all neumes have the same total value. However, with his interpretation the distinction between longs and shorts is not preserved. Herein lies one of the major problems confronting modern scholars attempting to decipher the rhythmic significance of neume notation. If the theoretical metrical values of one and two tempora for the long and short values are applied, then there is no way that a three-note neume can have the same total value as a two-note neume.

There is a convenient solution which is to be found in the alogia values of Aristoxenian rhythmic theory.[51]

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[49]Translated in Vollaerts, Rhythmic Proportions, p. 173.

[50]For an explanation of Houdard's interpretations, see his Le rythme du chant dit grégorien (Paris: Fischbachen, 1898).

[51]See above, pp. 8-10.

If the cyclic interpretations of the dactyl and anapest ( and ) are applied to the scandicus and climacus, not only would three-note neumes be equal in total value to two-note neumes, but the rhythmic relationships of the individual notes would be maintained:

= = 3 tempora = =

= = 3 tempora = =

That the cyclic forms of the dactyl and anapest were used for the climacus and scandicus is evidenced by the frequent appearance of the forms and in the manuscript sources. Furthermore, the application of these interpretations to the rhythm of liturgical chant would result in a system of temporal organization analogous to that used for Greek music of the second century B.C. as well as to that of the thirteenth century modal system. Thus, the foot, neume, and perfection would all represent manifestations of an ancient and continuous system of measuring rhythms.[52]

The evolution of chant notation from the Greek accent signs through the accent neumes is illustrated in Table 1.[53]

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[52]Concerning the Greek example, see above, p. 11, and the transcription of the Skolion of Seikelos, appendix B, below, p. 197. Concerning the thirteenth century modal system, see below, chapter 7.

[53]Compare with the tables in Johannes Wolf, Handbuch der Notationskunde, 2 vols. (Leipzig: 1913; reprint ed., Hildesheim: Georg Olms, 1963), 1:111-112; Apel, Gregorian Chant, p. 120; Harvard Dictionary of Music (1974), s.v., "Neumes"; Reese, Middle Ages, p. 139; and Carl Parrish, The Notation of Medieval Music (New York: W. W. Norton & Co., 1957), p. 6.

While it is clear that (1) prior to the eleventh century, liturgical chant was performed in a manner that distinguished long and short values; (2) the rhythms were the same as those of metrics; (3) the neumes originally had rhythmic significance and denoted metrical feet; and (4) the concepts of rhythm and melody were inter-related, the interpretations illustrated in Table 1. must still be considered hypothetical. Just how closely the prescribed patterns were observed in practice remains a matter of speculation and conjecture. However, the theoretical validity of such a proportional interpretation is the key to understanding the development of rhythmic theory and notation of the twelfth and thirteenth centuries.[54]

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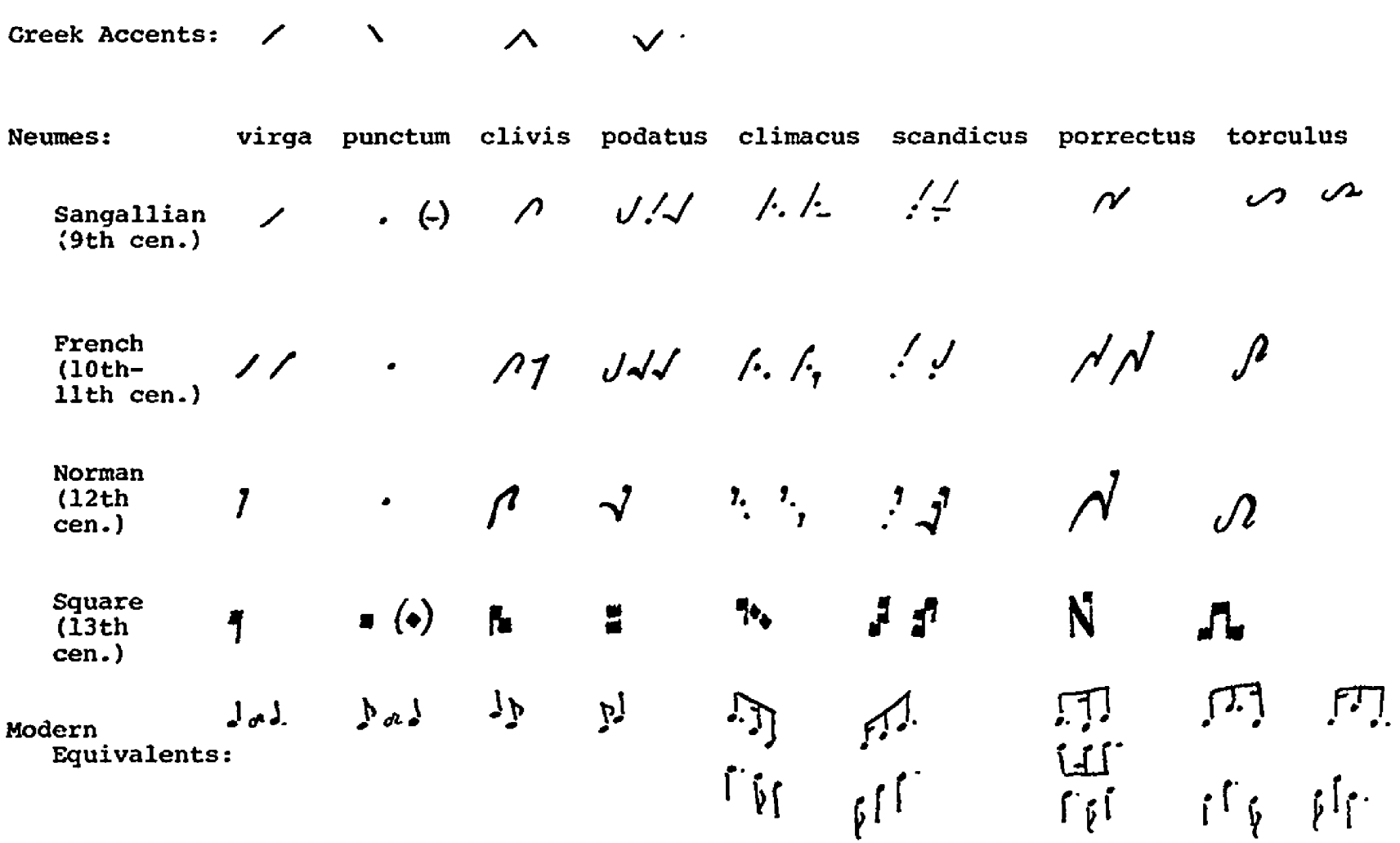
[54]Based on the principles outlined above, a transcription of the first part of the Easter gradual Haec dies is given in appendix B, below, p. 198.

TABLE 1.



# CHAPTER VI

## RHYTHM IN MEDIEVAL MUSIC:

## EARLY POLYPHONY

The rhythmic practices followed between the eleventh and thirteenth centuries are not fully known. It is generally assumed that in the eleventh century, or shortly thereafter, liturgical chant began to be performed with notes of equal value, as "plainsong."[1] Vollaerts is of the opinion that

> the original rhythm of liturgical monody died about the year 1000 . . . for about the year

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[1]Dom Johner, A New School of Gregorian Chant (New York: Pustet, 1925), pp. 188-193; Ludwig Bonvin, "Liturgical Music from the Rhythmical Standpoint up to the Twelfth Century," MTNA Proceedings, 10(1915):224-225; Ludwig Bonvin, "The Measure in Gregorian Music," MQ 15(1929):16; and Gatard, Plainchant, p. 46.

The medieval use of the term plainsong (cantus planus) did not denote chant in which all notes were of equal duration, but rather chants of plagal modes. (See the statement of Odo of Cluny to this effect, GS 1:259.) Likewise, the distinction of thirteenth century theorists between musica plana and musica mensurabilis did not mean that the former was sung with equal values, but rather that liturgical monody was more flexible in performance and was not bound by the strict limitations of exact measurement required for polyphony. (Bonge, "Theory and Practice of Measure," p. 8.) The only time which can be ascertained with any certainty, that liturgical melodies were performed with notes of equal value was in the performance of simple discant in which each note of the chant was treated as a long of three tempora while the upper voice added a polyphonic embellishment. (See the transcriptions of the clausulae Docebit and Regnat from the St. Victor MS, below, appendix B, pp. 217 & 227.)

> 1000 there had been a musical decline or rather collapse in liturgical music . . .
>
> In those days, performance was mostly from memory, and the few song-books with their defective notation which were used by the leaders became less and less understood as time went by. Rhythmic signs became mere graphic conventions without rhythmic meaning . . .[2]

Modern scholars have suggested that a change in notational practices caused the rhythms to be lost. With the introduction of the quill pen and gothic script in the thirteenth century, chant notation took on a new appearance, the square notation that it has retained ever since.[3] Peter Wagner observed that, although neumatic notation provided several different forms for the pes, clivis, scandicus, climacus, etc., "quadratic notation recognizes only one form for each sign, only one pes, one flexa, one torculus, etc. . . . from now on the scandicus and salicus have only one form  (i.e., the form corresponding to a short value has disappeared), and the climacus always appears in the form  ."[4] William Waite interprets this to mean that

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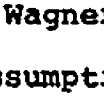
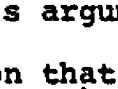
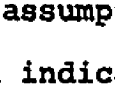
[2]Vollaerts, Rhythmic Proportions, pp. xiii-xiv.

[3]See, for example, Paris, Bibliothèque Nationale, latin 1107 (fol. 190 reproduced as Plate VIII in Parrish, Notation). Intermediary stages can be seen in the 11th century MS, Paris, Bibliothèque Nationale, latin 7211 (fol. 127v. reproduced as Plate IV in Parrish, Notation), and the late 12th century MS, Paris, Bibliothèque Nationale, latin 10. 508 (fol. 32v. reproduced as Plate VII in Parrish, Notation).

[4]Wagner, Neumenkunde, pp. 379-380, translated in William Waite, The Rhythm of Twelfth-Century Polyphony, Yale Studies in the History of Music 2 (New Haven: Yale University Press, 1954), p. 22.

"the growth of quadratic writing led to a system of note signs that are rhythmically indifferent."[5]

Wagner's argument and Waite's conclusion are based on the assumption that  while  . If, however, both indicated  , then there is no reason to assume that  and  did not denote the same rhythm. Likewise, if  and  denoted  then so could  ; the pes would still indicate  and the clivis,  .[6] . If this were the case, then it would seem that the original rhythmic significance of the neumes was preserved, at least in part, in the square notation.

Reese has suggested that the original rhythm of chant was lost in the twelfth century, when

> the exigencies of organum . . . ironed out the longs and shorts of the Chant into notes of equal value . . . organum presented such difficulties to the singers that it was necessary to ease their problems by having them sing notes of uniform time value.[7]

This opinion was also expressed by Bonvin who quotes a passage from Musica enchiriadis in which the author of that treatise confirmed that the notation of polyphony preserved the signs "serving to differentiate long and short tones," but the performance of organum "demands an execution so ponderous and so slow that the rhythmical proportions (of

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[5]Waite, Rhythm of Twelfth-Century Polyphony, p. 22.

[6]See above, pp. 48-49.

[7]Reese, Middle Ages, p. 144.

the long and short notes) can scarcely be observed."[8] What both Reese and Bonvin failed to observe is that this passage does not affirm that notes were performed in uniform value, but rather that the tempo was so slow that proportional relationships were difficult to distinguish.

It is unlikely that the metrical performance of liturgical chant was ever completely forgotten. If the notational system of the thirteenth century is compared with that prior to the eleventh, a number of parallels will be found. For example, in the thirteenth century two basic note shapes with their corresponding durations were described: longa and brevis.[9] Speaking of these note forms, Walter Odington explained, "The longer one which was originally called a virga is now called a longa . . . But the shorter one, which was originally called a punctum, is now called a brevis."[10] In the thirteenth century the two-note ascending ligature ( ) corresponded to the pes or podatus[11] ( ) and denoted short-long. The three-note ascending ligature ( ) corresponded to the scandicus ( ) and usually denoted short-short-long.

However, the two systems are not identical. For example, in the thirteenth century a descending two-note

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[8]Bonvin, "The Measure," p. 16. [9]See below, p. 133.

[10]CS 1:235: "Morosa longa vocatur que prius virga dicitur nota . . . Velox vero vocatur brevis, que prius dicitur punctus."

[11]CS 1:213.

ligature (  ) denoted short-long, while the neume from which it evolved (clivis) denoted the opposite pattern. The three-note ligature  (or  ) denoted short-short-long in the thirteenth century, while  denoted long-short-short in the ninth. Thus, it appears that the significance of some of the signs had been exactly reversed.

Waite has attempted to explain the change in significance by describing a transitional period (eleventh century) in which all of the neumes lost rhythmic significance, and then were given new meaning in the course of the twelfth century. In essence, the phoenix rose from the ashes--a new system was created, using the defunct notational signs of an earlier and different system.[12] Yet, there is no conclusive evidence that the neumes ever completely lost rhythmic significance or that chant was ever performed with notes of equal duration. The theorists stated that singers were not observing proper values; they were sometimes performing longs as shorts and shorts as longs.[13] This could easily mean that the clivis was being performed as short-long when it should have been performed as long-short, or that the climacus was being performed like the scandicus, i.e., that the rhythmic significance was being reversed.

The reason for the apparently deliberate alteration

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[12]Waite, Rhythm of Twelfth-Century Polyphony, pp. 27 & 56.

[13]See the statement of Aurelian of Réomé, above, p. 35.

in the significance of some of the notational signs is to be found in the evolution of discant. Although early organum was considered to be only another manifestation of liturgical chant, and perhaps was performed with the same rhythm as the original chant,[14] problems arose when the organal voice began to gain melodic independence, moving in contrary motion to the chant.

If the chant melody moved up (♩or𝅗𝅥) and the organal voice moved in contrary motion (𝅗𝅥or♩), or if a single long was preceded by a lower pitch in the chant (in which case it would be notated as a virga) and at the same time in the organal voice a single note was preceded by a higher pitch (in which case it would be notated as a punctum) a situation would arise in which virga is placed against punctum, clivis against podatus, climacus against scandicus, etc. For example, an eleventh century manuscript (Chartres, Bibliotheque de la Ville, 130) contains an Alleluia and verse Dies sanctificatus[15] (for the Feast of the Nativity) in which "the punctum in one voice corresponds to the virga in the other; the podatus to the clivis; the torculus to the porrectus; the scandicus to the climacus."[16]

Using this eleventh century example to support his equalist interpretation of liturgical chant, Mocquereau

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[14]Waite, Rhythm of Twelfth-Century Polyphony, p. 26, n. 28.

[15]Fol. 50 (Plate XXc in Parrish, Notation).

[16]Mocquereau, Le Nombre, pp. 241-242.

stated:

> It is hard to conceive of a more categorical refutation of the theory that would interpret the virga as a long note and punctum as a short one . . . What becomes the rhythmic relation of the two parallel voices if an eighth note corresponds to a quarter note and vice versa, from beginning to end? The two voices correspond only if there be perfect identity of duration between the various neumatic signs.[17]

Although the validity of using an eleventh century polyphonic example as an argument about the rhythmic performance of liturgical chant in earlier centuries must be seriously questioned, the point raised by Mocquereau concerning the equality of virga and punctum is valid in so far as the neume notation of early polyphony is concerned. However, the same does not hold for the neumes of two or more notes, i.e., that the individual components of each of the neumes are also equal.

An identical situation is found in thirteenth century polyphonic manuscripts, i.e., virga (longa) appears against punctum (brevis), scandicus against climacus, etc. Yet, no one has suggested that these works should be performed with notes of equal value. Although thirteenth century theorists described distinct note shapes for individual longs and shorts, Anonymous IV pointed out that in "old books" the individual signs were indifferent.[18] In these manuscripts both the virga and the punctum were used tc

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[17]Mocquereau, Le Nombre, pp. 241-242.

[18]CS 1:344.

denote shorts as well as longs.[19] Ascending ligatures retained the rhythmic significance of the neumes from which they had evolved. On the other hand, the significance of descending ligatures had been exactly reversed.

With the evolution of discant the ancient pitch-rhythm correlation was negated. Contrary melodic patterns were given identical rhythmic significance. All two-note ligatures, whether ascending or descending, denoted short-long. All three note ligatures, whether ascending or descending, denoted short-short-long. Only when they had become entirely disassociated from pitch relationships could the virga (longa) and punctum (brevis) be used to denote a long and short respectively.

Although it is generally presumed by most modern scholars that the rhythmic theory and modal notation of the thirteenth century was an invention of Leonin in the late twelfth century, it is more likely that the system was already in use in the eleventh, perhaps even in the tenth century. To deny this possibility is to assert that the rhythmic organization and notation of liturgical chant and that of later polyphonic music were discontinuous, non-related phenomena. For example, Waite has stated:

> By the last third of the twelfth century, when the Notre Dame school arose, the original rhythm of Gregorian chant must have disappeared completely . . . the return to exact rhythmic measurement in

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[19]Waite, Rhythm of Twelfth-Century Polyphony, p. 16.

> the Notre Dame organa has somewhat the appearance of being a renaissance or a reform of rhythm. But the return to a metrical system was hampered by a notation which no longer had exact symbols for long and short values. The composers were confronted with the problem of infusing rhythmically indifferent signs of notation with rhythmic significance. Their solution--modal notation--was a unique and entirely original one, having little or nothing in common with the previous rhythmic neumes. The originality of their solution is to be seen in three of the modes, the modi ultra mensuram, which have no true, exact counterpart either in metrics or Gregorian rhythm.[20]

Waite's conclusions do not seem to be borne out by the facts.

It has been established that the original rhythm of liturgical chant had not disappeared entirely by the twelfth century. However, with the advent of discant organum, requiring contrary movement between voices, some of the neumes were forced to assume new significance, often contrary to their original meanings. The modal system and modal notation of the thirteenth century were not "a unique and entirely original" creation, "having little or nothing in common with the previous neumes," but rather a continuation, with some alterations, of the temporal organization and musical notation based on linguistic phenomena and the art of metrics.[21]

If modal concepts, i.e., two-note neumes indicate short-long and three-note neumes, short-short-long (except

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[20]Waite, Rhythm of Twelfth-Century Polyphony, p. 28.

[21]It will be shown in the next chapter that the modi ultra mensuram, cited by Waite as evidence of the originality of the modal system, like the rhythms of liturgical chant, had exact counterparts in metrics. See below, p. 69.

after a rest or at the beginning of a phrase, in which case a three-note neume would indicate long-short-long), are applied to eleventh and twelfth century polyphonic compositions (e.g., the Alleluia from the Chartres manuscript, as well as the St. Martial and Compostela repertories)[22] highly satisfactory results are produced.[23]

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[22]Concerning recent rhythmic interpretations of the St. Martial and Compostela repertories, see Hugo Angles, "Die Mehrstimmigkeit des Calixtinus von Compostela und seine Rhythmik," Festschrift Heinrich Bessler zum sechzigsten Geburtstag (Leipzig: Institut für Musikwissenschaft der Karl-Marx-Universitat, 1961), pp. 91-100; Leo Treitler, "The Polyphony of St. Martial," JAMS 17(1964):29-42; Bruno Stäblein, "Modale Rhythmen im Saint-Martial-Repertoire," Festschrift Friedrich Blume zum 70 Geburtstag (Basel: Barenreiter, 1963), pp. 340-362; and Theodore Karp, "St. Martial and Santiago de Compostela: an Analytical Speculation," ACTA 39(1967):144-160.

[23]See the transcriptions based on these principles, appendix B, below, pp. 199-202.

# CHAPTER VII

## RHYTHM IN MEDIEVAL MUSIC: THIRTEENTH CENTURY THEORY AND NOTATION

The earliest theoretical work dealing with the temporal organization of polyphonic music is the short, anonymous thirteenth century Discantus positio vulgaris. This is followed by the only slightly more advanced work of Anonymous VII which offers very little new information. The most important and most complete presentation of rhythmic theory and notation is to be found in the longer treatise of John of Garland, De mensurabili musica, on which were based the later writings of St. Emmeram Anonymous, Anonymous IV, Franco of Cologne, and Walter Odington.[1]

These treatises discuss the temporal organization of

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[1]With the exception of the St. Emmeram Anonymous treatise (cited above, p. 23, n. 38), all are contained in vol. 1 of CS. Discantus positio vulgaris, John of Garland's De mensurabili musica, and Franco's Ars cantus, as part of Jerome of Moravia's compendium, are also contained in Simon M. Cserba, ed., Hieronymus de Moravia, Tractatus de Musica, Freiburger Studien zur Musikwissenschaft 2 (Regensburg: Pustet, 1935). English translations: Discantus positio vulgaris and Anon. VII, De musica libellus in Janet Knapp, "Two Thirteenth Century Treatises on Modal Rhythm and Discant," JMT 6(1962);200-215; Franco, Ars cantus in Strunk, Source Readings, pp. 139-159; and Odington, De speculatione musicae, part VI translated by Jay A. Huff, Musicological Studies and Documents 31 (Rome: American Institute of Musicology, 1973).

A study and translation of John of Garland's treatise is given below, appendix A.

polyphonic music in terms of modes, each mode being characterized by a particular pattern of longs and shorts:

Mode I = long-short, long-short, etc.

Mode II = short-long, short-long, etc.

Mode III = long-short-short, long-short-short, etc.

Mode IV = short-short-long, short-short-long, etc.

Mode V = long-long, long-long, etc.

Mode VI = short-short-short, short-short-short, etc.

The theorists also described the exact temporal values of the longs and shorts within each modal pattern (  = one tempus):

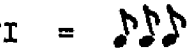
Mode I =  etc.

Mode II =  etc.

Mode III =  etc.

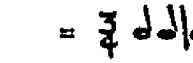
Mode IV =  etc.

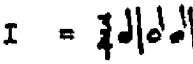
Mode V =  etc.

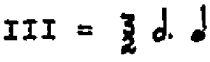
Mode VI =  etc.

However, the role of stress in relation to the modal patterns is less clear, for the theorists did not consider it necessary to deal with this aspect of rhythm directly. As a result, modern scholars have presented contradicting accentual interpretations of the modes.

Hugo Riemann, for example, has given the following interpretations (  = one tempus):

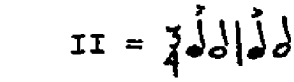
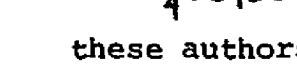
Mode I =  etc.

Mode II =  etc.

Mode III =  etc.

Mode IV =  etc.[2]

For Riemann, Modes II and IV represented anacrusic or upbeat forms of Modes I and III. Furthermore, he interpreted Modes III and IV to have a secondary stress on the longer of the two shorts.

Riemann's interpretations have not been accepted by the majority of twentieth century editors and musicologists, however. Friedrich Ludwig, Anton Michalitschke, Pierre Aubry, Jean Beck, Heinrich Husmann, Rudolph Ficker, Willi Apel, Carl Parrish, et al., have insisted that Mode II differs from Mode I in that the short is stressed, i.e., Mode II =  etc. (or  etc.).[3] Along with Waite,[4] these authors (with the exception of Ficker) also insist

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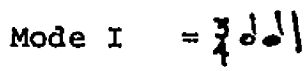
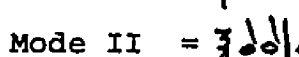
[2]Hugo Riemann, Geschichte der Musiktheorie, 2nd ed., enl. (Berlin: Max Hesses, 1920), p. 181.

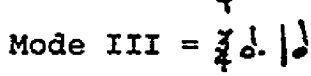
[3]Friedrich Ludwig, Repertorium Organorum Recentioris et Motetorum Vertustissimi Stili (Halle: 1910), ed. by Luther Dittmer, Musicological Studies 7 (Brooklyn: Institute of Medieval Music, 1964), p. 44.
Anton Michalitschke, Theorie des Modus (Ratisbon: Gustav Bosse, 1923), p. 12.
Pierre Aubry, Cent Motets du XIIIe Siècle, 3 vols. (Paris: Publications de la Société International de Musique, 1908), 2:116.
Jean Beck, Les Chansonniers des Troubadors et des Trouveres, vol. 2 of Chansonnier Cange, notes et commentaires (New York: Broude Bros., 1927), p. 38.
Heinrich Husmann, "Das System der modalen Rhythmik," AfMW 11(1954):8 & 35-38.
Rudolph Ficker, "Probleme der modalen Notation," ACTA 18/19 (1946/1947):8.
Willi Apel, The Notation of Polyphonic Music 900-1600, 5th ed. (Cambridge, Mass.: Mediaeval Academy of America, 1953), p. 220.
Parrish, Notation, p. 75.

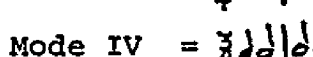
[4]Waite, Rhythm of Twelfth-Century Polyphony, p. 51.

that Modes III and IV be transcribed and performed in 6/4 (or 6/8) and not 3/2 (or 3/4) as Riemann had suggested. Consequently, it is generally accepted that all modes are characterized by an initial stress, whether for a long or a short value, and that Modes III and IV have a stress on the first of the two shorts:

Mode I =  etc. (or  etc.)

Mode II =  etc. (or  etc.)

Mode III =  etc. (or  etc.)

Mode IV =  etc. (or  etc.)

The mere fact that these interpretations form the majority opinion and that they have passed almost unchallenged for the greater part of the twentieth century, would seem to indicate the Riemann was wrong. Yet, when applied to actual transcriptions of thirteenth century polyphony and when compared with the writings of modal theorists, these interpretations present many problems.

Aubry's transcription of the conductus Deus in adjutorium[5] (by forcing a stress on the short) results in the faulty text accentuation Déus ín adjutoríum, íntendé labórantíum. Furthermore, the initial stress interpretation of Mode II cannot be reconciled with the statements of modal theorists concerning transmutations or change of mode.

John of Garland, Anonymous IV, Franco of Cologne, and Walter Odington all state that if a modal pattern terminates

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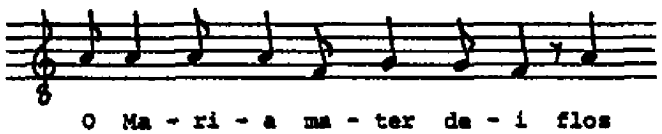
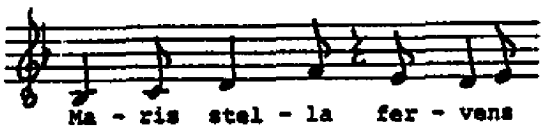
[5]Aubry, Cent Motets, no. 101.

with a complete foot and is followed by a rest, then the mode will be changed.[6] Franco gave the following examples,[7] in which Mode II becomes Mode I after a rest of one tempus:[8]




and in which Mode I becomes Mode II after a rest of two tempora:




Franco's examples led H. E. Wooldridge to declare:

> This is a somewhat embarrassing circumstance, for it is evident that, if the mode of the passage fervens shown above is really the second, and the pause is to be valued as part of the rhythm, then the second mode begins, not as has hitherto been supposed with a strong beat, but like the Iambic rhythm of Ambrosian hymns, for instance, with a weak beat. This is a consequence of considerable magnitude, and one which, if accepted, would throw the whole of the mensural system, as we understand it, into confusion.[9]

Bound by initial stress interpretations of the modes, as was Wooldridge, Ludwig and Strunk have declared Franco mistaken in his understanding of the modal system and have

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[6]CS 1:126, 239-240, & 328-333; see below, pp. 69-70.

[7]CS 1:126-127.

[8]Motetus of Salve, virgo parens salvatoris/O Maria, mater Dei/FLOS FILIUS from Darmstadt, Hessische Landes- und Hochshule-bibliothek 3471, No. 6, published in facsimile: Friedrich Gennrich, Die Wimpfener Fragmente (Darmstadt: n.p., 1958). A transcription of this motet may be found in Gordon A. Anderson, "Notre Dame Latin Double Motets ca. 1215-1250," Musica Disciplina 25(1971):82-83.

[9]Oxford History of Music, 2nd ed., 9 vols. (London: Oxford University Press, 1929), 1:72-73.

censured him for choosing poor examples.[10] It is difficult to accept the notion that one of the most important medieval musical theorists did not know what he was talking about or that he would have been careless in his choice of examples! The error lies not in what Franco said nor in the examples he gave, but rather, in the misconception of the stress characteristics of the modal patterns held by modern writers. In light of this it is necessary to review the writings of the theorists to see if any information concerning the relationship between stress and the quantitative modal patterns can be found.

It is no accident that the six modal patterns are identical with the six basic feet of classical metrics.[11] Anonymous IV and Walter Odington both termed modal patterns "feet."[12] John of Garland described them as "the six modes of antiquity,"[13] and is credited with the statement that the "art of metrics" supplies the "philosophical" foundation for the modal system.[14] Indeed, the modal system is identical with the practical side (*praxis*) of metrics first

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[10]Friedrich Ludwig, "Die Quellen der Motetten 'altesten Stils,'" AfMW 5(1923):290; and Strunk, Source Readings, p. 150 n.

[11]Compare pp. 13 and 63, above.

[12]CS 1:238 & 329; see also Waite, Rhythm of Twelfth-Century Polyphony, pp. 23-25.

[13]See below, p. 126.

[14]CS 1:158; see also Waite, Rhythm of Twelfth-Century Polyphony, pp. 23-24.

described by Aristoxenos in the fourth century B.C.

Modes I, II, and VI were termed *rectus* modes, for the longs and shorts corresponded to the theoretical values of classical metrics (two *tempora* and one *tempus*). Modes III, IV, and V were classified as *ultra mensuram*, for the longs and shorts in these modes exceed *rectus* measurement, i.e., the longs have a value of three tempora and some of the shorts, a value of two.[15] Since all of the modal theorists make the distinction between *rectus* and *ultra mensuram* measurements, and since the distinction appears in even the earliest treatise on modal rhythm (*Discantus positio vulgaris*), it can be safely assumed that this distinction was an integral part of modal theory from its inception.

Contrary to Waite's conclusion that "the *notae ultrae mensuram* are those which have no counterpart in the metrical system,"[16] and that they represent an "entirely new" creation of the Notre Dame school,[17] they were *not* an invention of Leonin which "arose because of certain difficulties inherent in a notation which has no symbol for the *longa* and *brevis* values,"[18] nor was Mode III a "transformation of the dactyl of four tempora into a pattern of

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[15] *Discantus positio vulgaris* uses the term *directus*. On the significance of this term, see Bonge, "Theory and Practice of Measure," pp. 57-60. John of Garland also used the term *oblique* to describe non-*rectus* modes. (See below, p. 127.)

[16] Waite, *Rhythm of Twelfth-Century Polyphony*, p. 25.

[17] Ibid., p. 29. [18] Ibid., p. 28.

six tempora . . . one of the most curious phenomena of the modal system."[19]

The temporal values for the longs and shorts in the modi ultra mensuram correspond to the values known from the time of Aristoxenos as alogia or irrational values, i.e., cyclic dactyl, cyclic anapest, and spondee of six tempora.[20] Ficker was correct when he termed Mode III the "normal" dactyl and "therefore a 3/2 (3/4) measure and by no means a 6/4 (6/8) measure."[21] That such a dactyl was "normal" in the Middle Ages is attested by John of Garland's definition: "a dactyl is any three-syllable word whose penult is short, although the other syllables may be long."[22] The dactyl was still considered to be the same as the cretic.[23]

Another important aspect of the modal system which can only be understood in terms of metrics is the concept of perfect and imperfect modes. Just as Augustine considered a perfect meter to be one which ended with an incomplete foot so that, following a pause, the same meter would continue,[24] modal theorists described a perfect mode as one which terminates with the same value as with which it begins

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[19]Waite, Rhythm of Twelfth-Century Polyphony, pp. 69-70.

[20]See above, pp. 8-10.

[21]Ficker, "Probleme der modalen Notation," p. 2.

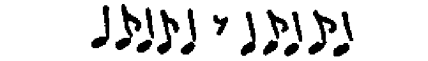
[22]Lawler, Parisiana poetria, p. 105.

[23]See above, p. 10.

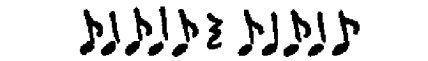
[24]See above, p. 32.

so that, following a rest, the same mode will continue:[25]

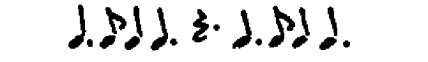
Mode I Mode I



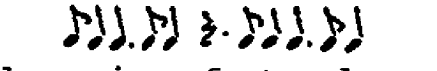
Mode II Mode II



Mode III Mode III

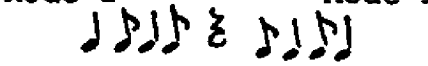


Mode IV Mode IV

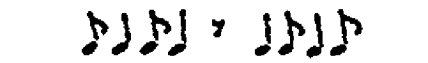


On the other hand, an imperfect mode, ending with a complete foot, when followed by a rest, will result in a change of mode:

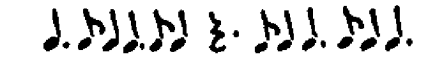
Mode I Mode II



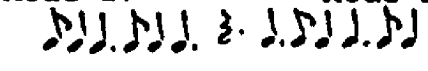
Mode II Mode I



Mode III Mode IV



Mode IV Mode III



Limited by the interpretation that all modes begin with a stressed unit, Wooldridge found the idea of perfect and imperfect modes and change of mode to be "exceedingly difficult to understand, owing to the apparent impossibility of reconciling the language of the theorists respecting it . . . with anything we know of the contemporary practical music."[26] Indeed, the theory of perfect and imperfect modes

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[25]See the explanation of John of Garland, below, pp. 127 and 151.

[26]Oxford History of Music (1929), 1:70.

would have had no meaning had all modes been characterized by an initial stress; ♩♪♩♪♩♪♩ would not be Mode I becoming Mode II, if Mode II required a stressed short.

In metrics, two shorts were considered to be equal to one long. Thus two shorts could be substituted for a long or a long for two shorts. For example, a tribrach could be substituted for a trochee (◡◡◡ = –◡) or an iamb (◡◡◡ = ◡–). In the same manner, a spondee could replace a dactyl (– – = – ◡◡) or an anapest (– – = ◡◡ –).[27] The same circumstances are provided for in the modal system. Through a process known as fractio modorum[28] the longs in any of the modes could be subdivided into shorts; likewise, shorts could be combined to form a long.

Modal theorists were greatly concerned with aequipollentia (equivalence). While two shorts could be substituted for a long, the characteristic accentual pattern was always maintained. Anonymous VII pointed out, "In every mode the ordering must be maintained, for each mode has its own ordering."[29] Thus, there must have been a perceptual distinction between Mode VI with the ordering of Mode I and Mode VI with the ordering of Mode II.[30] The only way to distinguish between the two would have been in terms of

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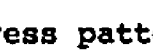
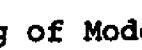
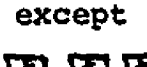
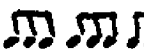
[27]See above, pp. 9, 10, and 28.

[28]See Anonymous IV, CS 1:336.

[29]CS 1:378: "In omnibus modi ordo debet teneri. Quilibet enim modus habet suum ordinem."

[30]John of Garland mentions such orderings, below, p. 167.

the stress patterns, i.e.,  = Mode VI with the ordering of Mode I, and  = Mode VI with the ordering of Mode II. This is also implicit in the notation. Mode VI with the ordering of Mode II is notated like Mode II with the addition of plicae (  ), while Mode VI with the ordering of Mode I is notated like Mode I, except for the initial ligature (  =  ). If there was to be no perceptual distinction, i.e., if both Modes I and II were characterized by an initial stress, there would be no need for a different notation. To insist on an initial stress interpretation of Mode II would mean that  =  =  !

The term modus was synonymous with rhythm and was used in the Middle Ages to denote a type of poetry based on the alternation of stressed and unstressed syllables.[31] As musical equivalents of poetic rhythms, the modal patterns shared identical stress patterns with verse feet.

It has already been demonstrated that stress and duration are not mutually exclusive concepts and that in the Middle Ages they were considered to be one and the same.[32] St. Emmeram Anonymous compared musical rhythms to those of language, and explicitly stated that there were two measures of accents, long and short.[33] Indeed, John of Garland

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[31]See above, p. 19.

[32]See above, pp. 20-23.

[33]See above, p. 23.

defined modus as the classification of accented and unaccented sounds in quantitative (temporal) terms, i.e., as longs and shorts.[34] Long values in modal patterns corresponded to acute syllables, while shorts were associated with grave. The only difference between Mode I and Mode II is that the former, like a trochaic rhythm, begins with a strong unit, while the latter, like an iambic rhythm, begins with a weak unit. Likewise, Mode III begins with a falling pattern, while Mode IV begins with a rise. That this qualitative distinction was recognized in the thirteenth century is evidenced by the classification of Modes I and III as "authentic" and Modes II and IV as "plagal."[35]

That the shorts in Mode II were considered to be identical to the shorts in Mode I (unaccented) is also evidenced in the notation. The last note of every ligature was considered to be long and almost invariably forms a consonance with the tenor.[36] A binary ligature always

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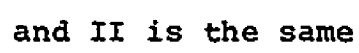
[34]Below, p. 126.

[35]Sowa, Ein anonymer, p. 74.

[36]Ernest H. Sanders, "Polyphony and Secular Monophony: Ninth century - 1300, " in F. W. Sternfield, ed., Music from the Middle Ages to the Renaissance, (New York: Praeger, 1973), p. 105: "The notational practice that tended to make the last note of a ligature in the upper part coincide with the appropriate note of the lower part . . . goes back to the early twelfth century."

This might also explain John of Garland's observation that longer values are "attracted to the end." (Below, p. 130.) The need for such a convention is obvious, i.e., so that the person singing the tenor would know when to change pitches. Perhaps this would explain why the significance of descending ligatures became identical with that of ascending ligatures. (See above, p. 59.)

indicates short-long, whether in Mode I or in Mode II, and the longs in both modes are almost always consonant with the tenor. Just as the internal rhythms of trochaic and iambic verses are identical, so the internal notation of Modes I and II is the same: . . .  . . . could be a portion of either a Mode I or a Mode II pattern depending upon whether the initial ligature is one of two or of three notes. If the shorts were to be accented in Mode II but not in Mode I, then it would have been necessary for the performers to always keep in mind which mode was being used, i.e., in Mode I  would be performed as  while in Mode II it would be performed as  . Yet, Franco stated that it was not necessary to actually determine the mode,[37] implying that  would be performed in the same manner whether in Mode I or in Mode II.

Failing to recognize the internal identity of Modes I and II, Ludwig stated that the pattern short-long (denoted by the binary ligature) corresponds in Mode I to  and in Mode II to  .[38] Likewise, other modern writers

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[37]CS 1:127-128: "Et nota quod in uno solo discantu, omnes modi concurrere possunt, eo quod per perfectiones omnes modi ad unum reducuntur. Nec est vis facienda de tali discantu de quo modo judicetur. Potest tamen dici de illo in quo plus vel pluries commoratur."

"Observe also that all the modes may run together in a single discant, for through perfections all are reduced to one. Nor need one attempt to determine the mode to which such a discant belongs, although it may be said to belong to the one in which it chiefly or frequently remains." (Strunk, Source Readings, p. 151.)

[38]Ludwig, Repertorium, p. 44: "Man ging von dem Prinzip aus, die Rhythmen, die im Wechsel von Hebung und einer

have failed to recognize the difference between the significance of the foot and the modern "bar." Whereas the foot (and the medieval perfection) may be characterized by either an initial or a final stress (depending upon the arrangement of quantities), the modern bar is always characterized by an initial stress.[39] Although this view is no longer accepted in regard to poetry, it has remained unchallenged until now in regard to medieval music.[40]

Application of the "foot equals perfection equals bar" hypothesis to texted examples of medieval music would mean that, whether iambic, trochaic, anapestic, or dactylic, every foot would have an initial stress, e.g., Déus ín adjútoríum, íntendé labórantíum. Beck declared such accentuation "abominable." Trapped by his initial stress interpretation of Mode II, and considering Mode II to denote an iambic rhythm, Beck was led to the untenable conclusion that

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Senkung verlaufen, . . . und man gab nun der Ligatura binaria stets die Bedeutung: kurz-lang, die also im 1. Beispiel der Folge: Senkung-Hebung (  ) und im 2. der umgekehrten Folge: Hebung-Senkung (  ) entspricht . . . " ("They proceeded from the principle of representing rhythm, which moves in an alternation of Hebung and Senkung . . . they always gave the binary ligature the meaning: short-long, which therefore corresponds in the first example to the succession: Senkung-Hebung (  ) and in the second to the reverse succession: Hebung-Senkung (  ) . . .")

[39]See above, pp. 28-29.

[40]For example, Jean Beck, Les Chansonniers, p. 52, n. 29, observes, "le term 'pes' équivant au terme moderne de 'mesure.'" ("The term 'foot' is equivalent to the modern term 'measure.'") Wooldridge, Oxford History of Music (1929) 1:73, states, "the first note, whether long or short, of the rhythmic figure falls in all modes upon the strong beat of the perfectio or 'bar' of three times."

a perceptual distinction existed between iambic and trochaic with an anacrusis. Thus, in his way of thinking, the proper mode for Deus in adjutorium is not Mode II, but "one must transcribe this piece in the first mode with an anacrusis."[41] Other scholars (e.g., Ludwig and Rokseth)[42] have followed and distinguish between Mode II and Mode I with an anacrusis. Indeed, Husmann goes as far as to state that all modes can have an upbeat form, "showing the importance of our bar-line, without which there would be no difference between an upbeat first mode and a normal second mode."[43] However, there is absolutely no reason to suppose that there is, or ever was, a distinction between Mode II and an upbeat form of Mode I, or between Mode IV and an upbeat form of Mode III. Medieval theorists make no such distinction. In fact, they never mention upbeat forms of any of the modes. To have done so would have been redundant, for Modes II and IV are in fact upbeat forms of Modes I and III, just as iambic and anapestic rhythms are "upbeat" forms of trochaic and dactylic rhythms. There is absolutely no historical, theoretical, grammatical, or musical reason to suppose that the stress characteristics of the modal patterns are any

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[41]Beck, Les Chansonniers, p. 59: "Il faut transcrire cette piece en premier mode anacrousique."

[42]Ludwig, Repertorium, p. 352, and Yvonne Rokseth, Polyphonies du XIIIe siècle, 4 vols. (Paris: Editions de l'Oiseau-Lyre, 1935-39), 4:54-55.

[43]Heinrich Husmann, Medieval Polyphony, trans. by Robert Kolben, Anthology of Music 9 (Cologne: Arno Volk Verlag, 1962), p. 10.

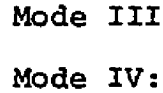
different from those of the feet of poetry.

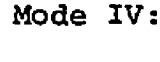
Modes I and III begin with long values followed by shorts (falling rhythms), while Modes II and IV begin with shorts followed by longs (rising rhythms). Mode V can be used for either rising or falling rhythms, depending upon whether it is reduced to Mode III or to Mode IV. Likewise, Mode VI can be used for either, depending upon whether it is reduced to Mode I or to Mode II. Furthermore, the groupings in Mode VI may be either two groups of three (when reduced to Modes I and II) or three groups of two (when reduced to Modes III and IV):

Mode I; 

Mode II: 

Mode III: 

Mode IV: 

Mode V:  (corresponding to Mode III)

or

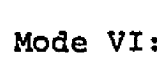
 (corresponding to Mode IV)

Mode VI:  (corresponding to Mode I)

or

 (corresponding to Mode II)

or

 (corresponding to Mode III)

or

 (corresponding to Mode IV)

There is another aspect of the modal system which modern writers seem to have ignored, that is, the manner in which the modal patterns terminate. As has been observed, any mode may end with either a long or short unit, i.e., with either a complete or incomplete foot.[44] A three-note ligature has the theoretical value of two longs: short-short-long, or long-short-long. However, when used to terminate a Mode II pattern, the three-note ligature is said to indicate short-long-short. Anonymous IV and Franco clearly state that a short note followed by a long rest is to be performed as a long.[45] John of Garland consistently used ligatures "with perfection" to terminate all modes, even if the final value was theoretically a short.[46]

Again there appears to be a conflict between theory and practice, and again the model (and solution) is to be found in the art of metrics. Just as all terminal values (whether long or short) were performed as longs in poetic recitation,[47] these same iambic and spondaic clausulae are obviously those required for the modal patterns. If applied, all modes (whether perfect or imperfect) would

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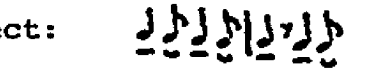
[44]See above, pp. 69-70.

[45]CS 1:126, 358 & 363. John of Garland (below, p. 185) also observed that final notes followed by a rest were performed as longs.

[46]See below, p. 141 . Franco (CS 1:125; Strunk, Source Readings, p. 148) later made explicit what was implicit in John's use of ligatures with perfection to terminate all modes, i.e., that final values are long.

[47]See above, pp. 32-33.

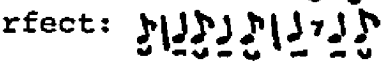
terminate with a long, although the final value might be a theoretical short:

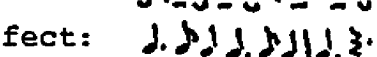
Mode I, perfect: 

Mode I, imperfect: 

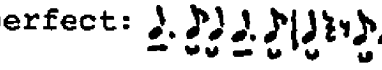
Mode II, perfect: 

Mode II, imperfect: 

Mode III, perfect: 

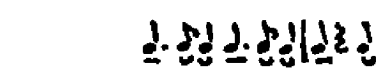
Mode III, imperfect: 

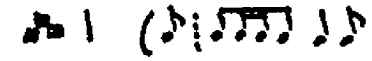
or

Mode IV, perfect: 

Mode IV, imperfect: 

or



In these interpretations, not only is the correlation with the art of metrics maintained (i.e., that all final values are longs), but the requirements of the modal theorists (that final shorts before a rest are performed as longs) are also fulfilled. Furthermore, positive evidence that final shorts were performed as longs is provided in manuscript sources of practical examples in which such final shorts are notated as longs. For example, the duplum of the <u>clausula</u> <u>Portare</u> (StV, fol. 288)[48] is notated in Mode II as follows:  .

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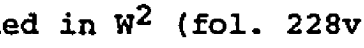
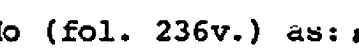
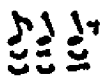
[48]Transcribed below, appendix B, p. 228.

while its corresponding motet (Douce dame sanz pitie)[49] is notated in $W^2$ (fol. 228v.) as:  and in Mo (fol. 236v.) as: 

If final shorts (followed by a long rest) were always performed as longs, it might explain the conflicting testimony of modal theorists concerning the theoretical significance of ternary ligatures. By using a ternary ligature to terminate Mode II patterns, theorists (such as John of Garland)[50] ascribe to such a ligature the theoretical significance short-long-short. However, Franco of Cologne condemns such an interpretation, stating that such ligatures indicate short-short-long.[51] Both theoretical descriptions are consistent with the interpretation  .

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[49]Transcribed below, appendix B, p. 237.

[50]See the examples given by John, below, appendix A, pp. 141-147.

[51]CS 1:124: "Per quod patet, positionem illorum esse falsam, qui ponunt in ternaria aliquam mediam esse longam, in omnibus autem aliis, fore brevem."

Strunk, Source Readings, p. 148: "Hence it appears that the position of those is false who hold that in the ternary ligature the middle note is a long, although in all others it is a breve."

# CHAPTER VIII

## CONCLUSIONS

In the present study rhythm has been defined as the illusion of movement resulting from the grouping of successive acoustical events. Grouping occurs when some of the events within a series are perceived and classified as greater than other events. The art of metrics represents an abstract system of acoustical measurement and classification whereby quantitative distinctions between phonological elements can be determined in terms of mathematical ratios. Although metrics is directly concerned only with temporal measurement, there is no evidence that classical rhythms were devoid of other psychological (kinaesthetic), acoustical, and phonological elements (e.g., stress and pitch). Positive, culminative elements (higher and louder) are consistently associated with greater duration.

The art of metrics was passed on to medieval Europe by Roman grammarians. Medieval rhythmic theory is expressed in terms of quantitative patterns: six modes corresponding to the six fundamental feet of classical metrics. Although modern scholars are generally of the opinion that the modi ultra mensuram (Modes III, IV, and V) represent a twelfth or thirteenth century alteration in metrical theory,

in order that the dactyl, anapest, and spondee might be counted in threes, it has been shown that they correspond exactly to the alogia values of Aristoxenian rhythmic theory. It would appear that counting in threes (the medieval perfection) has been known at least since the fourth century B.C. Although classical metrics (which represents more an exercise in abstraction than an attempt to accurately describe empirical phenomena) describes dactyls, anapests and spondees of only four tempora, musical theorists (rhythmicists), influenced by Aristotelian philosophy, constantly point out that these values were not those actually observed in practice. Modal theory, as expressed in the De mensurabili musica of John of Garland, makes explicit what was implicit in the descriptions of Aristoxenos, Aristides Quintilianus, Marius Victorinus, and other early writers concerning the actual performance of such feet in music and poetic recitation.

Just as modal theory is based on metrics, and thus, has a linguistic model, so modal notation is also related to language phenomena. Modal notation evolved from the neume notation of liturgical chant which, in turn, had evolved from the orthographic signs for linguistic accents. While in liturgical chant, melody and rhythm were related, with the advent of discant, the universal pitch-rhythm correlation was no longer valid. The original significance of the neumes gave way to the new meanings required for the notation of simultaneous rhythms with contrary melodic

patterns. In modal notation greater values are "attracted to the end," i.e., the end of the ligature. Thus, the ligatures were used to denote only rising rhythms. Having greater weight, it is the final notes of ligatures in the the upper part which are required to form a concordance with the tenor. Thus, the final note of a binary ligature should bear the greater weight, whether in Mode I or in Mode II. Likewise, the final note of three-note ligatures, whether in Mode III or in Mode IV, should receive greater emphasis.

Modal rhythms, like classical feet, are purely quantitative, i.e., the durational patterns determine the stress patterns. Thus, Modes I and III are characterized by an initial stress ("down-beat" rhythms), while Modes II and IV are characterized by having the greater weight at the end, i.e., "up-beat" or rising rhythms. Furthermore, it is the second of the two shorts in dactylic and anapestic rhythms (Modes III and IV) which are made longer, and thus should have a secondary stress, not the initial short.

Although these interpretations were originally proposed late in the nineteenth century by Hugo Riemann, they have not been accepted by most twentieth century musicologists and editors of medieval music. The generally accepted current interpretations force an initial stress on all modes, regardless of the quantitative arrangement. Furthermore, a stress is forced on the first of the two shorts in Modes III and IV. Based on the misconception that the classical foot and the medieval perfection are identical to the

modern bar, these initial stress interpretations of the modes cannot be accepted. They can no longer be justified on the grounds that without them the whole mensural system, as it is presently understood, would be thrown into confusion. Indeed, if the interpretations concerning the relationship between stress and quantity, which Riemann had proposed and which the present study seems to justify, prove valid, then the present understanding of the whole mensural system must be re-evaluated.

The key for an adequate understanding of modal rhythm and for legitimate rhythmic interpretations of early music is to be found in John of Garland's definition of mode as "the classification of accented and unaccented sounds in terms of the longness and shortness of time." Modal rhythms are metrical rhythms; they are purely quantitative. Stress is a factor of longer duration.

The interpretations proposed in the present study and the accompanying transcriptions differ from the usual modern interpretations and methods of transcription. While it is hoped that, at the very least, these transcriptions will generate further study of the modal system, it is fitting to close with the disclaimer of John de Muris:

> Now, if these few things which we have said include anything which is seen to be inconsistent with truth, we ask you, venerable musicians (you in whom we have delighted from earliest youth, for no science is hidden from him who knows music well), how far, from love of this work, you will correct and charitably tolerate our defects. For it is not possible for the

> mind of one man, unless he have an angelic intellect, to comprehend the whole truth of any science. Perhaps in the course of time there will happen to us what is now happening to the ancients, who believed that they held the end of music. Let no one say that we have concealed the state of music or its immutable end. For knowledge and opinion move in cycles, as long as it pleases the supreme will of Him who has freely created and voluntarily segregated everything in this world.[1]

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[1]From the Pomerium, quoted in Strunk, Source Readings, p. 179.

# APPENDIX A

## JOHN OF GARLAND'S DE MENSURABILI MUSICA

### Manuscript Sources and Authorship

The most important of the thirteenth century treatises on modal rhythm and notation is the De mensurabili musica of John of Garland. There are three extant manuscript sources of this treatise: Brugge, Stadsbibliotheek, 528 (thirteenth century); Rome, Biblioteca Vaticana, latin 5325 (fourteenth century); and Paris, Bibliothèque Nationale, latin 16663 (thirteenth century).[1] Both the Brugge and Vatican manuscripts contain anonymous and incomplete versions of the treatise. Only the Paris source contains the complete treatise (as part of Jerome of Moravia's compendium Tractatu de musica, compiled between 1260 and 1270),[2] and the author is identified in this source as

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[1]These sources have been the subjects of two recent investigations: Rudolf Rasch, Iohannes de Garlandia, en de Ontwikkeling van der voor-Franconische Notatie, Musicological Studies 20 (Brooklyn: Institute of Medieval Music, 1969); and Erich Reimer, Johannes de Garlandia: De Mensurabili Musica, Beihefte zum Archiv für Musikwissenschaft 10 & 11, 2 vols. (Wiesbaden: Franz Steiner Verlag GMBH, 1972).

While the present study draws on these two sources, new evidence is presented which contradicts the findings of Rasch and Reimer concerning the identity of the author of the treatise, John of Garland.

[2]Amedée Gastoué, "Un dominican professeur de musique au treizieme siècle," Institute Storio Santa Sabina, Roma 2(1932):234-236.

John of Garland. John's authorship is confirmed by cross references with the later treatise of Johannes de Grocheo.[3]

Two editions of the Paris version and a single edition of the Vatican version have been published.[4] Reimer's publication contains a critical edition of the treatise based on all three manuscript sources.[5] Although the Paris source contains the only complete version of the treatise, and is the only version which cites John of Garland as the author, both Rasch and Reimer consider this version to contain later additions made by Jerome.

John also wrote another treatise on music, having to do with plainsong and alluded to in the opening sentence of De mensurabili musica.[6] Rasch and Reimer located three manuscript sources for this treatise as well.[7] Rasch observes,

> Although these manuscripts bear no inscription of authorship, indirect evidence (a quotation of Jerome of Moravia, cross-references with De mensurabili musica, and inclusion in the codex Roma, Vaticana 5325) tend to establish this as the treatise issuing from Iohannes de Garlandia.[8]

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[3]Reimer, Johannes, 2:3-4.

[4]Paris version in CS 1:97-117 and Cserba, Hieronymous, pp. 194-229: Vatican version in CS 1:175-182.

[5]Reimer, Johannes, 1:50-97. [6]Ibid., 1:35.

[7]Paris, Bibliothèque Nationale, latin 18514, fol. 85-94v.; Rome, Biblioteca Vaticana, latin 5325, fol. 1-11v.; and Rome, Biblioteca Vaticana, Barberini latin 307, fol. 17-19. (See Reimer, Johannes, 1:3-12, and Rasch, Iohannes, pp. 43-50.)

[8]Rasch, Iohannes, p. 319.

Reimer's presentation is even more convincing. An example of superb scholarship and relentless research, his arguments are based primarily on cross references between the manuscript sources of the suspected treatise and quotations and references to John of Garland in other musical treatises. One of his primary sources of information is an unedited fourteenth century manuscript containing a work with the title Tractatus de tonis a fratre Guidone monacho monasterii sancti Dionysii in Francia compilatus.[9] This treatise refers to a Liber de tonis by John of Garland and contains many references which are found in the treatise which was suspected by Reimer to be the work of John of Garland.[10]

Reimer also refers to the Commentum super cantum of Roger of Caperon[11] in which the author of the treatise states;

> And I, Roger of Caperon, an Englishman, tried, in the work at hand, to be able to follow, next to my own, the sense and language of Guido himself and also of my teacher, the Reverend Johannes de Garlandia.[12]

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[9]London, British Museum, Harleian 281, fol. 58v-96v.

[10]Reimer, Johannes, 1:7-10.

[11]Catania, Biblioteche Riunite Civica e A. ursino Recupero, D 39, fol. 126-155.

[12]"Et ego Rogerius caperonij anglicus in opere presenti juxta meum posse sensum et literaturam ipsius Guidonis supra dicti nec no magistri mei Reuerendi Johannis de garlandia prosequi temtabo." Quoted in Reimer, Johannes, 1:10, and translated in J. Haar, "Roger Caperon and Ramos de Pareia," ACTA 41(1969):30.

As Reimer points out, the material ascribed to John of Garland in this treatise is contained in the three manuscript versions of his De plana musica.[13]

John of Garland was apparently a very important and influential teacher whose authority was so great that his name became attached to many other treatises that were not actually his work. Among these is Optima introductio in contrapunctum pro rudibus,[14] thought by Coussemaker to carry John's name.[15] Coussemaker added that this tract is also found in Pisa, Biblioteca Universitaria, 606.[16] However, according to Reese,

> the description in A. de La Fage, Essais de diphterographie musicale, 388, hardly warrants an identification of the treatise as the same as that in CouS III, 12. The name 'Guerlandia' may be invoked merely for the sake of auctoritas, and, in any event, is not given as the actual author. (The MS, moreover, is no earlier than the 16th century.)[17]

Coussemaker also reprinted a fourteenth century treatise dealing with plainsong which carries the title

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[13]Reimer, Johannes, 1:10-12.

[14]Einsiedeln, Stiftsbibliothek, 689. (CS 3:12-13.)

[15]CS 1:ix. However, as Manfred Bukofzer, Geschichte des englischen Diskants und des Fauxbourdons nach den theoretischen Quellen, Sammlung Musikwissenschaftlichen Abshandlunge 21 (Strassburg: Heitz & Co., 1936), p. 111, points out, this tract actually carries no indication of authorship. This can be confirmed by consulting the facsimile of the first folio in MGG 7:col. 93.

[16]CS 1:x.

[17]Reese, Middle Ages, p. 287, n. 42.

Introductio musice secundum magistrum de garlandia.[18] A fifteenth century source of the same treatise, owned by the Library of Congress,[19] begins Ex tractatu magistri Johannis de galadia de musica plana and ends Explicit ars cantus plani magistri Johannis de galadia. Another fifteenth century manuscript source of the same treatise[20] begins Incipit introductio musice plane sed eciam mensurabilis secundum magistrum Johannem de galandia musice sapientissimum, and ends Explicit musica plana Johannis de galadia. Two other sources for this treatise are anonymous.[21]

Reimer points out that the use of the phrase secundum magistrum Johannem de galandia in the St. Dié and Rio de Janerio manuscripts indicates that these are not authentic works, but contain borrowings from another treatise by John of Garland.[22] Rasch adds, "The attribution to Iohannes de Garlandia is probably not correct but was added causa auctoritatis because of the borrowings from De plana musica."[23]

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[18]Saint Dié, Bibliothèque Municipale, 42, fol. 68-82. (CS 1:157-175.)

[19]ML. 171. J6.

[20]Rio de Janerio, Biblioteca Nacional, Cofre 18, fol. 610-617. (Reprinted in photo-facsimile in Rasch, Johannes.)

[21]Barcelona, Biblioteca Central, 883, fol. 75 and Sevilla, Biblioteca Columbina, 5. 2. 25, fol. 50.

[22]Reimer, Johannes, 1:8-9.

[23]Rasch, Iohannes, p. 320.

Sections on notation in the Regulae of Robert de Handlo (1326) and the Summa of John Hanboy are also ascribed to John of Garland.[24] However, in both instances notational practices of the Ars Nova are described. Unless the suggestion of Waite that there was a second John of Garland (the"younger") is accepted,[25] these ascriptions must be recognized as attempts to give the "stamp of authority" to new ideas.

## Identity of John of Garland

From De mensurabili musica it can be ascertained that John of Garland was familiar with the musical practices associated with the Cathedral of Notre Dame around 1200. He discusses compositional styles such as discant, organum, and copula, as well as the genres of motet and conductus. He mentions a three voice Alleluia posui adjutorium (identified by Anonymous IV as the work of Perotin)[26] and also refers to the four voice compositions of magistri Perotini.[27]

John's fame and authority as a scholar and teacher in and around Paris was very great. Philip de Vitry

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[24]Robert de Handlo's treatise is reprinted in CS 1:383-403. An English translation has been made by Luther Dittmer, Musical Theorists in Translation, vol. 2 (Brooklyn: Institute of Medieval Music, 1959).
John Hanboy's Summa is reprinted in CS 1:403-448.

[25]William Waite, "Johannes de Garlandia, Poet and Musician," Speculum 35(1960):181, n. 13.

[26]CS 1:342. [27]See below, pp. 144 and 192.

described him as "formerly the most famous and expert in the schools of Paris."[28] Anonymous IV based his explanation of modal rhythm on that of John of Garland (twice referring to John's treatise by the incipit Habito de ipsa plana musica, and by referring to the examples John had used for the demonstration of the modes)[29] and Anonymous IV called John "distinguished" (primarius).[30] John's teachings and writings (particularly in regard to liturgical chant) ranked in authority with those of Guido, and his explanations of modal rhythms and rhythmic notation formed the very foundation for writings of subsequent musical theorists.

Unlike his modern counterpart, a Parisian master of the thirteenth century would have been expected to lecture and conduct disputations in all of the liberal arts and would not have limited his field of studies to only one discipline. As an arts master he would have been well versed in grammar, logic, and rhetoric, in addition to the higher disciplines of mathematics, geometry, astronomy, and music.

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[28]CS 3:23.

[29]The incipits appear in the anonymous treatise in CS 1:334 & 341. John's examples (Latus, Laqueus, and Regnat) are mentioned in the treatise in CS 1:328 & 334. Anonymous IV does not give the actual examples, although they may be found below, pp. 142, 146, and 147.

[30]CS 1:342. In this connection, see O. Koller, "Der Liederkodex von Montpellier," VfMW 4(1888):34 and Heinrich Husmann, "The Enlargement of Magnus Liber Organi," JAMS 16(1963):186.

There was one such famous Parisian master who called himself John of Garland. He was an Englishman who studied and taught in Paris.[31] In the nineteenth century it was suggested that this Englishman was the author of the musical treatises.[32] This suggestion has received considerable support by twentieth century writers such as Edwin Habel, Louis Paetow, A. Hughes-Hughes, and Armand Machabey.[33] William Waite has also presented very convincing arguments in favor of this identification.[34]

However, in 1852, unable to find any evidence of musical activity on the part of the Englishman, Coussemaker had argued that he was not the author of the musical

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[31]The most thorough study of the life and works of John of Garland is Louis J. Paetow's Morale Scolarium of John of Garland, Memoirs of the University of California 4/2 (Berkely: University of California Press, 1927).

[32]A. F. Gatien-Arnoult, "Jean de Garlande," Revue de Toulouse et de la Midi de la France (1866):117-137.

[33]Edwin Habel, "Johannes de Garlandia," Mitteilungen der Gesellschaft für deutsche Erziehungs- und Schulgeschichte 19(1909):118; Paetow, Morale Scolarium, p. 142; A. Hughes-Hughes in Groves Dictionary of Music and Musicians, 5th ed. (1959), vol. 3, s.v. "Garlandia, Johannes de."; and Armand Machabey, "Jean de Garland," Revue Musicale 221(1953):20.

[34]See his article, "Johannes de Garlandia, Poet and Musician." Waite says of John (ibid., p. 179): "Of the many masters teaching in the faculty of the arts at the University of Paris in the first half of the thirteenth century few had so wide a range of interests as the Englishman, Johannes de Garlandia. Primarily a poet and grammarian, he nevertheless turned his inquisitive mind to the study of medicine, music, mathematics, and astronomy. Versed in the several liberal arts, he devoted his life to teaching and transmitting to his students his own enthusiasm for learning. His treatises written for classroom use and the poetry composed to illustrate the precepts of his

treatises.[35] Furthermore, he assumed that the musical theorist was active during the twelfth century, whereas the English grammarian was known to have flourished in the thirteenth.[36]

More recently, Heinrich Hüschen has also suggested that the English grammarian and the musician were two different people.[37] Rasch and Reimer have also reached this conclusion and their arguments must now be considered.

Rasch argues that the writing styles of the grammarian and those of the musical theorist are entirely different: "the simple, concise musical treatises contrast starkly with the discursive poetical and grammatical works."[38] This observation is both inaccurate and misleading. While some of the writings of the grammarian might be considered to be discursive, others are as stark, simple, and concise as the major part of De mensurabili musica. Furthermore, none of the writings of the grammarian are more discursive and obscure than the final chapter of the musical treatise under consideration.

The differences in style between the various portions

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literary instruction throw much light on the methods and content of medieval education."

[35]Edmond de Coussemaker, Histoire de l'harmonie au moyen âge (Paris: 1852; reprint ed., Hildesheim: Georg Olms, 1966), p. 48.

[36]Ibid. [37]MGG, s.v., "Johannes de Garlandia."

[38]Rasch, Iohannes, p. 321.

of the treatise, as in the writings of the grammarian, are related to function. The grammarian himself distinguished between various prose styles as related to function. He stated, "Anyone who presents an art ought to define his terms, make distinctions, include examples."[39] He termed this simple style (used for technical manuals) technigraphic.[40] The major part of the musical treatise under consideration is a technical manual, concerned primarily with definitions and examples, and--as in the word books of the grammarian as well as in portions of his Parisiana poetria--the language is technigraphic.

Rasch also argues,

> There is no evidence indicating musical or musico-theoretical activity on the part of the grammarian. The almost reactionary position of the grammarian clashes with the progressive view of 'modern music' of the musical theorist.[41]

Again, Rasch's argument is without foundation. The grammarian was not a reactionary conservative, nor was the musical theorist entirely a progressive (his modal theory is firmly rooted in the Aristotelian rhythmical tradition descended from Aristoxenus). Furthermore, the grammarian was not ignorant of music nor is there any evidence that he was opposed to "modern music."

The grammarian's knowledge of music is exhibited in

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[39]Lawler, Parisiana poetria, p. 5.

[40]Ibid., p. 6.

[41]Rasch, Iohannes, p. 321.

a number of passages from his own writings. In his Parisiana poetria John quoted Boethius's definition of the three species of music.[42] In his description of the sciences as taught at the University of Toulouse,[43] the grammarian placed great emphasis on musical studies, primarily musica instrumentalis, indicating his Aristotelian concern for the practical side of musical theory. As Waite points out,

> The adoption of such a classification by Garlandia is noteworthy, because it reveals a recognition on his part of the preparatory nature of the arts of language. In other words, he does not give a place of emphasis to these arts, which might be expected of a man whose main interests are literary. Instead, he circumscribes their position within the total field of knowledge. On the other hand, the art of music is dealt with by Garlandia in a detailed manner that is out of all proportion to the description given of the other disciplines. Of the seven liberal arts only music is subdivided into categories, and this subdivision is carried out not through just one, but through three lower levels. Thus music is given an emphasis above the other arts, an emphasis heightened by the following line of poetry extolling the power of music. Surely the fact that of the thirty lines containing the classification of the sciences, twelve are devoted to music betrays a predilection on the part of Garlandia for this art.[44]

The grammarian included the names and descriptions of medieval instruments in his Dictionarius (ca. 1218) and

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[42]Lawler, Parisiana poetria, pp. 6-7.

[43]Thomas Wright, ed., Johannis de Garlandia, De triumphis ecclesiae (London: J. B. Nichols & Sons, 1856), pp. 100-101. Also quoted in Waite, "Johannes," pp. 184-185.

[44]Ibid., p. 186.

also described such popular musical dance forms as the gigue.[45] In Parisiana poetria he recognized both organum and discant and used the technical musical terms consonance, diapente, diatessaron, diapason, etc.[46] He also referred to several types of liturgical music, including sequences and hymns, citing several well known examples (Ut queant laxis; Iam lucis orto sidere; Vexilla regis prodeunt; etc.).[47]

That the grammarian was neither ignorant of nor opposed to "modern music" is attested by his mention of the performance of organum at the University of Toulouse. In a letter of advertisement to attract students to the new university, he boasted, "The organiste delight the ears of the populace with the organum of their mellow throats."[48] His familiarity with the most avant garde form of art music in the early thirteenth century--the motet--is evidenced by his use of popular motet texts in

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[45]Hercule Geraud, Paris sous Phillipe-le-Bel, Collection de documents inédits sur l'histoire de France (Paris: Imprimerie Nationale, 1837), pp. 602-603 & 611-612.

[46]Lawler, Parisiana poetria, p. 165. Waite, "Johannes," p. 182, points out that the grammarian's distinction between discant and organum "is of particular interest, since it was the musician John of Garland who set up a system of classification of musical styles based on the opposing characteristics of discantus and organum."

[47]Lawler, Parisiana poetria, pp. 7, 29, 103, 105, & 197-199.

[48]Wright, ed., De triumphis, p. 97: "Organiste populares aures melliti gutturis organo demulcent."

his Parisian poetria.[49]

The grammarian was not a conservative traditionalist, as Rasch has characterized him. John was an advocate of the systematic study of Latin; as a young grammar master in England he wrote grammars and word-books. At Oxford he studied Aristotle and the natural sciences (including medicine).[50] He studied the classical authors and fostered them among his students in Paris and at Toulouse. He was caught up in the intellectual developments that swept through Paris on the crest of the re-birth of Aristotelian learning. He was one of the earliest of the scholastics and boasted of the freedom to study at Toulouse the works of Aristotle which were forbidden at Paris.[51] Waite observes,

> It is true that he was an ardent champion of the auctores, but he was also one of the first to write a treatise on language dominated by dialectics. His Liber de constructionibus is one of the earliest examples of the new genre of grammatical writing, the modi significandi, which was destined to replace the older commentaries on Donatus and Priscan in the course of the thirteenth century.[52]

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[49]Compare, for example, the text of Ne sedeas (Lawler, Parisiana Poetria, p. 184) with Ma, fol. 124v. and F, fol. 400v.

[50]On the study of medicine at Oxford, see Vern L. Bullough, "Medical Study at Mediaeval Oxford," Speculum 36(1961):600-612.

[51]Wright, ed., De triumphis, p. 97.

[52]Waite, "Johannes," pp. 179-180. Operating from the same Aristotelian framework, John of Garland the musical theorist was the first to base his musical theory on empirical phenomena, i.e., in terms of what is heard. See below, p. 156.

In Paetow's words, John "had visions of Paris as a new Athens of the West where the muses would find a new Helicon."[53] John himself said of Paris:

> The glory of Paris diffuses splendor, the body of scholars grows, the fountain gushes forth Apollonian waters. The pasture is flourishing, the flock grows, the shepherd is busy; the pasture because it is in constant use, the flock through study, the shepherd because he loves the flock.[54]

Paetow adds, "he was a progressive thinker and something of a humanist in an age when humanists were as rare in Italy as they were in northern Europe."[55]

Not only was the grammarian "an ardent champion" of classical authors, a reformer, a humanist, and a proponent of new ideas, but he was probably a composer as well. He claimed to have written a conductus about the city of Toulouse.[56] He also composed the music for one of his poems, included in the margin the same manuscript which contains his Parisiana poetria.[57]

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[53]Louis Paetow, "The Crusading Ardor of John of Garland," The Crusades and other Historical Essays Presented to Dana C. Munrow (New York: F. S. Crofts & Co., 1928), p. 218.

[54]Lawler, Parisiana poetria, p. 5.

[55]Paetow, "Crusading Ardor," p. 218.

[56]"Hence in my conductus about Toulouse it says: Toulouse holds the way to great glory." "Unde in conductu meo de Tholosa dicitur: alto gradu gloriae tollitur Tholosa." From one of the glosses in John's Dictionarius, Paris, Bibliothèque Nationale, latin 8447, fol. 53v. Quoted in Barthelemy Hauréau, "Notice sur les oeuvres authentiques ou supposées de Jean de Garlande," Notices et Extraits des Manuscrits de la Bibliothèque Nationale, 27(1879):46.

[57]MS Brugge, 546. For the music, see Armand Machabey, "Jean de Garland," and B. A. Park and Elizabeth S. Dallas,

Not only is there ample evidence that the grammarian was familiar with the musical practices of his day, but there is also evidence that the author of the musical treatises was well versed in grammar, logic, and rhetoric as well. Furthermore, the grammarian's Aristotelian inclinations are also apparent in the approach to musical theory used in De mensurabili musica.

Familiarity with the subjects of grammar and rhetoric as they were taught in the thirteenth century is essential to an understanding of the musical treatise.[58] Waite cites evidence of the musician's knowledge of grammar, particularly in his use of grammatical terminology such as rectus, oblique, and copula.[59] The musical theorist frequently used the vocabulary of rhetoric to describe musical devices, e.g., the term color, referring to ornamentation and embellishment.[60]

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"A Sequentia cum Prosa by John of Garland," Medievalia et Humanistica 15(1963):54-68. Concerning the fact that the glosses in this MS are by John himself, see Evelyn Faye Wilson, The Stella Maris of John of Garland (Cambridge, Mass.: Wellesley College & Medieval Academy of America, 1946), p. 80.

[58]Nan Cooke Carpenter, Music in the Medieval and Renaissance Universities (Norman: University of Oklahoma Press, 1958), p. 57, describes De mensurabili musica as "an interesting attempt on the part of a scholar well versed in rhetoric to find musical analogues for certain rhetorical devices."

[59]Waite, "Johannes," p. 194.

[60]Compare pp. 188-190, & 194 , below, with Lawler, Parisiana poetria, pp. 107, 113-129, 232, 259, et passim.

In Parisiana poetria, John proposed that the format for presenting any subject should include invention, selection, memory, arrangement of parts, and embellishment.[61] These represent classical divisions of the parts of rhetoric.[62] The format and presentation of material in De mensurabili musica follows closely the arrangement of the presentation of subject matter in Parisiana poetria. The musical treatise deals with these divisions as they relate to the composition and performance of polyphonic music, i.e., the invention and arrangement of musical materials, the ordering and classification of the various components or parts of discant, tripla, etc. But perhaps the greatest correspondence is to be found in the final chapter of the treatise in which John deals with embellishment and memory in some detail.

De mensurabili musica represents one of the earliest medieval musical treatises primarily concerned with musica instrumentalis, with a system of classification based on the observation of empirical qualities of sounds. Unlike previous treatises which treat music as a branch of mathematical, speculative philosophy, John sought to describe musical phenomena "in terms of what is heard."[63] Thus, he

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[61]Lawler, Parisiana poetria, p. 3.

[62]Ibid., p. xviii.

[63]"secundum auditum." See, for example, his discussion of concordance and discordance, below, pp. 156-160.

described the interval of a third as a concordance since the sound is agreeable. Unlike earlier works which are based on pure speculation (classifying only the Pythagorean octave, fourth, and fifth as concordant), John was primarily concerned with cognitio, conscious recognition, knowledge which is gained through sense perception. John's musical theory is thoroughly grounded in Aristotelian philosophy. This would seem to indicate that the musical theorist was as interested in Aristotle and the natural sciences as was the grammarian.

Reimer argues against the identification of the grammarian and musical theorist on the basis of their presumed nationalities. Whereas the grammarian is known to have been an Englishman,[64] the nationality of the musician appears, to Reimer, to have been Gallican, i.e., French. This conclusion is based on Jerome'e reference to a Johannes gallicus, following a definition of music ascribed by Jerome to Johannes dictus de garlangia.[65] Although Gastoué considers John of Garland, author of De mensurabili musica, and Johannes gallicus to have been two different people,[66] Reimer interprets this passage to indicate that John of Garland the musical theorist was a Frenchman, and that there were two men

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[64]In Wright, ed., De triumphis, p. 59, John stated, "Anglia cui mater fuerat, cui Gallia nutrix, Matri nutricem praefero marte meam." ("Although my mother was England, France was my nurse, and I prefer my nurse to my mother.")

[65]CS 1:4-5. [66]Gastoué, "Un Dominican," p. 240.

teaching in Paris at the same time who were known as John of Garland: ein magister Johannes de garlandia gallicus and ein magister Johannes de garlandia anglicus.[67]

The significance (and accuracy) of the designation gallicus is open to several other interpretations. It is possible that, writing some ten to twenty years after John's death, Jerome did not know that John was an Englishman. The grammarian lived and taught in Paris and seems to have preferred his adopted country to his own. Having been a famous figure in Parisian university life, it would not be strange to find that he was thought of as a Frenchman. Indeed, John of Garland the grammarian was still considered to have been a Frenchman by eighteenth century biographers.[68]

There is also another possibility: scribal error, either on the part of the scribe who copied Jerome's treatise or on the part of modern scholars. Recognizing the difficulty in accurately transcribing medieval manuscripts, it is quite possible that this designation has been misread, either when the manuscript was copied in the thirteenth century or in the preparation of modern editions. Whether the intention was gallicus or galadia will remain an open question. Other than this dubious reference in the manuscript of Jerome's compendium, there

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[67]Reimer, Johannes, 1:17.

[68]See, for example, Histoire littéraire de la France, 12 vols. (Paris: Imprimerie Nationale, 1733-1819), 8:83.

is no evidence that John of Garland was a Frenchman.

However, there is evidence that the author of the treatise in question was an Englishman. In De mensurabili musica John referred to a particular form of Mode III, i.e., long-long-short, which Anonymous IV identified as an English form of that mode.[69] John also described rondellus and Stimmtausch, styles and forms of English origin, also described by other English theorists.[70] He classified the interval of a third as a consonance, again an English characteristic,[71] thirds and sixths being classified as consonances by other English theorists, e.g., Anonymous IV and Walter Odington.[72] Furthermore, the chant sources for the musical examples used in the treatise are from two thirteenth century liturgical manuscripts from England: Sarum Graduale and Worcester Antiphonale.[73]

Perhaps the most conclusive evidence that John of Garland the musical theorist was an Englishman is the statement made by the only student of his that is known by name, Roger Caperon.[74] As a young scholar at the University of

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[69]CS 1:98. See also, Waite, "Johannes," p. 183.

[70]See below, p. 189; compare with Walter Odington, CS 1:246. See also Reese, Middle Ages, p. 395, and Manfred Bukofzer, "Popular Polyphony in the Middle Ages," MQ 2 (1940):35.

[71]Donald Jay Grout, A History of Western Music, rev. ed. (New York: W. W. Norton & Co., 1973), p. 147.

[72]CS 1:198, 200, & 358. [73]See below, appendix C.

[74]See above, p. 88. Roger Bacon (also an Englishman) was also a student of John of Garland. See below, p. 107.

Paris, Roger would have been enrolled in the arts school of the nation of his geographical district.[75] As an Englishman studying in Paris, he would have been a student in the English "nation," composed of "all masters in Paris who came from the British Isles."[76] His teacher, John of Garland, would have been a member of this faculty and would not have been known as Johannes de garlandia gallicus. Reimer's claim that the musical theorist was a Frenchman and thus could not have been the grammarian, cannot be accepted.

Assuming that John of Garland the author of De mensurabili musica and John of Garland the English grammarian and poet were one and the same, further attempts at identification can be made. Thomas Wright gives the following summary of the major events in the life of the grammarian:

> We have no means of ascertaining the exact date of his birth, but it no doubt took place at some period in the latter half of the twelfth century. He tells us that when a youth he studied at Oxford, and that he attended there the lectures of John of London, of whom he gives a short but interesting account. From this it appears that John lectured on natural philosophy. Like many of his

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[75]Lowrie J. Daly, The Medieval University, 1200-1400 (New York: Sheed and Ward, 1961), p. 126.

[76]Gray C. Boyce, The English-German Nation in the University of Paris during the Middle Ages (Bruges: St. Catherine Press, 1927), p. 28.

On the nations at Paris, see also Astrik L. Gabriel, Garlandia: Studies in the History of the Medieval University (Notre Dame, Ind.: Medieval Institute of the University of Notre Dame, 1969), pp. 1-37; Pearl Kibre, The Nations in the Medieval Universities (Cambridge, Mass.:

contemporaries, John de Garlande, in his eagerness for knowledge, left his native country to settle in Paris, and in the university there he attended among others the teaching of Alanus de Insulis, of whom he relates an anecdote . . . From another poem by John de Garlande, it appears that he was in the University of Paris as early as the year 1204 . . . We learn from another of his works, a sort of Latin vocabulary entitled Dictionarius, that he was present at the seige of Toulouse in 1218, when Simon de Montford was slain (on the 25th of June of that year). What may have been the occasion of his visit at this time we do not know; but, as he speaks in the following poem of the arguments he had used against the heretics, he was probably in some way or other in the crusade against the Albigeois. A few years afterwards, on the final submission of Count Raymond of Toulouse by the treaty of April 1229, the University of Toulouse was founded under the auspices of the legate Romanus de Sancto Angelo. John de Garlande was one of the professors selected by the legate from the University of Paris to be sent thither to assist in its formation, and he gives an account of their journey . . .

He further informs us that he remained three years at the University of Toulouse, and gives us an account of the studies pursued there . . . It is clear from the allusions of our poet that the neighborhood of Toulouse was no longer safe . . . John de Garlande, according to his own confession, was one of the first to fly . . . After . . . going through many difficulties, John de Garlande and his companions at length reached Paris in safety.

. . . From the time of his return from Toulouse, which must be placed in 1232 or 1233, he probably remained in the University of Paris, where we know that he was residing in 1245 . . .

. . .

John de Garlande had lived through an age of great events. His early youth had probably witnessed the crusade of Richard Coeur de Lion . . . He had witnessed the dreadful crusade against the Albigeois from its commencement to its close, and seems to have been personally engaged in it . . .

. . .

John de Garlande was a prolific writer, but the greater number of his works were designed for

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Mediaeval Academy of America, 1948).

purposes of instruction.[77]

John was still alive in 1258 for he mentioned in his treatise on rhetorical figures (Exempla honeste vite) a certain John Mansel, "the right-hand man of King Henry III" who

> was sent to Germany to negotiate the election of Richard Cornwall. This election, which took place on January 13, 1257, is mentioned in the Exempla honeste vite, ll. 271-72. The death of Fulk in 1259, which is not mentioned, furnishes the terminus ad quem.[78]

There is no evidence to suggest that John was alive after 1258. (Waite mentions Paetow's suggestion that John was still alive in 1272.[79] This suggestion is based on a statement of Roger Bacon[80] in which he mentions having studied with John of Garland. Although the work in which he made this statement, his Compendium studii philosophiae, was published in 1272, Roger's statement cannot be construed to mean that John was still alive at the time.)

Deciding the date of John's birth is a more difficult task. Faral and Raby give his date of birth as ca. 1180.[81] Coussemaker chose 1190, while Paetow, Waite, and Rasch

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[77]Wright, ed., De triumphis, pp. v-xi.

[78]Paetow, Morale scolarium, pp. 127-128.

[79]Waite, "Johannes," p. 181.

[80]J. S. Brewer, ed., Opera quaedam hactenus inedita, Rerum Britannicarum Medii Aevi Scriptores 15 (London: Longman, Green, Longman & Roberts, 1859), p. 453.

[81]Edmond Faral, Les arts poétiques du XIIe et du XIIIe siècle (Paris: Librarie ancienne Honore Champion, 1924), p. 40; and Raby, Christian Latin Poetry, p. 385.

insist on 1195,[82] which is the date now most generally accepted.[83]

If, however, John was a student of Alan of Lille, as Wright suggested, he would have had to have been born prior to 1195, for Alan of Lille died around 1202.[84] Alan was an important influence on John of Garland who often wrote as if he had first hand knowledge of Alan's teachings.[85] Charles Haskins, on the other hand, opposes the view that John was a student of Alan, since Alan "entered the Cistercian order some time before his death . . . it is exceedingly unlikely that he was the master of a man who was writing in 1257 or later."[86] However, it is quite possible that John of Garland was born ca. 1170 and continued writing right up until his death in 1258 or 1259. If he did live to such a ripe old age, it is certainly possible that he studied with Alan between

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[82]CS 3:vii; Paetow, Morale scolarium, p. 83; Waite, "Johannes," p. 10; and Rasch, Iohannes, p. 321.

[83]See, for example, the recent statement of Lawler, Parisiana poetria, p. xi.

[84]Machabey, "Jean de Garlande," p. 20.

[85]On the influence of Alan of Lille on John of Garland, see Evelyn Faye Wilson, "The Georgica spiritualis of John of Garland," Speculum 8(1933):367; and Lester K. Born, "Quotations and Citations in the Compendium Grammatice of John of Garland," Classical, Medieval and Renaissance Studies in Honor of Berthold Ullman, 2 vols. (Rome: Edizioni di Storia e Letteratura, 1964), 2:71-72.

[86]Charles Haskins, Studies in the History of Medieval Science (Cambridge, Mass.: Harvard University Press, 1924), p. 358, n. 16.

1195 and 1200.

Paetow rejects Wright's statement that John was at the University of Paris in 1204, emending the passage cited by Wright to read 1245 instead of 1204.[87] Since the date 1204 appears in the two manuscript sources for this passage,[88] such an emendation must be seriously questioned.

Paetow argues that John was born ca. 1195:

> The locus classicus which enables us to estimate the date of his birth is found in his De triumphis ecclesie. It is the important passage in which he describes his teacher in Oxford, John of London. John of Garland is speaking of the reign of King John of England. After referring to the capture of the castle of Montauban in Poitou which King John took with his Gascon troops, August 1, 1206, and his expedition into Ireland in 1210, John of Garland unexpectedly inserts this interesting passage and then goes on to describe the king's submission to the pope which occured in May, 1213. The time when John of London lectured in Oxford (in hoc tempore) may therefore be taken to have been about 1210-1213. It may also be assumed with a fair degree of probability that John of Garland sat at his feet about that time 'as a youth' which may be taken to mean that he was not over twenty years of age. John of Garland was probably born about 1195.[89]

That John of London was lecturing at Oxford between 1210 and 1213 is patently impossible. No one was lecturing or studying at Oxford between the years 1209 and 1214, during the dispersion or suspendium clericorum:

> In 1209, following a scholar's manslaughter of a woman, the mayor burgesses led an attack on his hostel; a number of scholars was arrested and

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[87]Paetow, Morale scolarium, p. 86, n. 23. [88]Ibid.

[89]Ibid., pp. 82-83.

> several were executed. A cessation of lectures was ordered in protest, masters and scholars migrating to Reading, Paris, and Cambridge.[90]

Lectures were not resumed until 1214 when Oxford was chartered by the pope and elevated to the position of a great university.[91]

Since John of Garland could not have been a student at Oxford between 1209 and 1214, Paetow's suggestion of 1195 as the year of John's birth cannot be accepted. The only way to determine when John of Garland studied at Oxford, and thereby compute the date of his birth, is to determine when John of London was teaching at Oxford. To this date none of the studies of the life of John of Garland have been successful in this endeavor. However, English documents cite evidence of at least two men known as John of London in the twelfth and thirteenth centuries.

The Calendar of Patent Rolls carries an entry, dated November 1, 1240, which reads:

> [Presentation] of John de London to the benefice which Master Simon de London had in the church of Acland, upon the resignation of the said Master Simon, in the king's gift by reason of the voidance of the bishopric of Durham; directed to the archbishop of York.[92]

This John of London gained many other such benefices;

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[90]Gordon Leff, Paris and Oxford Universities in the Thirteenth and Fourteenth Centuries (New York: John Wiley & Sons, 1968), p. 78.

[91]Ibid.

[92]CPR, Pt. 1, vol. 3, p. 239.

became the chaplain to John Mansel; traveled as an escort of the queen; became a tutor to the king's children; king's clerk; and after the death of Henry III, escheator south of Trent, custodian of the king's jewels, royal wardrobe, manor of Haversham, Abbey of Dunstable, and Windsor castle.[93] He apparently died at the hands of Edmund de Taillur in 1304.[94]

This John of London was not a friend of scholars. He served as the king's inquisitor and was barred from Oxford by the chancellor and scholars because of the disturbances he caused there.[95] Since he lived until 1304 he could not have been the magister John of London at whose feet John of Garland studied before going to Paris in the early part of the thirteenth century.

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[93]CPR, Pt. 1. vol. 3, p. 251; vol. 4, pp. 75, 106, 151, 160, 177, 374-377, 476; vol. 5, pp. 146, 165, 319, 468, 520, 532; vol. 6, pp. 212, 635; Pt. 2, vol. 1, pp. 3, 4, 33, 53, 59, 72, 90, 157, 159, 162, 212, 215, 323, 426, 452; vol. 3, pp. 120, 356, et passim.

See also Annales Prioratus de Dunstaplia, vol. 3 (1866) of Annales Monastici, ed. by Henry Richard Luard, Rerum Britannicarum Medii Aevi Scriptores 36 (London: Longmans, Green, etc., 1864-1866), pp. 264 and 290.

[94]CPR, Pt. 2, vol. 4, p. 244; see also, Ibid., p. 492.

[95]Henry Anstey, Munimenta Academica, or Documents Illustrative of Academical Life and Studies at Oxford, Rerum Britannicarum Medii Aevi Scriptores 50 (London: Longmans, Green, Reader, and Dyer, 1868), pp. 67-68.

This John of London also had problems with the scholars at Canterbury and was pardoned by Henry III "for the assault lately made upon certain northern scholars of the university of Cantebrig." (CPR, Pt. 1, vol. 5, p. 146.)

There was another John of London who not only flourished in the latter half of the twelfth century, but also was called magister (indicating that he was a teacher). The Pipe Rolls for 1174, 1175, and 1176 refer to him.[96] He served as a witness to a Chichester Cathedral document between 1174 and 1180 and a Durham document between 1197 and 1217, became canon of St. Paul's, and died in 1209.[97] It is also possible that he was the Jos. de Londinis (sometimes read as Joscius, Jocius, Joncio, and Josse de Londinis)who established a house of study for eighteen poor scholars in Paris.[98] It is likely that this John of London was John of Garland's teacher. If so, John of Garland must have studied at Oxford prior to 1209[99] and was born prior to 1195.

English documents of the period make numerous

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[96]PR 21H$^2$:120; PR 22H$^2$:67; and PR 23H$^2$:128.

[97]Alfred B. Emden, A Biographical Register of the University of Oxford to A.D. 1500, 3 vols. (Oxford: Clarendon Press, 1958), 2:s.v. "London, John of."

[98]Compare the readings given in Lynn Thorndike, University Records and Life in the Middle Ages (New York: Columbia University Press, 1944), p. 21; Nathan Schachner, The Medieval Universities (New York: A. S. Barnes & Co., 1938, 1962), p. 141; Gabriel, Garlandia, p. 56; and Daly, Medieval University, p. 184.
The College of Eighteen represents the oldest record of the foundation of a college at any European university. Although originally established on the Ile de la Cite, the college was later located next to the Sorbonne and across the street from the Dominican priory on the Rue St. Jacques. See Alan B. Cobban, The Medieval Universities: Their Development and Organization (London: Methuen & Co., 1975), p. 126.

[99]Leff, Paris, p. 144.

references to a John of Garland. But this man was neither a scholar nor a musician, but rather, a sheriff and citizen of London who had a wife named Lucy![100] There are no references in English documents of the late twelfth or early thirteenth centuries to a magister John of Garland. The reason is obvious. The John of Garland under consideration was not known in England by this name.

The grammarian and author of the musical treatises took the name "of Garland" relatively late in life, from the clos de Garlande where he lived in Paris.[101] Prior to that time he was known in Paris as John the Englishman. He is cited in the manuscript sources of his early grammatical and poetic works as Johannes anglicus.[102]

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[100] Monumenta Franciscana, vol. 2, ed. by Richard Howlett, Rerum Britannicarum Medii Aevi Scriptores 4/2 (London: Longman & Co., 1882), p. 145; PR 28H$^{2}$:114; PR 2R$^{1}$:136; PR 3R$^{1}$:88; PR 4R$^{1}$:306; PR 5R$^{1}$:163; PR 6R$^{1}$:181; PR 9R$^{1}$:52, 71, & 163; PR 10R$^{1}$:169; PR 8J:58; PR 11J:29; PR 12J:180; PR 13J:134; PR 14J:22 & 24; PR 16J:134; CR 8R$^{1}$:118 &294; MR 10J:62 & 168; CCR 13H$^{3}$:202; and CCR 17H$^{3}$:327.

[101] In Lawler, Parisiana poetria, p. 123, John states: "England, I proceeded from you, to whom a corner of the world ceded; I succeeded in reaching Paris. The name of my section of Paris is Garland, which bestowed on me a flowery nickname."

[102] Lawler, Parisiana poetria, p. 5, begins, "Here begins the Treatise on Poetry of Master John the Englishman." Three of the MS sources of his Integumenta cite the author as "Master John the Englishman." (See Faral, Les arts poétiques, pp. 44-45.)

Paetow, Morale scolarium, p. 82, n. 14 cites a MS of John's Epithalamium which also calls him John the Englishman.

In the seventeenth century, Du Boulay pointed out that John the Englishman was known as John the Grammarian in England, and that he studied and taught both at Oxford and at Paris.[103] English legal and financial documents of the late twelfth century contain references to both John the Englishman and John the Grammarian.

The Great Roll of the Pipe for the 34th year of the reign of Henry II carries an entry for a debt of 100s owed by John the Grammarian and his brother William. This citation is repeated again three years later (1190) and again in 1191. However, in 1192 the citation carries the note that the tax should be required from William since John was no longer within the control of English authorities, possibly suggesting that he was out of the country. In making John's brother responsible for the debt, results were forthcoming. When the notice was issued in 1193 it was published in William's name only and was for half the original amount (50s). The notice in 1194 notes that the last 50s was paid and the debt was cleared.[104]

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[103]Cesar Egasse Du Boulay, Historia Universitatis Parisiensis, 6 vols. (Paris: Franciscum Noel, 1665-1673), 3:695.

[104]PR 34H$^2$:94; PR 2R$^1$:63; PR 3R$^1$:64; PR 4R$^1$:211; PR 5R$^1$:60; and PR 6R$^1$:148.

References to Johannes anglicus for the years 1185-1195 may be found in PR 32H$^2$:36; PR 33H$^2$:80; PR 2R$^1$:115; PR 3R$^1$:114; PR 4R$^1$:315; PR 5R$^1$:10; PR 6R$^1$:77; and PR 7R$^1$: 120.

John's brother, William, might have been Guillelmus Anglicus, Dominican brother and professor of theology at Paris, who died in 1222. (Du Boulay, Historia Universitatis 3:642.)

The years 1190-1192 are significant, for during this time Richard Couer de Lion and Philip II (Augustus) were on the Third Crusade. Philip left the crusade to return to France in 1191. According to Matthew Paris, Philip contracted the plague and was cured by a young man called magister Johannes anglicus. John the Englishman returned to Paris with Philip, becoming his personal chaplain and physician; he later gave a house on the Rue St. Jacques, which he had established as a hostel for students, to the newly formed Order of Preachers (Dominicans).[105]

This John the Englishman held an official post at the university in Paris as early as 1213 (being succeeded in this post by Guillielmo Scotus in 1217),[106] and was made Dean of St. Quentin around 1218.[107] He gave the house on the Rue St. Jacques to the Dominican Order in 1218.[108] This house, which became one of the regular meeting places

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[105]Matthaei Parisiensis, Historia Anglorum, sive, ut vulgo dicitur, Historia Minor, ed. by Sir Frederic Madden, Rerum Britannicarum Medii Aevi Scriptores 44, 3 vols. (London: Longmans, Green, & Co., 1866-1869), 2:38 & 66. See also, Johannes Amundesham, Annales Monasterri S. Albani, ed. by Henry J. Riley, Rerum Britannicarum Medii Aevi Scriptores 28/5, vol. 2 (London: Longman & Co., 1871), p. 306.

[106]Du Boulay, Historia Universitatis Parisiensis, 2:524.

[107]Heinrich Denifle, ed., Chartularium Universitatis Parisiensis, 4 vols. (Paris: ex typis fratrum Delalain, 1889- ), 1:100-102, 114, 117, & 420.

[108]The deeds and agreements involved in this transaction are reprinted in Jacobus Quetif and Jacobus Echard, eds., Scriptores Ordinis Praedicatorum Recensiti, 2 vols. (Paris: 1719-1723; reprint ed., New York: Burt Franklin,

of the English "nation,"[109] was also the priory in which the Dominican brother Jerome of Moravia compiled his compendium on music containing John of Garland's De mensurabili musica.[110] John the Englishman was the regent master given charge of the school at St. Jacques and probably began teaching there in the fall of 1220.[111] He "appears to have continued lecturing at St. Jacques until about 1225," but may have continued until 1228.[112]

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n.d.), 1, pt. 1:17. Joachim Sighart, Albert the Great, trans. by T. A. Dixon, O.P. (London: R. Washbourn, 1876), p. 75, states that John, "the king's chaplain and a Professor at the university, founded near one of the gates of the city, called the gate of Orleans or Narbonne, a Hospitum for pilgrims, dedicated to St. James; doubtless because he intended it for the use of travellers who repaired to the tomb of the great apostle at Compestella." See also William A. Hinnebusch, O.P., The History of the Dominican Order, 2 vols. (New York: Alba House, 1965 & 1973), 1:58-59.

[109]Kibre, Nations, p. 74, and Boyce, English-German Nation, p. 35.

[110]Kenneth Levy, "A Dominican Organum Duplum," JAMS 27(1974):183.

[111]Hinnebusch, History, 2:83, n. 6.

[112]Ibid., pp. 38 & 83, n. 10. See also Pierre Mandonnet, "De l'incorporation des Dominicans dans l'ancienne Universite de Paris," Revue Thomiste 5(1896):156.

It would appear that John's main responsibility as a teacher at the Dominican priory was to teach theology. However, it is quite possible that he taught other subjects (e.g., grammar and rhetoric) as well. These elementary courses would have been indispensable for the novices preparing to study theology. Furthermore, they would have been necessary tools for conducting theological debates against heretics. John of Garland apparently received the Master of Theology degree at the University of Paris. A number of his letters carry the inscription, "John, Master of Theology at Paris." (See Lawler, Parisiana poetria, pp. 33 & 39.)

It would appear that John the Englishman (alius John of Garland) and John the Englishman (benefactor of the Dominicans) were one and the same. John of Garland must have been on the crusade with Richard and Philip, for in De triumphis ecclesie he described in detail the "disputes between Richard and Philip II and the way in which both of them strove for their selfish interest even during the crusade and especially after their return."[113] Both were regent masters in the English nation at the University of Paris in the 1220's. Both were friends of the Dominicans and enemies of the Albigensians. Both are credited with medical talents and training; John the Englishman cured Philip of the plague and became his personal physician and John of Garland wrote a treatise on medicine.[114] John the Englishman gave the house to the Dominicans which became the priory in which Jerome of Moravia compiled his compendium on music and included John of Garland's De mensurabili musica. This is the same house which was used as a regular meeting place of the English nation. John the Englishman lectured at St. Jacques until 1228 and John of Garland went to Toulouse with members of the Dominican Order in 1229 to found the new university.

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[113]Paetow, "Crusading Ardor," p. 216; see Wright, ed., De triumphis, pp. 49ff.

[114]In the list of his works which John of Garland included in his Ars lectoria ecclesie (Accentarium), Bruges, MS 546, fol. 76v., he stated that he wrote a treatise on medicine called Memoriale Johannis. (Paetow, Morale scolarium, p. 107.)

Until now the years between 1234 and 1241 in the life of John of Garland have remained a mystery. None of his important writings date from this period. Paetow points out that he was in England during this time[115] and that he was tutoring the children of the English nobility.[116] Can it be a mere coincidence that the other John the Englishman under consideration was in England at the same time? Between 1234 and 1241 he was serving as treasurer of Salisbury.[117]

In 1241 the natural sciences and the writings of Aristotle (of which John of Garland was such a strong advocate) began once again to be taught in Paris.[118] Albert the Great was teaching at St. Jacques and the University of Paris was attracting such students as Thomas Aquinas. At the same time the studium generale at the Dominican priory at St. Jacques began to promote the study of the arts.[119] Already in his seventies, John returned to his beloved Paris. He spent the last decade of his life teaching, completing projects which he had started many years earlier (such as De triumphis

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[115]Paetow, Morale scolarium, p. 128.

[116]Paetow, "Crusading Ardor," p. 216.

[117]W. Dunn Macray, ed., Charters and Documents Illustrating the History of the Cathedral, City, and Diocese of Salisbury, Rerum Britannicarum Medii Aevi Scriptores 97 (London: Longman & Co., 1891), pp. 241 and 246.

[118]Helen Wieruszowski, The Medieval University (Princeton: D. van Norstrand Co., 1966), pp. 41-42.

[119]Hinnebusch, History, 2:26.

ecclesie and Morale scolarium), and revising earlier works (e.g., Parisiana poetria and De mensurabili musica).

If John of Garland, author of De mensurabili musica, grammarian, poet, Parisian arts master, and master of theology, John the Englishman who went on the Third Crusade with Richard, and John the Grammarian mentioned in the Pipe Rolls, are all the same person, he would have had to have been born ca. 1170. If so, he would have been approximately eighty-eight years old at the time of his death (ca. 1258). That he was already advanced in years in 1252 is evidenced by a statement he made in De triumphis ecclesie. Near the end of this poem (completed in 1252) he mentioned the plans of the king of Spain (Ferdinand III) and King Henry of England to make a joint crusade into the Holy Land. Because of his great age, John stated that he would probably not live to see the result of the proposed crusade.[120]

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[120]Wright, ed., De triumphis, p. 139. See Wright's discussion of this passage, ibid., pp. ix-x.

It is not uncommon to find that important figures of this time often reached such advanced years. Robert Grosseteste, a contemporary and friend of John of Garland, reached the age of 85 (1168-1253), and John's student, Roger Bacon, was about 78 at the time of his death (ca.1214-1292).

## Authenticity and Date of De mensurabili musica

William Waite has suggested that De mensurabili musica was written around 1250.[121] Although the original treatise may have been written much earlier, this seems to be an appropriate date for the version of the treatise as contained in Jerome's compendium.

Both Rasch and Reimer consider Jerome's version of the treatise not to be the original, but to contain additions borrowed by Jerome from the later writings of Anonymous IV, St. Emmeram Anonymous, and Franco of Cologne.[122] There is another possibility. Evelyn Wilson has spoken of "John of Garland's habit of taking up works already composed from time to time, expanding, rededicating, and 'publishing' them in a formal manner."[123] This seems to be the case with the three manuscript versions of the treatise under consideration.

The version of the treatise in Jerome's compendium is the only version which is complete and is the only version which carries John's name as author. Jerome included four treatises on polyphonic music, representing four "positions" on the subject. Of these, Franco's Ars cantus also exists in other manuscript versions, but Jerome's

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[121]Waite, "Johannes," p. 183.

[122]Rasch, Iohannes, passim, and Reimer, Johannes, 2: passim.

[123]Wilson, "The Georgica Spiritualia," p. 361, n. 2.

version has been cited as the most accurate and reliable of all the extant versions.[124] If Jerome was so careful with Franco's treatise, for what reason would he have made considerable alterations in John of Garland's, especially if John of Garland had been personally connected with the education of the brothers at the priory? If he had wished to integrate information from various treatises on the modal system he would not have included four distinct "positions." If, as has been proposed, John of Garland actually taught at the Dominican priory, it is likely that Jerome had direct access to a "published" copy of John's completed treatise in the library at St. Jacques.

The "original" version of the treatise was most likely a short, cryptic tract, containing only brief definitions of terms and explanations upon which John would have elaborated in his lectures. The Brugge manuscript version probably represents a copy of John's original short tract. The Vatican version is most likely a copy of a later revision, and Jerome's version, John's final, "published," version which he completed during his last few years in Paris.

Jerome's version is the most logically organized of the three extant versions. The stated purpose of both

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[124] Franco of Cologne, Franconis de Colonia: Ars cantus mensurabilis, ed. by Gilbert Reaney and Andre Giles, Corpus scriptorum de musica 18 (N.p.: American Institute of Musicology, 1974), p. 20.

the Brugge and Vatican versions is to discuss organum (musica mensurabili) as a musical genre. They set out to describe three species of organum: discant, copula, and organum per se.[125] But, after defining discant, they both break off to discuss modes, notation, rests, consonances, etc., before proceeding with the stated subject.

Jerome's version, on the other hand, follows its stated purpose of discussing the temporal classification of sounds in terms of modes. Having accomplished the explanation of the general subject of temporal organization within a few paragraphs, the first chapter ends, "Having dealt with the essence of modes and of their parts,"[126] and then proceeds with sections on notation, rests, and consonances, followed by explanations, descriptions, and examples of discant, copula, organum, triplum, and quadruplum. Jerome's version of John's treatise forms a unified and logical whole and is far surperior in this respect to the fragmentary, anonymous versions in the Brugge and Vatican manuscripts.

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[125]See the beginning of the treatise in Reimer, Johannes, 1:34.

[126]See below, p. 132.

## Concerning the Translation

The translation of John of Garland's De mensurabili musica is given with the Latin original and the English translation in parallel columns, so that it might be possible for the reader to compare the two. Although three modern editions of the Latin treatise have been published,[127] and although these editions agree in the main, there are a number of variants in the readings. Due to the difficulty presented by the abbreviations and lack of punctuation in the manuscript[128] the exact meaning of some of the passages is open to various interpretations. Rather than faithfully following any one of the three published editions, it was found to be necessary to make a collation of the three and choose from among the possible readings those which seemed to offer the clearest meanings within the context. For this reason, the Latin text which is given should be compared with the three published editions for critical study.

The text of the treatise, as presented in Jerome's compendium, seems to be a reliable and faithful rendition of what must have been the final "published" version of John's treatise which was probably kept at Jerome's priory.

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[127]See above, p. 87.

[128]See, for example, the reproduction of the first page of Jerome's manuscript, Plate 1, p. 245, below.

Very rarely was it found to be necessary to make any emendations in the actual readings. When such emendations have been made, they have been based either on the examples which are provided in the treatise or from the context, and in each instance the actual reading is given in a footnote.

The examples themselves do not seem to be as reliable as the text. There is a great disparity among the examples given in the three published editions, which would seem to indicate a lack of clarity in the manuscript. Since no copy of the manuscript was available for the present study, there was no way to compare the examples in the published editions with those in the manuscript. Furthermore, there are many differences between the examples provided in Jerome's version of the treatise and in the other two manuscript sources of the same treatise. As a result, the examples have been selected from those in the modern editions which seem to be in closest agreement with the descriptions in the text. The examples are the most unreliable part of Jerome's version of John's treatise. This is most unfortunate, for many questions of interpretation might be settled more readily if the examples were more trustworthy.

The musical examples have been transcribed in accordance with the principles outlined below, pp. 195-196.

## John of Garland:

| De mensurabili musica | Concerning Measure in Music |
|---|---|
| Habito, inquit Johannes, de cognitione planae musicae et omnium specierum soni dicendum est de longitudine et brevitate eorundem, quae apud nos modus soni appellatur. | Having considered the classification of monophonic music and of all species of intervals,[1] said John, the longness and shortness of the same (which we call the mode of the interval)[2] ought to be discussed. |

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[1]Literally, "The knowledge of plain music and of all species of sounds having been held."

It was a common practice to begin pedagogical treatises of this type with such an opening statement. For example, Anonymous IV, CS 1:327, begins his treatise: "Cognita modulatione melorum, secundum viam octo troporum, et secundum usum et consuetudinem fidei catholice, nunc habendum est de mensuris eorumdem." ("Having recognized the modulation of melodies, based on the eight tropes, and the use and teaching of the catholic faith, now the measure of the same should be considered.") See also the beginning of Franco's Ars Cantus, CS 1:117 and Strunk, Source Readings, pp. 139-140.

John's use of the term cognitio (recognition) exhibits his concern for the Aristotelian system of classification based on the observation of perceptible, empirical qualities and not just pure, philosophical speculation. This treatise appears to be among the first to deal with the practical side of musical theory, i.e., by classifying phenomena on the basis of "what is heard" (secundum auditum). Earlier modal treatises (Discantus positio vulgaris and Anonymous VII, De musica libellus) are not concerned with cognitio and do not base their definitions and descriptions on what is heard. (Compare CS 1:96 and CS 1:378.)

[2]John's use of the term modus (measure) is obviously synonymous with meter. Although it would probably be best to always translate modus (in this treatise) as measure, the common use of the designation "rhythmic modes" precludes the possibility of using this more accurate translation. On the significance of modus, see Bonge, "Theory and Practice of Measure," pp. 49-50.

| | |
|---|---|
| Unde modus est cognitio soni in acuitate et gravitate secundum longitudinem temporis et brevitatem. | Hence, mode is the classification of accented and unaccented sounds in terms of the longness and shortness of time. |
| Et potest dupliciter sumi, aut communiter aut proprie. | The term mode is used in two ways: in a general sense and in a specific sense. |
| Modus communis est qui versatur circa omnem longitudinem et brevitatem omnium sonorum. | In a general sense, mode has to do with all degrees of longness and shortness in sounds of all kinds.[3] |
| Modus proprius est qui versatur circa VI modos antiquos. | In a specific sense, mode is concerned with the six modes of antiquity.[4] |
| Quorum modorum primus constat longa brevi, longa brevi, etc.; secundus brevi longa, brevi longa; tertius longa duabus brevibus, longa duabus brevibus, etc.; quartus duabus brevibus longa etc.; quintus omnibus longis; sextus omnibus brevibus. | The first of these modes consists of long-short, long-short, etc.; the second, of short-long, short-long; the third, of a long and two shorts, a long and two shorts, etc.; the fourth, of two shorts and a long, etc.; the fifth, of all longs; and the sixth, of all shorts. |
| Aliqui addunt modos alios, sed non est neccessarium illos numerare, ut duae longae et brevis, quia per isto VI sufficientiam possumus habere. | Some people add other modes, such as two longs and a short, but it is not necessary to enumerate them here, for with these six we have enough.[5] |
| Omnium aliorum sonorum triplex est modus: unus in plenitudine vocis, alter est sub voce cassa, | There are three kinds of measurable sounds: one in fullness of voice, another with a leaning voice, |

[3]Those measures which are observed in all rhythms, including popular poetry, liturgical monody, etc.

[4]The six basic feet of classical metrics.

[5]Anonymous IV, CS 1:328, states that the mode long-long-short was used in England. Lambertus, CS 1:279-281, lists nine modes. Franco, CS 1:118, states that some authorities list seven modes.

tertius sub voce amissa.

and a third with no voice.[6]

Recta brevis est quae unum tempus continet. Unum tempus est quod minimum in plenitudine vocis est. Recta longa est duas rectas breves continens tantum. Obliqua longa est quae abundat super rectam longam. Duplex longa est quae plures longas in se continet. Aliqua longa est quae circumflexit se versus acuitatem vel gravitatem. Et dicitur recta et obliqua.

A rectus short contains one tempus. A tempus is that which is the minimum in fullness of voice. A rectus long is that which contains only two rectus shorts. An oblique long is that which is longer than a rectus long. A duplex long is that which contains two or more longs. There is also a certain kind of long which bends itself around acute and grave, and it may be either rectus or oblique.[7]

Modorum alius perfectus alius imperfectus. Perfectus modus dicitur qui finit per talem quantitatem per qualem incipit, ut longa brevis longs. Imperfectus est qui terminatur per aliam quam per illam in qua incipit. Sic apparet quod sunt XII modi cum perfectis et imperfectis sive aliis.

Some modes are perfect, others are imperfect. A perfect mode is one which terminates with the same quantity as with which it begins (for example, long-short-long). An imperfect mode is one which terminates with something other than that with which it begins. Thus, with perfect and imperfect, it appears that there are twelve modes, not counting the others.[8]

Modus rectus est qui procedit per rectas longas et rectas breves. Obliquus est qui procedit per aliquas longas et aliquas breves.

A rectus mode is one which proceeds by rectus longs and rectus shorts. An oblique mode is one which proceeds by certain longs and shorts.[9]

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[6]A normal tone, a plica, and a rest.

[7]Again, a plica.

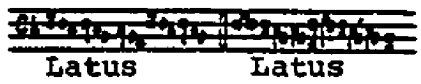
[8]I.e., not counting those modes which some others include in their classifications. See above, n. 5.

[9]I.e., oblique longs and shorts.

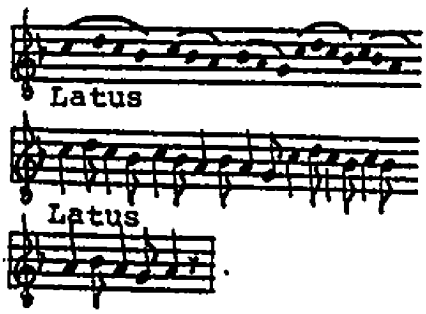
| | |
|---|---|
| Regula cognitionis temporum: longa ante longam valet tria tempora. | A rule for determining temporal values: A long before a long has the value of three tempora. |
| Secunda regula est: duae rectae breves valent unam rectam longam. | A second rule is: A rectus long has the value of two rectus shorts. |
| Tertia regula est: multitudo brevium simul quanto magis appropinquatur fini, tanto debet longior proferri. | A third rule is: When there are several shorts, since the greater is attracted to the end, those approaching the end should be made longer. |
| Unde sequitur quod primus, secundus, sextus dicuntur modi recti; tertius, quartus, quintus dicuntur obliqui. Sed aliqui volunt quod quintus noster modus sit primus omnium. Et bona est ratio, quia per istum modum praecedit omnes nostros modos. Sed quoad tempora cognoscenda prius est modus rectus quam obliquus; et sic non valet, quod dicitur quod quintus est primus. | Hence, it follows that the first, second, and sixth are called rectus modes. The third, fourth, and fifth are called oblique. However, others maintain that our fifth mode is the first of all.[10] Their rationale is good, since this mode precedes all of our modes. But in order that they might be classified in relation to the tempora, a rectus mode is made prior to an oblique mode; thus, what is said about the fifth being first is not valid. |
| Ordo modorum est numerus punctorum ante pausationem. Iste ordo dividitur in primum, secundum et tertium, etc. | The ordering of the mode is the pattern of the notes before a rest. Such orderings are distinguished as first, second and third. |

[10]See, for example, the statement of Franco, CS 1:118 (Strunk, Source Readings, p. 141). Waite, "Johannes," p. 183, and Reimer, Johannes, 1:4, both conclude that John was referring specifically to Franco's classification, and thus, John's treatise must post-date that of Franco. However, this classification was not a creation of Franco, for in the passage cited, he states that this classification has been the source of an ongoing controversy "between the ancients and some of the moderns." ("est propter antiquorum et aliquorum modernorum controversiam . . .")

Ordo autem procedit ab uno principio, principium a radice. Radix est quilibet cantus primo datus. Exemplum primum primae radicis:




Moreover, the ordering is derived from a single beginning, the beginning from a root. The root is the original chant. The first example with the original root:




Et notandum, quod principium cujuslibet modi caret omni pausatione. Primus ordo primi modi perfecti . . .[11]

Note that the beginning for any mode lacks all rests. The first ordering of the first mode perfect [is three notes with a short rest, three notes with a short rest, three notes with a short rest, etc.][11]

Modus obliquus habet plures considerationes, ut patet in tertio, quia tertius constat ex longa et duabus brevibus. Et duae breves aequipollent longae et longa ante longam valet longam et brevem, et sic valet tria tempora, quare longa ante duas breves valet tria tempora, et sic valet longam et

An oblique mode has more considerations, as is evidenced by the third mode because the third consists of a long and two shorts. Since two shorts are equivalent to a long and a long before a long has the value of a long plus a short (and thus, the value of three tempora), a long before two shorts has the value of three tempora (and thereby, the value of a long

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[11]The last part of the sentence was omitted by the copyist of Jerome's compendium. However, a parallel passage is found in the treatise of Anonymous IV, CS 1:328: "Primus ordo primi perfecti est trium punctorum cum una brevi pausatione et trium punctorum cum pausatione brevi et trium punctorum cum pausatione brevi, etc."

brevem vel brevem et longam. Item duas breves aequipollent longae. Ergo si ponantur ante longam, valent tria tempora, ergo valent longam et brevem vel e converso.

plus a short, or of a short plus a long. Likewise, two shorts equal a long. Therefore, if they are placed before a long, then they have the value of three tempora, and thus, the value of a long plus a short or of the converse.

Unde regula: si sint plures breves in modis obliquis, quae magis appropinquatur fini, longior debet proferri, ergo illae duae valent brevem et longam et non longam et brevem. Quare tertius modus et quartus potius reducuntur ad secundum quam ad primum.

Hence the rule: Since there are several shorts in oblique modes and since the greater is attracted to the end, and must be made longer, therefore two such shorts have the value of a short plus a long and not long plus short. Therefore, the third and the fourth [modes] should be reduced to the second rather than to the first.

Sed quintus indifferenter ad primum et secundum potest reduci, unde quintus modus constat ex omnibus longis. Et sic quaelibet longa est ante aliam longam, quare quaelibet valet tria tempora confuse et non distincte, et sic valet longam et brevem vel e converso. Et sic potest reduci ad primum et secundum confuse, et mediante secundo potest reduci ad tertium et ad quartum,

But the fifth may be reduced equally to the first or the second, since it consists of all longs. Since a long is always before another long, it always has the value of three tempora, joined together and not separated; and thereby, the value of a long plus a short or the converse. Thus, it can be reduced to the first and the second joined together, and through the second it can be reduced to the third or the fourth,[12]

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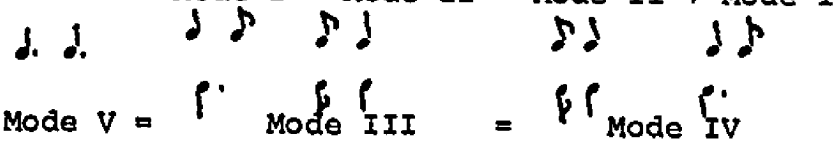
[12] I.e., Mode V = Mode I + Mode II = Mode II + Mode I



quamvis omnes modi et ad primum et ad secundum possint reduci. Sed in isto modo aliter respicimus pausationem quam in aliis modis,
cum in aliis modis quanta est paenultima, tanta est pausatio.
Et hic ex toto ista regula non observatur, sed in parte, quia est pausatio longa et aliqotiens brevis, sive fuerit modus perfectus, sive imperfectus. Sed si fuerit longa, erit propria sua pausatio brevis accomadata, ut in sequentibus.

although all modes can be reduced to either the first or the second. However, in this mode[13] we determine the pause in a different manner than in the other modes.
In other modes the pause is of the same quantity as the penult.
But in this case this rule is not totally observed, but only in part, because it is sometimes a long pause and sometimes a short, whether the mode is perfect or imperfect.[14] If it is a long, it will be properly accommodated by its own short pause, as will be demonstrated in what is to follow.[15]

Sextus modus potest reduci ad primum vel secundum. Sed quando reducitur ad primum, terminatur in longam et habet pausationem unius temporis, quando autem reducitur ad secundum, tunc finitur per brevem et habet pausationem duorum temporam.

The sixth mode may be reduced to either the first or to the second. When it is reduced to the first it is terminated with a long and has a pause of one tempus.
However, when it is reduced to the second, then it ends with a short and has a pause of two tempora.[16]

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[13]I.e., the fifth mode.

[14]Mode I perfect ; Mode I imperfect ;
Mode II perfect ; Mode II imperfect ;
Mode V perfect or ;
Mode V imperfect or .

[15]The meaning here is not entirely clear. It could mean "If the final note is a long it will be accomodated by its own short pause," as here: ;
or, it could mean "If the final rest is a long it will be accomodated by its own short pause," as here: .

[16]Mode VI reduced to Mode I =
Mode VI reduced to Mode II =
See John's examples, below, p. 148.

| | |
|---|---|
| Sed ad proprium modum totaliter non fit, sed circulariter soni ultimi et pausationes breves semper et in ordinibus sive perfectis sive imperfectis secundum magis et minus ad modum tertii perfecti et imperfecti erunt. | But it may not be reduced directly to its proper mode with the final tones and pauses always as shorts in perfect and imperfect orderings, but only in a round-about way, based more or less on the third mode perfect and imperfect.[17] |
| Habito de modis existunt et de eorum partibus, sequitur de | Having considered the essence of the modes and of their parts, the following is about |

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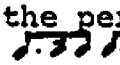
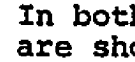
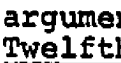
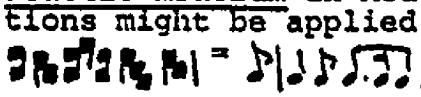
[17]This is an extremely difficult passage. Literally it makes very little sense ("But it may not be entirely to its proper mode, but sometimes with the final sounds and always short rests, whether in perfect or imperfect orderings, more or less according to the third mode perfect and imperfect.") However, John appears to be describing a particular form of Mode VI which is notated like Mode III (see below, p. 177). Mode VI has been defined as consisting of all shorts, but at no point has John stated that these shorts are of equal duration. It is possible that John is describing an exceptional case which can only be considered to be Mode VI in a "round-about" (circulariter) way, i.e.,  . The durational values in this instance are indeed all shorts and they have the same inter-relationships as the longs and shorts in Mode III (  ). Thus, based on the model of Mode III, the perfect ordering for this form of Mode VI would be  and the imperfect ordering,  . In both instances the final notes and the final rests are shorts. If this is John's intention, then it would appear that Ficker's suggestion ("Probleme der modalen Notation," pp. 4-5) that the original form of Mode III was a dactyl of three tempora may be correct. (See Waite's arguments against Ficker's interpretation, Rhythm of Twelfth-Century Polyphony, pp. 50-52.) This might also explain John's confusion in the examples of combinations of Modes V and VI (below, p. 179) which are actually examples of the combination of Modes V and III.

This interpretaion may also serve as a key to understanding various permutations in modal notation. For example, if the three-note ligature is held to always indicate short-short-long, then when used for the purpose of fractio modorum in Modes I or II the following interpretations might be applied:  or 

FIGURIS ET EORUM SIGNIFICATIONIBUS.

Figura, ut hic accipitur, est signum denotans sonum vel sonos secundum suum tempus longitudinis atque brevitatis. Figurarum quaedam simplex, quaedam composita vel ligata, quod idem est. Simplicium quaedam dicitur longa, quaedam brevis.

Longarum, quae dicuntur puncta longa, triplex est modus, scilicet recta longa et superabundans et plica longa.

Recta longa est cujus latitudo non transit longitudinem cum tractu descendente a parte dextra, ut hic:

Superabundans sive duplex longa, quod idem est, cujus latitudo transit longitudinem cum tractu praedicto, ut hic declaratur:

Plica duplex est, ascendens et descendens. Descendens cum duplici tractu fit; ascendens cum uno tantum vel duplici sed semper est longior tractus a parte dextra, ut hic:

Brevium triplex est modus, scilicet recta brevis redte posita, et est eujus latitudo non transit longitudinem et sine tractu, ut hic patet:

FIGURES AND THEIR SIGNIFICANCES.

"Figure," as it is used here, is a sign denoting a tone or tones in terms of their longness and shortness of time. Some of the figures are simplex, and some are composite or ligated (which is the same thing). Some of the simplex are called longae, others are called breves.

There are three kinds of longae which are called long notes: namely, recta longa, superabundans, and plica longa.

A recta longa is a note whose length does not surpass its width with a descending line on the right side, as here:

A superabundans, or duplex longa (which is the same thing) is a note whose length is greater than its width, with the same kind of line, as is shown here:

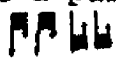
The plica is of two kinds: ascending and descending. Descending is made with two lines; ascending, with either one or two, but the line on the right side is always longer, as here:

There are three kinds of breves: namely, recta brevis, of rectus shape, whose length does not exceed its width, and without a line, as this shows:

et est semibrevis oblique posita, ut hic apparet:

the semibrevis is of oblique shape, as it appears here:

est et alia plica brevis, et fit quando longior tractus fit a parte sinistra, ut hic:



and there is also the plica brevis, where the longer line is on the left side, as here:

Figura composita vel ligata est quando plura puncta in unum conjunguntur a puncta ad puncta ascendentes vel descendentes:

A composite figure or ligature results when several notes are joined into one figure, note to note, ascending or descending:

Figuram quaedam dicuntur ascendendo, quaedam descendendo, et hoc a parte principii vel finis. Item quaedam dicuntur perfectae, item quaedam cum proprietate, quaedam sine.

Some figures are called ascending, some, descending; this is in relation to either the first or final part. Also, some are called perfect and some are said to be with propriety and some without.

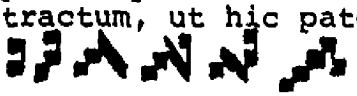
Descendens dicitur figura quando secundus punctus inferior est primo, ascendens e converso.

A figure is called descending when the second note is lower than the first; ascending, the converse.

Cum proprietate descendente dicimus quando primus punctus habet tractum descendentem a latere sinistro. Si tractus fuerit ascendens, cum proprietate opposita dicetur, ut hic:

A descending figure is said to be with propriety when the first note has a descending line on the left side. If the line happens to be ascending, it is said to be with different propriety,[18] as here:

In figura ascendente proprietas sua est quando primus punctus non habet tractum, ut hic patet:



An ascending figure is itself with propriety when the first note does not have a line, as this shows:

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[18]This is usually translated as "with opposite propriety." However, it does not mean "opposite" in the sense of the converse (in which case John would have used the term conversus or contrarius ). The converse of a ligature with propriety is a ligature without propriety.

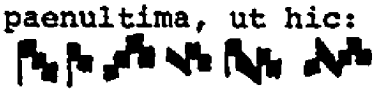
Sed sine proprietate dicitur, si habet tractum, ut hic:

But, if it has a line, it is said to be without propriety, as here:

Et sic intelligimus de figura descendente ad suum contrarium, ut hic:

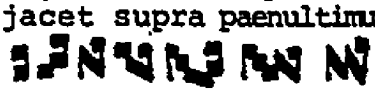
Likewise, we may understand the descending figure as contrary to it, as here:

Figura perfecta in fine dicitur quando tractus a paenultima ad ultimam fuerit descendens perpendiculariter, et hoc est, quando ultima fuerit inferior paenultima, ut hic:



A figure is called perfect[19] in relation to its termination when a line descends perpendicularly from the penult to the final. This is for a figure which descends at the end, when the final is lower than the penult, as here:

Sed in figura ascendente in fine est perfectio cujus ultimus punctus recte jacet supra paenultimum:



However, an ascending figure is perfect in its termination when the final note lies directly above the penult:

Imperfecta vero dicitur sive fuerit ascendens sive descendens, si ultimus punctus fuerit obliquus ad paenultimam, ut hic patet:

If the final note is oblique to the penult, then it is rightly called imperfect,[20] whether it is ascending or descending, as is shown here:

Sequitur de

The following is about

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[19] I.e., "complete."

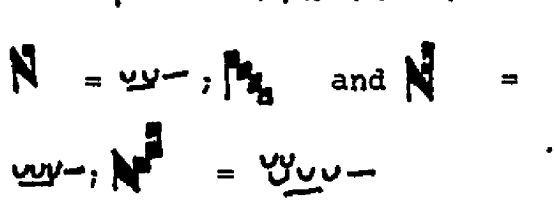
[20] I.e., "incomplete."

REGULIS FIGURARUM AD INVICEM LIGATARUM.

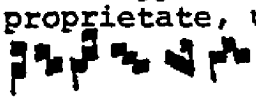
RULES FOR THE FIGURES, AND, IN TURN, THE LIGATURES.

Omnis figura ligata cum proprietate posita et perfecta paenultima dicitur esse brevis et ultima longa. Si sint praecedentes vel praecedens, tunc omnes ponuntur pro longa, ut hic:

In every ligated perfect figure with propriety the penult is said to be a brevis and the final a longa. If one or more notes precede, then they must all be reckoned as a longa, as here:[21]



Omnis figura sine proprietate et perfecte posita valet oppositum cum proprietate, ut hic patet:



Every perfect figure without propriety has a different meaning than one with propriety, as this shows:[22]

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[21]It is not possible to assign absolute temporal values to the individual notes of a single ligature except in the context of a particular mode. For this reason, only the theoretical durational relationships are given here and in subsequent examples.

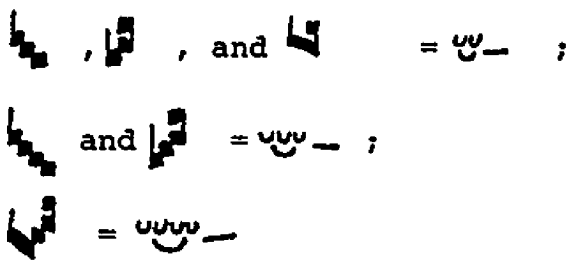
[22]John's meaning is not exactly clear. On the surface it would appear that the durational values in a perfect ligature without propriety are exactly reversed from those in a perfect ligature with propriety, i.e.,  while  . However, if this was John's intention, he would have used the term contrarius or conversus (see above, note 18). Furthermore, such an interpretation is in direct conflict with the teaching of Franco that the final value in perfect ligatures is always long (CS 1:125 and Strunk, Source Readings, p. 148). From the practical examples provided by John (below, pp. 141-148) it is clear that perfect ligatures without propriety are used only in those instances where special attention is needed, i.e., where the "character" or propriety of the pattern differs from the norm. Thus, he uses a binary ligature without propriety to begin a Mode I pattern when it was not possible to use a ternary ligature since the second and third notes (of the same pitch) could not be ligated (Balaam, below, p. 141).

Regula est quod nunquam ponuntur duae breves vel tres vel quator pro brevi, ubi possunt poni longa.

The rule is that two, three, or four breves are never counted as a short if they may be reckoned as a long.

Omnis ligatura cum proprietate opposita et perfecta ultima est longa, et omnes pracedentes ponuntur pro brevi, si sint ibi plures:

In every perfect ligature with different propriety the final is a long and all of the preceding are reckoned as a short, if there happen to be several in that place:




Sed si sint duae tantum, non valent nisi brevem, ut hic patet:

But if there are only two, then they have only the value of a short, as this shows:

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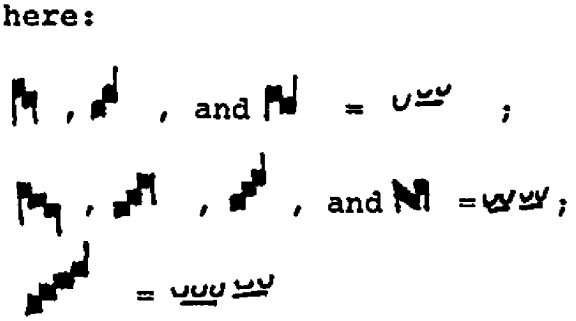
Had he used a ligature with propriety it might have been interpreted as short-long. In this particular instance, the binary perfect ligature without propriety indicates long-short.

John also uses binary perfect ligatures without propriety to terminate imperfect forms of the modes. When used in the imperfect forms of Modes I and II (Agmina and Balaam, below, p. 145) such ligatures indicate the theoretical pattern long-short. However, in such instances they are always followed by a long rest. At no time does John use a perfect ligature without propriety within a modal pattern. Such a ligature is always followed by a long rest.

Ternary perfect ligatures without propriety are used to terminate Mode II patterns (Balaam, below, p. 141) and to terminate imperfect forms of Mode I (Audi filia and Agmina, below, p. 145). In both instances they indicate the theoretical pattern short-long-short, followed by a long rest. Propreity has to do only with theoretical significance, i.e., how a pattern is to be counted, not necessarily how it is to be performed.

Omnis figura cum plica et cum proprietate et perfecta ultima cum plica valet longam, quia nihil aliud est quam signum dividens sonum in sonum diversum, ut hic:

In every perfect figure with a plica and with propriety the final with a plica still has the value of a long, because the plica is no more than a sign dividing a sound into different sounds, as here:

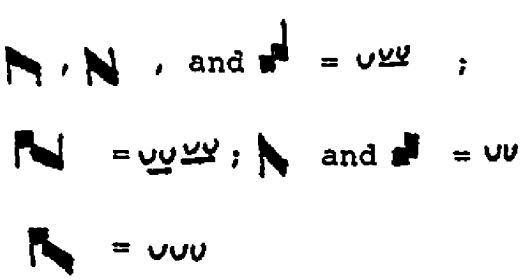


Omnis figura ligata cum plica sine opposita proprietate sumitur ut cum proprietate vel non et perfecta vel imperfecta.

This is the case in every ligature with a plica, whether with propriety or not, but without different propriety, and whether perfect or imperfect.

Omnis figura imperfecta sumitur tripliciter, aut cum proprietate et plica, vel sine plica:

Every imperfect figure may have three forms: Either with propriety and with or without a plica:[23]



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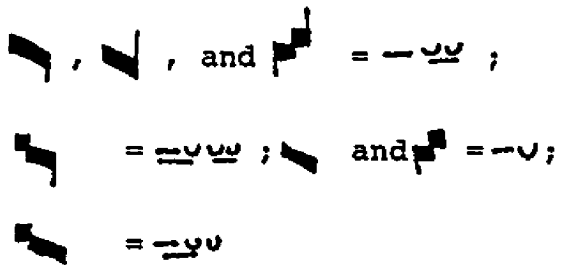
[23]According to John's rule (stated above) the final note with a plica has the value of a long even if the ligature is imperfect. However, without the plica, final notes in imperfect ligatures with propriety have the theoretical value of a short. The only examples that John provides of imperfect ligatures with propriety are in the terminations of Mode IV perfect (Regnat, below, p. 142) and Mode III imperfect (Cumque and Regnat, below, p. 146). In both instances the theoretical values are short-short, but the final short is actually a long.

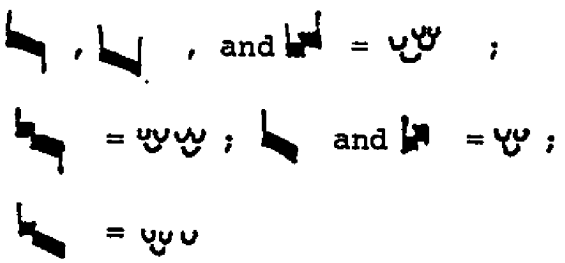
aut sine proprietate et cum plica vel sine plica, ut sumitur hic:

or without propriety and with or without a plica, as it is here:



aut cum proprietate opposita et cum plica vel sine plica, ut hic:

or with different propriety and with or without a plica, as here:



Regula est, quod omnis figura imperfecta si sint cum proprietate extenditur quoad perfectionem primi modi usque ad primam longam sequentem. Si sit sine proprietate extenditur quoad perfectionem secundi modi usque ad primam brevem sequentem.

The rule is that every imperfect figure, if it is with propriety, is extended through the completion of the first mode up to the first long which follows. If it is without propriety, it is extended through the completion of the second mode up to the first short which follows.

Et totum hoc intelligitur in conductis et in motellis sumuntur sine littera vel cum littera. Si proprio modo figurantur omnes figurae fere accipiuntur

All of this is observed in conductus and motets, whether with or without words. If they are notated properly all of the figures are considered to be imperfect.[24]

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[24]Pointing out that one of the other sources of this treatise gives a different reading (CS 1:179), Waite, Rhythm of Twelfth-Century Polyphony, p. 95, gives the following translation: "And all this is understood in conductus when they appear with a text, if they are notated in the proper

imperfectae.

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|---|---|
| Et hoc intelligitur in discantu et ubicumque rectus modus accipitur. | This is understood in discant and wherever a rectus mode is used. |
| Sequitur de | The following is about |

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manner. But if they are not notated properly, in general all ligatures are to be taken as being imperfect, and this is to be understood in discant and wherever correct measurement appears." In his critical edition, Reimer, Johannes, 1:51, gives a similar reading: "Et totum hoc intelligitur in conductis vel motellis, quando sumuntur sine littera vel cum littera, si proprio modo figurantur. Si improprio modo figurantur, fere omnes figurae accipiuntur imperfectae, et hoc intelligitur in discantu et ubicumque rectus modus accipitur." The point that John is trying to make is that in texted examples (motets and conductus) it is not possible to use proper ligatures. Although perfect ligatures are often actually used, in such texted examples they should be understood to be imperfect. This does not apply to the last sentence ("Et hoc intelligitur in discantu") for in discant and wherever rectus modes are used, there is no need for imperfect ligatures. This final sentence does not refer to only the immediately preceding discussion of imperfect ligatures, but rather to the entire preceding chapter.

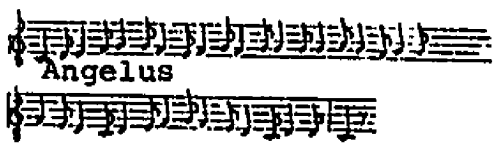
PROBATIONE MODORUM PER FIGURAS.

THE DEMONSTRATION OF THE MODES THROUGH THE FIGURES.

Prima regula primi modi dicitur esse tres ligatae ad invicem in principio et consequenter cum duae et duae et duae, etc. et hoc totum cum proprietate et perfectione:

Angelus

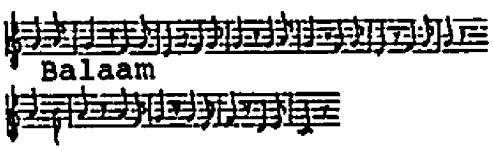
The first pattern for the first mode is said to be a three-note ligature at the beginning, followed in turn with a two and two and two, etc., all with propriety and perfection.




Alia regula de eodem: tres cum brevi pausatione et tres cum brevi etc., et dicitur esse primus ordo primi modi perfecti, ut hic:

Balaam

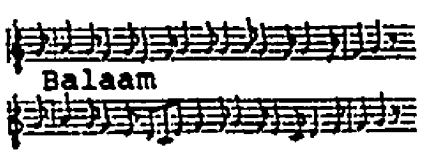
Another pattern for the same: Three with a brevis rest, and three with a brevis rest, etc. And this is called the first ordo of the first mode perfect, as here:




Secundi modi prima regula sumitur ita: duae, duae, duae cum proprietate et perfectione et tres in fine sine proprietate et perfectione, ut hic:

Balaam

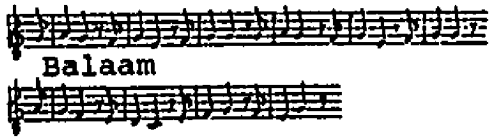
The first pattern for the second mode is taken in this fashion: Two, two, two, with propriety and perfection, and three at the end with perfection but without propriety, as here:



Aliter de eodem: tres sine proprietate et cum perfectione cum longa pausatione, et sic infinitum. Ut hic et est rpimus ordo ejusdem secundi:

Balaam

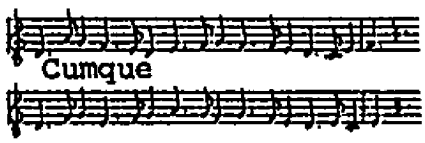
A different pattern for the same: Three without propriety but with perfection, with a longa rest, and so forth into infinity. This is the first ordo of the same second, as here:



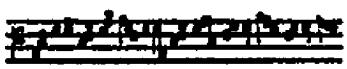

Tertius modus probatur ita per figuras quoniam prima est longa et postea tres ligatae et tres ligatae cum proprietate et perfectione, ut hic:

Cumque

The third mode is demonstrated in figures when the first note is a longa followed by three ligated and three ligated, with propriety and perfection, as here:

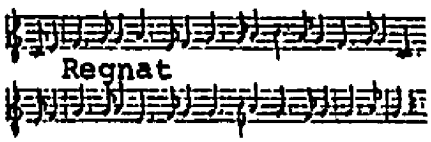



Quartus modus sumitur hic: tres et tres cum proprietate et perfecitone et duae imperfectae in fine et cum longa pausatione, ut hic:

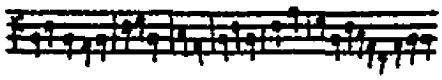


Regnat

The fourth mode is taken as follows: Three and three with propriety and perfection, and an imperfect two at the end with a longa rest, as here:

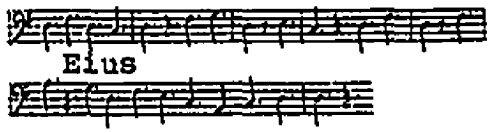


Quintus modus sumitur hoc modo: omnes longae cum longa pausa vel brevi, ut hic patet:



Eius

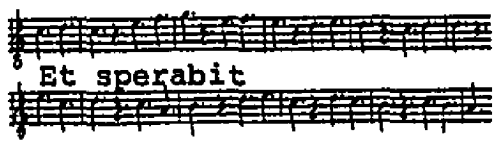
The fifth mode is taken in this manner: All longae with either a longa or a brevis rest, as this shows:



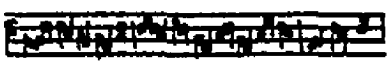

Item alia regula de eodem: tres cum proprietate et perfectione et cum longa pausatione et hoc in infinitum. Et hoc fit causa brevitatis. Et non proprie sumitur ita, sed usus est, ut ita in tenoribus accipatur:

Et sperabit

Likewise, there is another pattern for the same: Three with propriety and perfection with a longa rest, and this into infinity. This is done for the sake of brevity. Although it is not proper in this way, it is useful, and it is used this way in tenors:

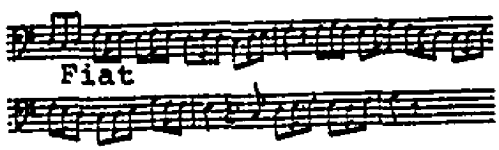



Sextus accipitur hoc modo: quator cum proprietate et plica cum duae et duae et duae cum proprietate et plica, ut sumitur hic:



Fiat

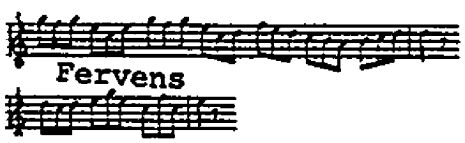
The sixth is found in this manner: Four with propriety and plica, with two and two and two with propreity and plicae, as it is here:



Alia regula de eodem, sed non probatur per istam artem, sed bene probatur per exemplum, quod invenitur in Alleluja posui adjutorium in triplo, scilicet quator cum proprietate et perfectione et tres et tres et tres cum proprietate etc., ut sumitur in hoc exemplo:

Fervens

There is another pattern for the same mode, but it is not approved for the same reason[25] but rather, it is well approved through example, as is found in the triplum Alleluia posui adjutorium;[26] namely, four with propriety and perfection with three and three and three with propriety, as it is in this example:[27]



Fervens



Sequitur de

The following is about

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[25]I.e., it is not used merely for the sake of brevity in notation as is the exceptional case for Mode V.

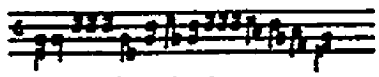
[26]Anonymous IV (CS 1:342) identified this triplum as the work of Perotin.

[27]This example is extracted from Perotin's triplum. Compare with F, fol. 36 and Mo, fol. 16v.

This particular pattern for Mode VI is identical with the pattern for Mode III, suggesting the possibility that it might have been performed as  etc. See the discussion of this possibility, above, p. 132, n. 17.

MODIS IMPERFECTIS:
QUOMODO ET QUALITER
FIGURANTUR.

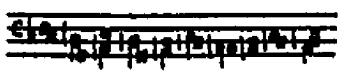
Unde primus modus figuratur hoc modo: Tres cum proprietate et perfectione cum duae et duae et tres in fine sine proprietate, ut hic patet:



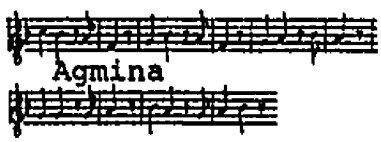

IMPERFECT MODES:
HOW AND IN WHAT WAY
THEY ARE NOTATED.

Hence, the first mode is notated in this manner: Three with propriety and perfection with two and two and three at the end without propriety, as this shows:


Alia regula de eodem: duae sine proprietate et debita pausatione et duae cum proprietate et pausatione debita, ut hic sumitur:




Another pattern for the same: Two without propriety and the required rest, two with propriety and the required rest, as it is here:

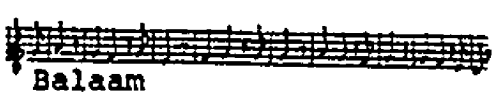



Secundus modus imperfectus sumitur hoc modo: duae, duae, duae cum proprietate et perfectione, ut in exemplo secundi modi perfecti.

The second mode imperfect is taken in this manner: Two, two, two, with propriety and perfection (as in the second mode perfect).

Alia regula de eodem: duae cum proprietate et debita pausatione, et etiam sine proprietate et cum perfectione et debita pausatione, ut hic:

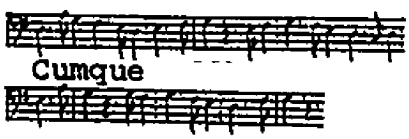
Another pattern for the same: Two with propriety and the required rest, and the same without propriety and with perfection and the required rest, as here:

Tertius modus imperfectus sumitur hoc modo: sumatur una longa cum tribus, tribus, tribus, etc., cum proprietate et cum perfectione et in fine duae cum proprietate et imperfectione, ut hic:

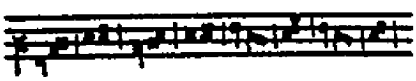
Cumque

The third mode imperfect is taken in this manner: Let there be a longa with three, three, three, etc., with propriety and perfection, and at the end, two with propriety and without perfection, as here:



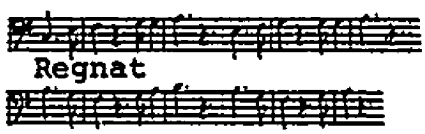
Cumque

Aliter de eodem: Sumatur una longa cum duabus cum proprietate et imperfectione[28] et longa pausatione, et sic quantum placuerit, ut hic:



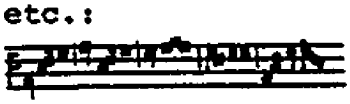
Regnat

A different pattern for the same: Let there be a longa with two with propriety and without perfection[28] and a longa rest, and thus the quantity will be satisfied, as here:



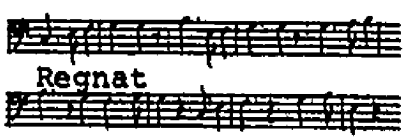
Regnat

Aliter de eodem: sumatur una longa cum tribus et una brevi in fine et debita pausatione etc.:



Regnat

A different pattern for the same: Let there be a longa with three and a brevis at the end with the required rest, etc.:



Regnat

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[28]This passage actually reads, "duabus cum proprietate

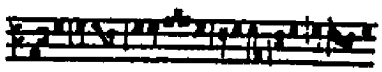
Quartus modus sumitur multis modis, scilicet imperfectis. Et hic primo modo sic sumantur: tres, tres, tres, etc. cum proprietate et perfectione et longa pausatione, ut hic patet:

Regnat

The fourth mode imperfect is taken in several ways. The first is taken thus: Three, three, three, etc., with propriety and perfection and a longa rest, as this shows:

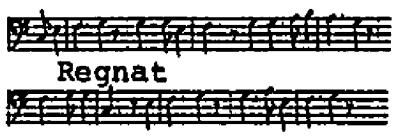
Regnat

Aliter de eodem: tres cum una brevi in fine et debita pausatione, et sic quantum placuerit servando imperfectionem sic:



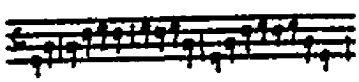
Regnat

A different pattern for the same: Three with a single brevis at the end and the required rest, and thus the quantity is satisfied, completing the imperfection, thus:

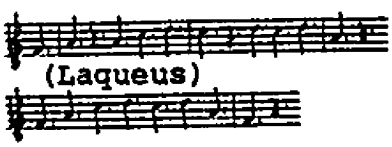


Regnat

Quintus modus imperfectus hoc modo sumitur: omnes longae in pari numero, ut hic apparet:



The fifth mode imperfect is taken in this manner: All longae in even numbers, as it appears here:



(Laqueus)

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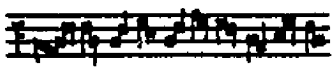
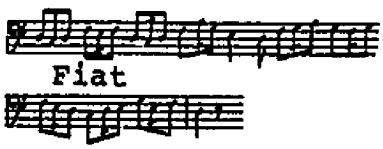
et perfectione." However, from the context and the example which is provided, it is clear that the final ligature is "without perfection."

Sextus modus imperfectus sumitur hoc modo: quator cum plica et duae et duae cum plica et proprietate, si reducatur ad primum modum, ut hic patet:

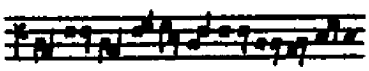


Fiat

The sixth mode imperfect is taken in this manner: Four with a plica and two and two with plicae and with propriety, if it is reduced to the first mode, as this shows:

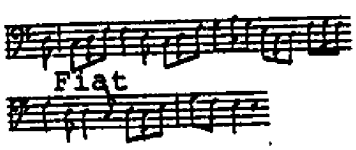



Si modus iste accipitur per reductionem ad secundum, talis est regula: duae, duae, duae etc. cum proprietate et perfectione et cum plica et ultima simplici nota. Omnes breves dicuntur, ut hic apparet:



Fiat

If through reduction, this mode is taken as the second, the pattern for such is: Two, two, two, etc., with propriety and perfection and with plicae. The final is a single note. They are all called breves, as it appears here:




Et hoc est ad propositum omnium modorum perfectorum et imperfectorum.

This is in relation to the demonstration of all perfect and imperfect modes.

Sequitur de

The following is about

QUIBUSDAM REGULIS COMMUNIBUS. CERTAIN GENERAL RULES.

Unde prima regula est quod nunquam debet poni aliqua figura sine proprietate ubi potest poni cum proprietate.

Hence, the first rule is that one should never use a figure without propriety where one with propriety may be put.

Alia regula est quod nunquam debet poni simplex vel non ligata ubi potest poni ligata vel composita.

Another rule is that a simplex or non-ligated figure should never be used where a ligature or composite figure may be used.

Omnis ligatarum ordinatio debet fieri per eundem ordinem compositarum, id est per eandem ligaturam.

The arrangement of all the ligatures must be made through the same ordering as composites, i.e., through the same ligatures.

Omnes voces eodem sono acceptae non possunt ligari vel facere compositam, quia omnis figura composita vel ligata dicitur ascendo vel descendendo. Et quaecumque sunt in eodem sono non dicuntur ascendo vel descendendo. Ergo ex hic no fit ligatura, id est figura ligata.

Successive tones of the same pitch cannot be ligated nor made composite, because every composite figure or ligature is said to ascend or descend, and whatever are of the same pitch are not called ascending or descending. Therefore, a ligature, i.e., a figure composed of notes joined together, cannot be made from these notes.

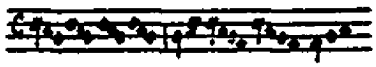
Omnis figura non ligata devet reduci ad ligatam per aequipollentiam. Omnis figura ultra tres suo proprio modo reducitur ad tres. Item tres quarum altera est simplex et duae ligatae, reducuntur ad tres ligatas per aequipollentiam. Et hoc est secundum propriam proprietatem, quia reducuntur ad aliquem proprium.

Every non-ligated figure ought to be reduced to a ligature through equivalence. Every figure greater than three notes is reduced to three of its own proper kind. Therefore, three notes, of which one is simplex and the other two ligated, may be reduced to a three-note ligature through equivalence. This is in terms of their own propriety, because they may be reduced to a specific mode.

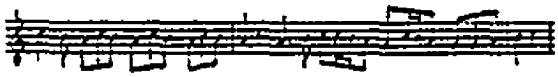
Item notandum est quod ubicumque invenitur brevium multitudo, id est semibrevium, semper participant cum praecedens cum eis non reputatur

Thus, it ought to be noted that wherever one finds a great number of breves, i.e., semibreves, they always share part of the value of the preceding, because the

in valor nisi
pro una tali sicut
et praecedens.



preceding is reckoned with
them in value only if they
are considered as one with
the preceding.



Sequitur de

The following is about

PAUSATIONIBUS.

Unde, videndum est quid sit pausatio.

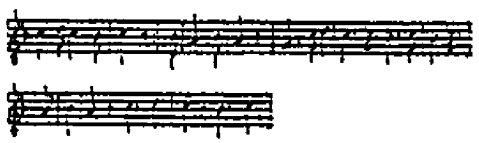
Pausatio est divisio somi facta in debita quantitate. Pausationum quaedam simples, quaedam composita.
Pausatio simplex dicitur esse quando pausatur secundum quantitatem alicujus modi vel manerieri, ut hic:

RESTS.

Hence, what a rest is ought to be investigated.

A rest is the separation of sound in a prescribed quantity. Some rests are simplex, some, composite.

A rest is called simplex whenever a pause is observed according to the quantity of a particular mode or manner, as here:



Simplicium quaedam est perfecta, quaedam imperfecta. Perfecta dicitur esse illa, quae non transmutat modum propter sui adventum. Imperfectum autem dicitur quae transmutat modum praecedentem. Et utraque istarum pausationum patet in exemplo supra dicto.
Unde regula: omnis pausatio simplex dicitur aequalis paenultimae modi praecedentis. Si autem modus ante pausationem sit perfectus, et pausatio dicitur perfecta. Si vero sit imperfectus, et pausatio erit imperfecta.

Some simplex rests are perfect, some, imperfect. One which does not change the mode by its occurence is said to be perfect. However, one which changes the preceding mode is called imperfect. Both kinds of these rests appear in the above example.

Hence, the rule: Every simplex rest is said to be equivalent to the penult of the preceding mode. If, however, the mode before the rest is perfect, then the rest is called perfect. If it is actually imperfect, then the rest will be imperfect.

Omnis pausatio sumitur per oppositum quoad tempus secundum modum perfectum sui praecedentis, vel etiam secundum numerum, quia

Every rest is taken like its opposite in respect to tempus based on either the perfect mode which precedes it, or in terms of number, for the notes

puncti perfecti modi sunt impares et pausatio est par. Et hoc est a parte principii vel finis; sed secundum modum imperfectum a parte finis tantum et non principii.

of a perfect mode are odd and the rests are even. This is the case from either the beginning or the end. In an imperfect mode it is so only from the end and not from the beginning.[29]

Si pausatio sit perfect, et modus praecedens erit perfectus. Si imperfecta, et modus erit imperfectus.

If the rest is perfect, then the preceding mode will be perfect. If it is imperfect, then the mode will also be imperfect.

Pausatio composita vel duplex dicitur esse quando simplex duplatur vel triplatur vel quadruplatur etc. Compositarum quaedam perfecta, quaedam vero imperfecta, ut superius simplici etc.

When a simplex rest is doubled, tripled, or quadrupled, it is called a composite or duplex rest. Some composites are perfect, some, actually imperfect (as is the case with the simplex rests discussed above).

Omnis pausatio sumitur contrario modo sui praecedentis in primo, secundo, tertio, quarto, quinto secundum numerum, et in sexto quando reducitur ad primum vel secundum.

Sed secundum suum proprium modum aequalis est principio et fini, nec recipit contrarietatem nisi secundum numerum aliquem parem vel imparem.

Every rest is taken in the contrary measure to its preceding in the first, second, third, fourth, and fifth modes (in terms of number), and in the sixth only when it is reduced to either the first or to the second. But in respect to itself as a specific mode,[30] the rest is equal to both the initial and final values, and is determined neither by opposition nor according to a particular even or odd number.

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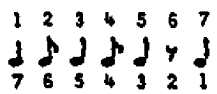
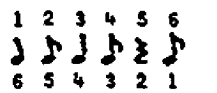
[29]E.g., Mode I perfect:




Mode I imperfect:




[30]I.e., in respect to Mode VI as a distinct mode. See above, p. 132, n. 17 & p. 144, n. 27.
VI reduced to I:
VI reduced to II:
VI as a distinct mode:

| | |
|---|---|
| Et notandum quod in omni perfecta pausatione debet naturaliter tractus et intervallum computari pro pausatione, in omni imperfecta sine intervallo debet computari. | Let it be noted that for every perfect rest the duration of the pause may be computed freely; for every imperfect rest, it must be computed without delay.[31] |
| Sequitur de | The following is about |

[31]This is obviously a reference to the manner in which the rests are treated in performance. Since the mode does not change with a perfect rest, there is no need to measure it exactly, i.e., it can be held indefinitely. However, with an imperfect rest the mode does change; thus, there is no flexibility in the measurement of the rest.

FIGURIS PAUSATIONUM.

Figura pausationis est signum vel tractus significatiuus divisionem soni factam in debita quantitate. Pausationum quaedam dicitur recta brevis, quaedam longa, quaedam finis punctorum, quaedam divisio modorum, quaedam divisio syllabarum, quaedam suspiratio.

Recta brevis est tractus respiciens latitudinem unius spatii.

Recta longa est tractus continens duo spata vel plura.

Finis punctorum dicitur esse ubi tractus respicit latitudinem omnium linearum et spatiorum.

Divisio modorum est tractus aliquo modo positus, et hoc in superiori parte, et minor apparet recta brevi.

Divisio syllabarum dicitur idem, sed accipitur in inferior parte.

Suspiratio dicitur esse apparens pausatio et non existens. Et hoc est supponendum, quia suspiratio potest fieri cum tractu et sine tractu, et est minor recta brevi.

FIGURES FOR THE RESTS.

The figure for a rest is a sign or line signifying the separation of sound made in a prescribed quantity. Some rests are said to be a recta brevis; some, a longa; some, a phrase ending; some, a division of mode; some, a division of syllables; and some, a breath.

A recta brevis is a line respecting the width of one space.

A recta longa is a line encompassing two or more spaces.

When a line covers the width of all the lines and spaces it is called a phrase ending.

A division of mode is a line placed in a particular way.[32] It is in the upper part and is smaller[33] than a recta brevis.

The same rest is also called a division of syllables, but it appears in the lower part.

A breath is said to be an apparent and not an actual rest. This is placed below,[34] although a breath may be taken with or without a line, and it is smaller than a recta brevis.

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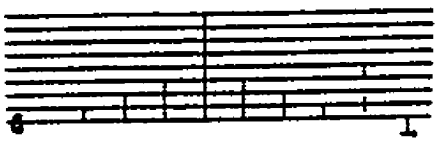
[32]Or, "used in a particular mode," i.e., for the choriiamb: ♩𝅗𝅥♩♩ = ♪♫♪

[33]I.e., of shorter duration.

[34]In the example of rests which follows.

Et accipe hic exemplum omnium pausationum:

Consider this example of all the rests:



Sequitur de

The following is about

CONSONANTIIS IN EODEM TEMPORE SIVE IN DIVERSIS TEMPORIBUS IN EADEM VOCE.

Consonantiarum quaedam dicuntur concordantiae, quaedam discordantiae. Concordantia dicitur esse quando duae voces junguntur in eodem tempore, ita quod una potest compati cum alia secundum auditum. Discordantia dicitur contrario modo.
Concordantiarum triplex est modus, quia quaedam sunt perfectae, quaedam imperfectae, quaedam vero mediae.
Perfecta dicitur quando duae voces junguntur in eodem tempore, ita quod una secundum auditum non percipitur ab alia propter concordantiam.
Et dicitur aequisonantia, ut in unisono et diapason:

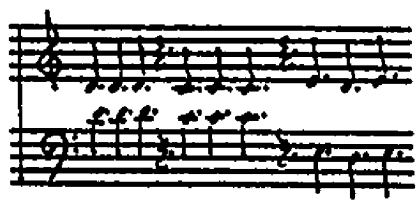
Imperfectae autem dicuntur quando duae voces junguntur ita, quod una ex toto percipitur ab alia secundum auditum et concordantiam.
Et sunt duae species, scilicet ditonus et

CONSONANCES AT THE SAME TIME OR AT DIFFERENT TIMES IN THE SAME VOICE.

Some consonances are called concordant, some, discordant. When two tones are joined at the same time so that, based on what is heard, one is able to be compatible with the other, they are said to be concordant. The contrary manner is called discordance.

There are three types of concordances, of which some are perfect, some, imperfect, and some, mediant.

When two tones are joined together at the same time so that, based on what is heard, one is not able to be distinguished from the other because of the concordance, it is called perfect. It is said to be of equal sound, as in the unison and octave:[35]

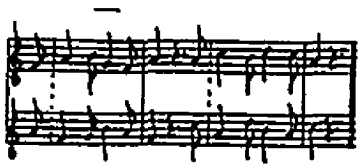


However, when two tones are joined together so that, based on what is heard and by concordance, of the whole one is able to be perceived distinctly from the other, it is called imperfect. There are two kinds, major third and

[35]Although the examples provided in Jerome's version of this treatise indicate successive relationships, it is clear from John's explanation that he is also concerned with simultaneous sounds. For this reason, the ligatures for this example are not transcribed with their normal rhythmic meanings, but rather as indicating simultaneous pitches.

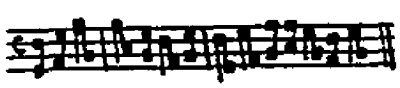
semiditonus:

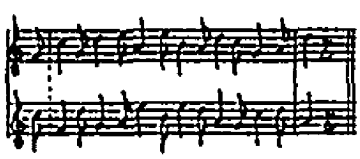
minor third:



Mediae autem dicuntur quando duae voces junguntur in eodem tempore, quae necque dicuntur perfectae imperfectae, sed partim conveniunt cum perfectis et partim cum imperfectis. Et sunt duae species, scilicet diapente et diatesseron. Et istae duae species patent in hoc exemplo:

Furthermore, when two tones which are neither perfect nor imperfect, but which agree in part with perfect and in part with imperfect, are joined together at the same time, they are called mediant. There are two kinds: namely, perfect fifth and perfect fourth. Both kinds are illustrated in this example:





Sic apparet, quod VI sunt species concordantiae, scilicet unisonus, diapason, diapente, diatesseron, semiditonus, ditonus. Et dicuntur genera generalissima omnium concordantiarum.

Thus, it appears that there are six kinds of concordances: namely, unison, octave, fifth, fourth, minor third, and major third. And these are the most universal of all concordances.

Sciendum, quod supradictae concordantiae possunt sumi in infinitum.
Probatio: Primus sonus sic datus supra primum G secundus sonus supra secundum g, quod dicitur unisonus vel aequisonantia, quod idem est. Dico quod quidquid concordat secundo g, et primo.

Probatio: Quae aequalia sunt eidem, sibi invicem sunt aequalia.

Let it be known that the concordances described above may be found into infinity.
Proof: If the first sound, placed above the first G, and the second sound, placed above the second g, form an octave or "equal" sound (which is the same thing), then, I say that whatever concords with the second g also concords with the first.
Proof: Those which are equal are the same, they are mutually equal to themselves.

Sed diapente bene concordat secundum suam speciem secundo g, ergo et primo.
Et non e converso, quia si illud quod videtur minus inesse, inest, et illud quod magis et e converso.
Et omne totum ponit suas partes et non converso, quia omne totum majus est sua parte et con converso.
Tunc dico sic: semiditonus bene concordat secundo g, ergo et primo et non e converso per praecedentia.
Et vocatur semiditonus cum diapason. Et sic de ditono, et vocatur ditonus cum diapason; et sic aliis in inifinitum ascendi potest.

In terms of its own kind, the fifth concords well with the second g, and therefore, also with the first.
But not vice versa. Because that which appears to be less is less, and that which appears to be greater is greater and vice versa. The whole consists of parts and not vice versa, because the whole is greater than any of its parts and not vice versa.
Thus, I say this: The minor third concords well with the second g, and therefore, with the first, and not vice versa, because of what has been said.[36] It is called a minor tenth. Likewise, for the major third, it is called a major tenth; and likewise for the other intervals which may be carried on upward into infinity.

Et haec sufficiant de propriis concordantiis.

This is sufficient for proper concordances.

Discordantia dicitur esse quando duae voces junguntur in eodem tempore ita, quod secundum auditum una vox non possit compati cum alia.

When two tones are joined together at the same time so that, based on what is heard, one tone cannot be compatible with the other, they are called discordant.

Discordantiarum quaedam dicuntur perfectae, quaedam imperfectae, quaedam vero mediae.

Some discordances are called perfect, some, imperfect, and some are actually mediant.

Perfectae dicuntur quando duae voces non junguntur aliquo modo secundum compassionem vocem, ita quod secundum auditum una non possit compati cum alia.

When two tones are joined together in some manner not based on the compatibility of sounds, or so that, based on what is heard, one cannot be compatible with the other, they are called perfect.

Et istae sunt tres species, scilicet semitonium, tritonus, ditonus cum diapente:

And there are three kinds of these: namely, semitone, tritone, and major seventh:

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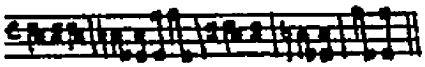
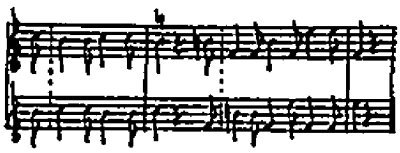
[36] I.e., G-B♭ = minor third, but B♭-g = major sixth.



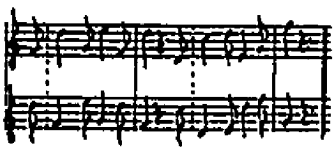


Imperfectae dicuntur quando duae voces junguntur ita, quod secundum auditum possunt aliquo modo compati, tamen non concordant.

When two tones are joined together so that, based on what is heard, they are able to be compatible in some manner, yet they still do not concord, they are called imperfect.

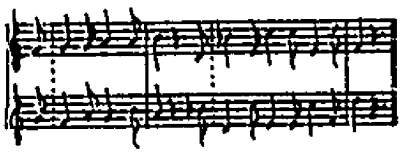
Et sunt duae species, scilicet tonus cum diapente et semiditonus cum diapente. Et istae duae species non concordant, compatiuntur tamen, ut hic apparet:

And there are two kinds: namely, major sixth and minor seventh. And thus, there are two such kinds which do not concord and yet are compatible, as it appears here:



Mediae dicuntur quando duae voces junguntur ita quod partim conveniunt cum perfectis, partim cum imperfectis. Et istae sunt duae species, scilicet tonus et semitonium cum diapente, ut hic patet:

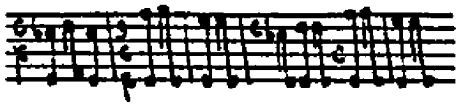
When two tones are joined together in this fashion so that they agree in part with perfect and in part with imperfect, they are called mediant. There are two kinds of these: namely, tone and minor sixth, as this shows:



Istae species dissonantiae sunt VII, scilicet semitonium, tritonus, ditonus cum diapente, tonus cum diapente, semiditonus cum diapente, tonus, et semitonium cum diapente. Et possunt sumi usque in

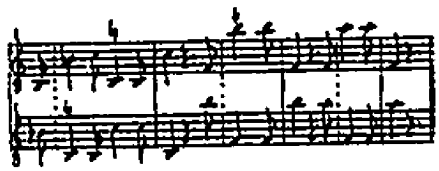
There are seven kinds of dissonances: namely, semitone, tritone, major seventh, major sixth, minor seventh, tone, and minor sixth. These can be continued all the way into infinity like the concordances, e.g., minor ninth, major

infinitum sicut concordantiae, silicet semitonium cum diapason, tonus cum diapason,[37] tritonus cum diapason etc. usque ad bis diapason et ulterius quantum placuerit:



Sequitur de

ninth,[37] augmented eleventh, etc., up to the double diapason and further, as much as one pleases:



The following is about

[37]MS reads, ditonus cum diapason (major tenth).

CONSONANTIIS ET DISONANTIIS, SCILICET QUAE MAGIS CONCORDANT ET QUAE MINUS ET QUAE MAGIS DISCORDANT ET QUAE MINUS.

CONSONANCES AND DISSONANCES, NAMELY THOSE WHICH CONCORD MORE AND THOSE WHICH CONCORD LESS, AND THOSE WHICH DISCORD MORE AND WHICH DISCORD LESS.

Concordantiarum prima dicitur unisonus, quae procedit ab aequalitate immediate. Ideo meliorem cunctis concordiam habet. Secunda diapason qui sumitur in dupla proportione. Tertia est diapente, qui sumitur in sesquialtera proportione. Quarta est diatesseron, qui sumitur in sesquitertia. Quinta est ditonus, qui accipitur in minori superpartiente quam semiditonus, ut est super septem partiens LX quartas. Sexta est semiditonus, quia sumitur in minori superpartiente aliis sequentibus, ut est super quinque partiens vicesimas septimas.

The unison is called the first of concordances because it proceeds from absolute equality. For that reason it has a better concordance than the others. Second is the octave, which is taken in duple proportion [2:1]. Third is the perfect fifth which is taken in sesquialtera proportion [3:2]. Fourth is the perfect fourth, which is taken in sesquitertia [4:3]. Fifth is the major third, which is taken in lesser superpartiente than is the minor third, as it is seven-[teen] parts above 64 [81:64]. Sixth is the minor third, which is taken in lesser superpartiente than the others which follow, i.e., five parts above 27 [32:27].

Unde regula: quae magis et a propinquiori procedunt ab aequalitate, magis concordant in sono et quae minus appropinquant aequalitati, minus concordant. Ergo magis discordant secundum auditum. Sed istae VI species prius nominatae multum appropinquant ipsi aequalitati, aliae vero septem species sequentes multum distant ab aequalitate. Ergo primae sex bene concordant et dicuntur concordantiae, aliae autem non concordant sed potius discordant, quare nominatur discordantae.

Hence the rule: Those which proceed more from equality and in a closer way, concord more in sound. Those which appropriate lesser equality, concord less. Therefore, they discord more, in terms of what is heard. Although the first named six species closely approach equality, the other seven which follow are further from equality. Therefore, the first six concord well and are called concordances, while the other seven do not concord, but rather discord, and thus, are called discordances

Discordantiarum prima dicitur tritonus, quia

The first of the discordances is called a tritone, because

magis dicitur perfecta discordantia, eo quod magis discedit ab aequalitate, quia accipitur super ducenta decem et septem partiens quingentas duodecimas, ut DCCXXIX ad quingenta XII.[38] Secunda est semitonium, et dicitur in super tredecim CCXLIIIas, ut CCLVI ad CCXLIII. Tertia est ditonus cum diapente, et accipitur super ducentas tricesimas partiens CCLVI, ut CCCLXXXVI ad CCLVI. Quarta est tonus cum diapente, et accipitur super XXIIas partiens XXXII. Quinta est semitonium cum diapente, et accipitur super CCXLII partiens CCCCLXXXVI, ut septigenta XXVIII ad CCCCLXXXVI.[39] Sexta est semiditonus cum diapente et accipitur super VII partiens nonas, ut XVI ad IX. Septima est tonus, et sumitur sesquioctava proportione, ut IX ad VIII. Sic apparent VII discordantiae, et quae earum magis discordant et quae minus. Et notandum quod discordantia ante perfectam concordantiam sive mediam aequipollet mediae. Et haec proprie sumitur ante unisonum vel diapason. Sciendum est quod nunquam ponitur discordantia ante perfectam concordantiam nisi causa coloris musicae,
Haec de consonantiis sufficiant.
Sequitur de

it is greater it is called a perfect discordance (on the grounds that it is more removed from equality). For it is understood to be 217 parts above 512, or 729:512.[38] Second is the semitone, which is said to be 13 parts above 243, or 256:243. Third is the major seventh, and it is understood to be 230 parts above 256 or 486:256. Fourth is the major sixth, and it is understood to be 22 parts above 32 [54:32]. Fifth is the minor sixth, and it is understood to be 242 parts above 486 or 728:486.[39] Sixth is the minor seventh, and it is understood to be 7 parts above 9, or 16:9. Seventh is the tone, and it is taken in sesquioctava proportion or 9:8.

Thus, there are seven discordances, and some of them discord more and some discord less. And note that every discordance placed before a perfect concordance or mediant is equal to a mediant. And these are properly placed before a unison or octave. It should also be noted that a discordance is never placed before a perfect consonance except for the sake of musical color.

This is sufficient for consonances.

The following is about

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[38]MS has LXXXXIX ad quingenta XII (99:512).

[39]MS has septingenta VIII ad CCCCLXXXVI (708:486). Actually, the proportion should be 128:81.

DISCANTU ET DE EJUS SPECIEBUS.

Discantus est aliquorum diversorum cantuum consonantia secundum modum et secundum aequipollentis aequipollentiam. Et sunt tot species sicut et in modo a parte aequipollentis, qui dicitur secundus cantus quot a parte tenoris, qui dicitur primus cantus. Sunt autem sex species ejus, ut dicitur.

Et sciendum est quod a parte primi cantus tria sunt consideranda, scilicet sonus, ordinatio et modus. Sonus hic accipitur pro musica, ordinatio hic sumitur numerus punctorum ante pausationem, modus pro quantitate longarum vel brevium notarum.

Similiter eadem a parte secundi consideranda sunt.

Praeterea primus et secundus in tribus sunt consideranda, scilicet in numero, in modo et in concordanta. In numero, ut tot sint puncti secundum aequipollentiam a parte secundi, quot a parte primi vel e converso. In modo, ut sit longa contra longam vel breves aequipollentes longae. In concordanta, ut primus bene concordet secundo et e converso.

Unde regula: omne quod fit impari debet concordari cum omni ill quod fit in impari, si sit in primo

DISCANT AND ITS TYPES.

Discant is the sounding together of certain different melodies, according to mode and according to the equivalence of equals. There are as many modes for the equivalent part (which is called the second melody) as for the tenor (which is called the first melody). Moreover, there are six modes, as has been stated.

Let it be known that for the first melody three things are to be considered: namely, interval, ordering, and mode. Interval is conceived in terms of music. Ordering has to do with the pattern of notes before a rest. Mode is concerned with the measurement of long and short notes.

Likewise, the same things are to be considered in respect to the second melody.

Furthermore, the first and second melodies are to be considered [together] in accordance with these three things: namely, number, mode and concordance. In number, for by equivalence there are as many notes in respect to the second part as there are in respect to the first part, or vice versa. In relation to mode, for a long may be placed against a long or against shorts equalling a long. In respect to concordance, as the first concords well with the second, and vice versa.

Hence the rule: Everything that is odd ought to be concordant with everything that is odd, whether it is

vel secundo vel tertio modo. Sed duo puncti sumentur hic pro uno, et aliquando unus eorum ponitur in discordantia propter colorem musicae et hic primus sive secundus.
Et hoc bene permittitur ab auctoribus primus et licentiatur. Hoc autem invenitur in organo in pluribus locis et praecipue in mothetis.

in the first, second, or third mode. But two notes may be substituted for one, and sometimes one of them is placed in discordance for the sake of color in the music. And this may be either the first or second note . This is well approved and permitted by the distinguished composers. Moreover, this is found in organum in many instances, and especially in motets.

Et notandum quod sunt tres species discantus: aut rectus positus contra rectum, quod est prima species, aut modus per ultra mensuram ad modum per ultra mensuram quod est secunda species, aut rectus contra per ultra mensuram quod est tertia species.

Let it be noted that there are three kinds of discant: Either with a rectus mode placed against a rectus, which is the first kind; or, a mode per ultra mensuram against a mode per ultra mensuram, which is the second kind; or, a rectus mode against a mode per ultra mensuram, which is the third kind.

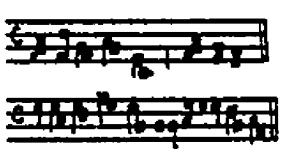
Rectus ad rectum sumitur dupliciter: aut eodem ordine aut ordine converso. Rectus ad rectum dupliciter:

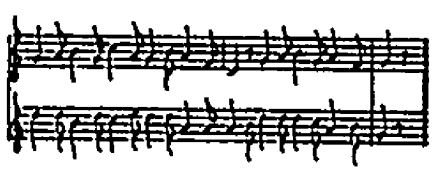
aut rectus ad seipsum aut ad reliquum.

Rectus against rectus is of two kinds: Either with the same ordering, or with the opposite ordering. Rectus against rectus [with the same ordering] is of two kinds: Either rectus against itself or a rectus against another [rectus].

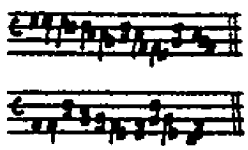
Rectus ad seipsum potest combinari tripliciter, secundum quod triplex est modus rectus, aut primus contra primum, ut hic patet:

A rectus may be combined against itself in three ways (becuase of the fact that there are three rectus modes): Either first mode against first, as this shows:

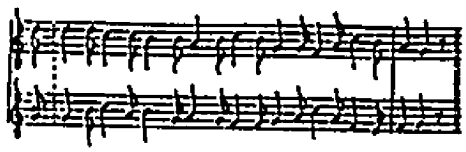




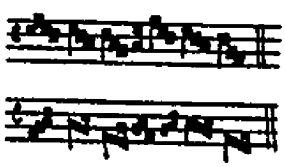
aut secundus contra secundum, ut hic:



or, second against second, as here:



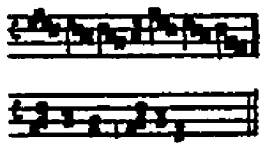
aut sextus contra sextum, ut hic:

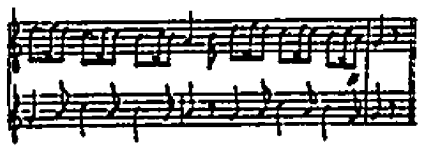


or, sixth against sixth, as here:

Rectus contra reliquum potest dupliciter combinari vel accipi: aut primus contra sextum, aut secundus contra sextum. Primus contra sextum dupliciter: aut primus in loco primi accipitur et sextus in loco secundi, ut hic apparet:

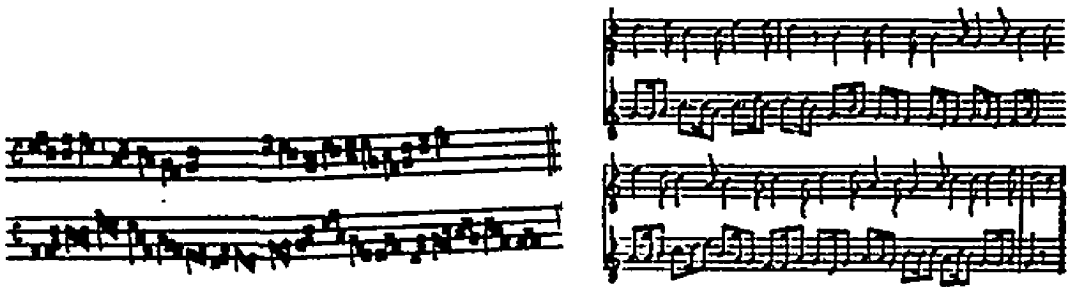
A rectus against some other [rectus] may be combined or reckoned in two ways: Either first against sixth, or second against sixth. First against sixth is of two kinds: Either with the first [mode] in the place of the first [melody] and the sixth [mode] in the place of the second [melody], as it appears here:





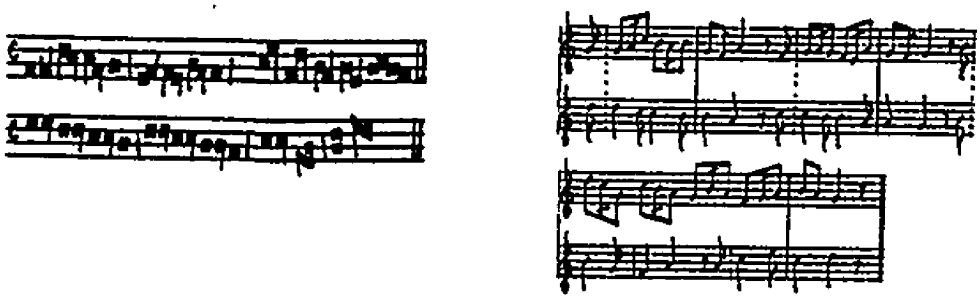
aut e converso, scilicet sextus in loco primi et primus in loco secundi, ut hic:

or, the converse, i.e., with the sixth in the place of the first and the first in the place of the second, as here:



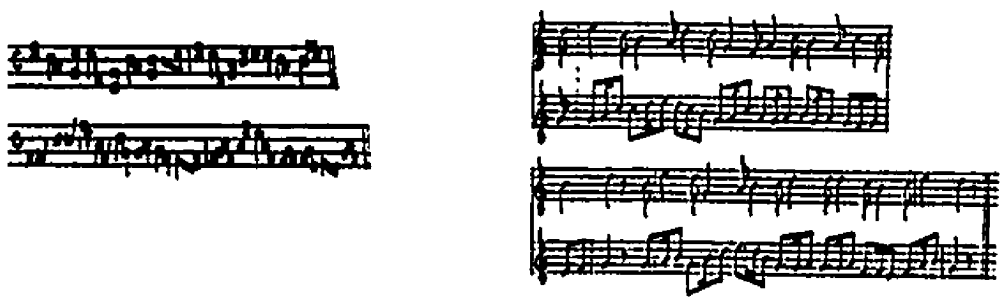
Secundus contra sextum potest dupliciter combinari: aut secundus in loco primi et sextus in loco secundi:

Second against sixth may be combined in two ways: Either with the second in the place of the first and the sixth in the place of the second:



aut fit e converso, scilicet sextus in loco primi et secundus in loco secundi, ut hic declaratur:

or, it may be the converse, i.e., with the sixth in the place of the first and the second in the place of the second, as is shown here:

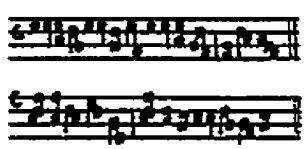


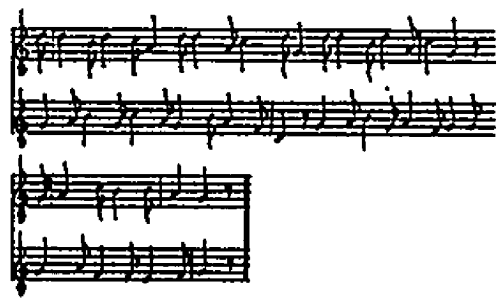
Rectus ad rectum ordine converso sumitur tripliciter: aut primus ad secundum aut primus ad sextum secundum ordinem secundi aut secundus ad sextum.

Rectus against rectus with opposite ordering may be of three kinds: Either with the first against the second, or the first against the sixth with the ordering of the second, or the second against the sixth.[40]

Primus secundi dupliciter: aut primus in loco primi et secundus in loco secundi, ut hic patet:

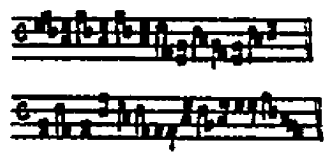
The first against the second may be of two kinds: Either with the first in the place of the first and the second in the place of the second, as it shows here:

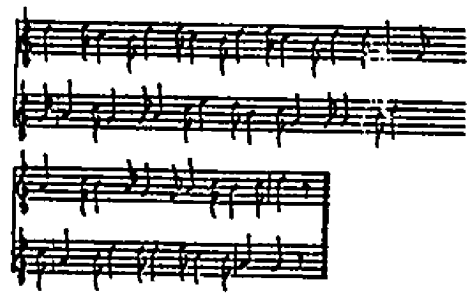




aut e converso, scilicet secundus in loco primi et primus in loco secundi, ut hic:

or, the converse, i.e., with the second in the place of the first, and the first in the place of the second, as here:





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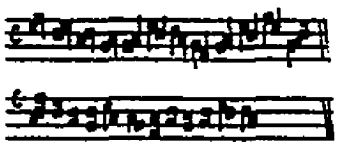
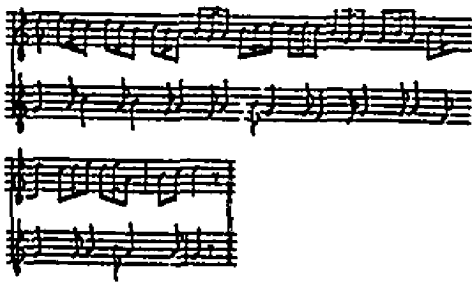
[40]Mode VI as a distinct mode must be considered to be the rhythmical equivalent of Mode I in order for II against VI to be considered rectus against rectus with converse ordering. It should be noted that converse orderings are rarely found in practical examples. When such an arrangement does occur, most often the two voices do not begin at the same time. See Pro patribus, below, p. 223.

Item primus contra sextum secundum ordinem secundi dupliciter: aut primus in loco primi et sextus in loco secundi, ut hic:

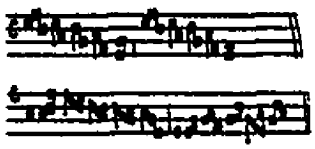
Likewise, the first against the sixth with the ordering of the second may be of two kinds: either with the first in the place of the first and the sixth in the place of second, as here:

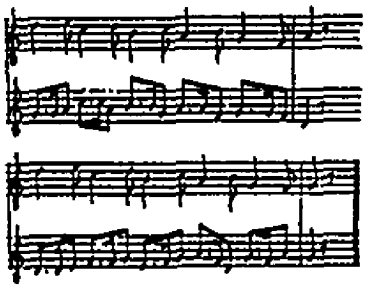




aut e converso, scilicet sextus in loco primi et primus in loco secundi, ut hic apparet:

or, the converse, i.e., the sixth in the place of the first, and the first in the place of the second, as it appears here:[41]



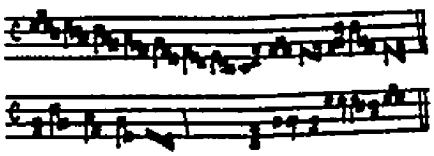


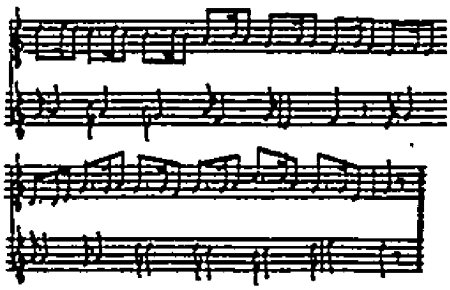
Secundus sexto dupliciter: aut secundus loco primi et sextus loco secundi:

The second against the sixth may be of two kinds: either with the second in the place of the first, and the sixth in the place of the second:

---

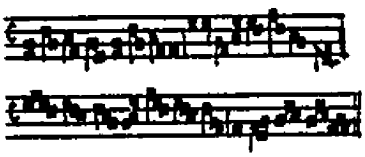
[41]The example provided illustrates rectus against rectus with the same ordering, rather than with converse ordering. For this example Mode VI should be notated as:  . However, because of the number of repeated tones involved, the preferred form of notation could not be used.

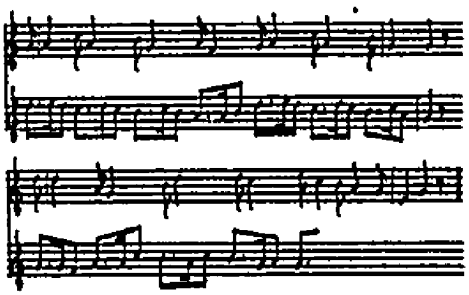




aut e converso, scilicet sextus in loco primi et secundus in loco secundi, ut hic:

or, the converse, i.e., the sixth in the place of the first, and the second in the place of the second, as here:



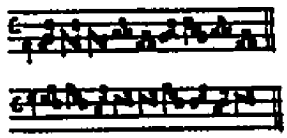


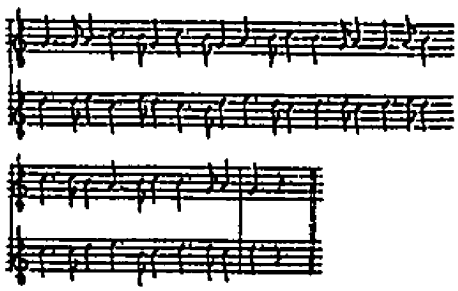
Modus per ultra mensuram sumitur dupliciter: aut eodem ordine, aut converso.
Eodem ordine dupliciter: aut seipsum aut ad reliquum ad rectum.

A mode per ultra mensuram [against a mode per ultra mensuram] may be of two kinds: Either with the same ordering, or, with the converse. With the same ordering may be of two kinds: either against itself, or against some other (or against a rectus [with the same ordering]).

Ad seipsum tripliciter: aut tertius ad seipsum, ut hic patet:

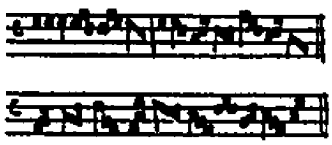
Against itself may be of three kinds: Either the third against itself, as this shows:

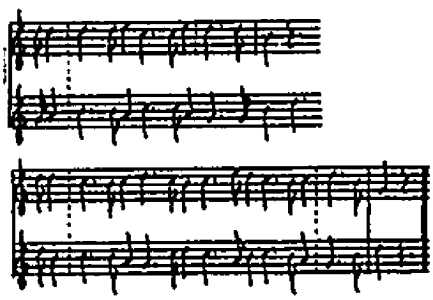




aut quartus ad seipsum, ut hic:

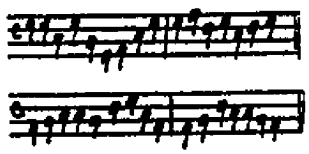
or, the fourth against itself, as here:

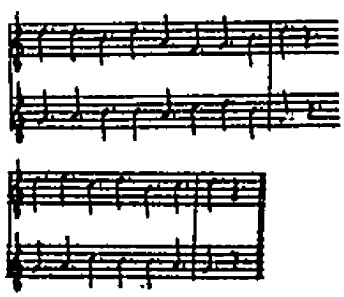




aut quintus contra seipsum, ut in exemplo subsequenti:

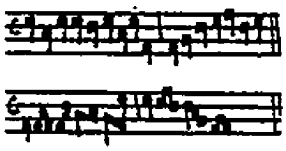
or, the fifth against itself, as in the following example:





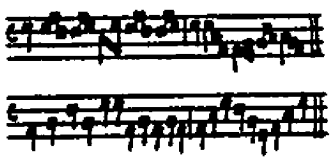
Modus per ultra mensuram ad reliquem vel

ad rectum in eodem ordine sumitur dupliciter: aut tertius contra quintum, aut quartus ad quintum. Tertius ad quintum dupliciter: aut tertius in loco primi et quintus loco secundi:

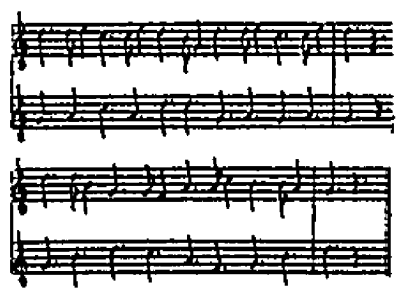


A mode per ultra mensuram against some other [mode per ultra mensuram] or against a rectus with the same ordering may be of two kinds: Either the third against the fifth, or the fourth against the fifth. The third against the fifth may be of two kinds: Either with the third in the place of the first, and the fifth in the place of the second:

aut e converso, scilicet quintus in loco primi et tertius in loco secundi, ut hic:

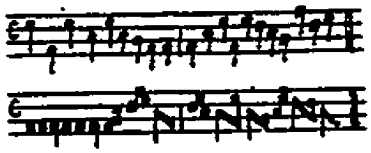


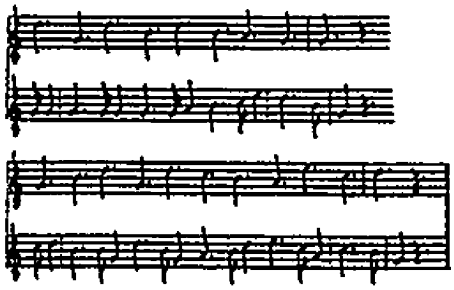
or, the converse, i.e., with the fifth in the place of the first, and the third in the place of the second, as here:



Quartus contra quintum cupliciter: aut quartus in loco primi et quintus in loco secundi:

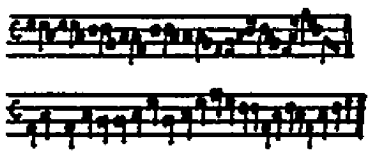
The fourth against the fifth may be of two kinds: Either with the fourth in the place of the first, and the fifth in the place of the second:

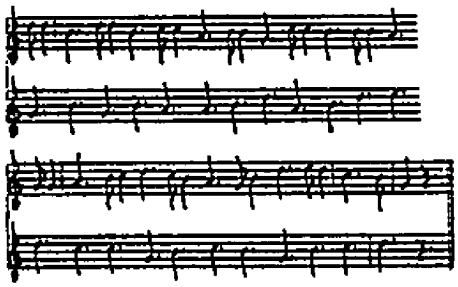




aut fiet converso, scilicet quintus in loco primi et quartus in loco secundi, ut hic apparet:

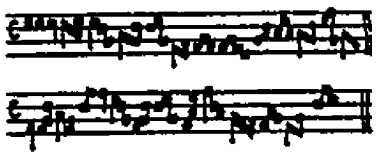
or, the converse, i.e., the fifth in the place of the first, and the fourth in the place of the second, as it appears here:

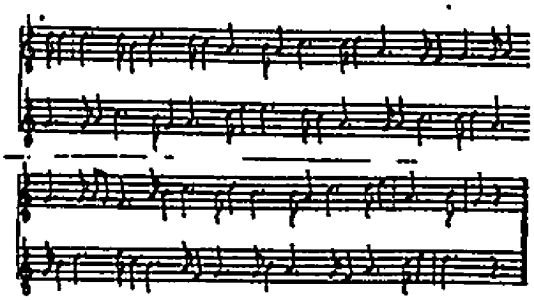




Modus per ultra mensuram ad modum per ultra mensuram ordine converso sumitur dupliciter vel etiam tripliciter: aut tertius quarto aut tertius quinto aut quartus quinto. Tertius quarto potest dupliciter combinari: aut tertius sumetur in loco primi et quartus in loco secundi, ut in hoc exemplo apparet:

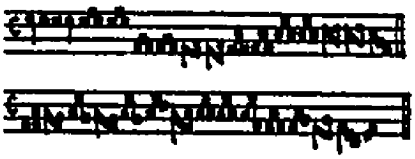
A mode per ultra mensuram against a mode per ultra mensuram with opposite ordering may be of two, or sometimes three, kinds: Either with the third against the fourth, or the third against the fifth, or the fourth against the fifth. The third against the fourth may be combined in two ways: Either with the third in the place of the first and the fourth in the place of the second, as it appears in this example:





aut e converso, scilicet quartus in loco primi et tertius in loco secundi, ut hic:

or, the converse, i.e., with the fourth in the place of the first, and the third in the place of the second, as here:



Tertius quinto dupliciter: aut tertius in loco primi et quintus in loco secundi:

The third against the fifth[42] may be of two kinds: Either with the third in the place of the first and the fifth in the place of the second:

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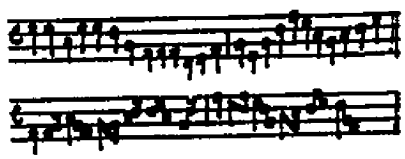
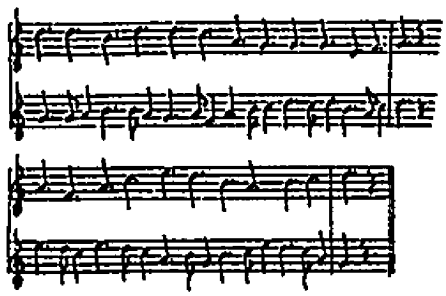
[42]The third against the fifth may be with the same ordering (see above, p. 171), in which case the fifth would be characterized by an initial stress ( ♩.♩.|♩.♩.|♩.♩. etc.); third against fifth with converse ordering would mean that the fifth is ordered like the fourth, i.e.,

V: ♩.|♩. ♩.|♩. etc.
↓ ↓ ↓ ↓
IV: 𝅗𝅥.𝅘𝅥𝅮𝅘𝅥𝅮|𝅗𝅥.𝅘𝅥𝅮𝅘𝅥𝅮 etc.

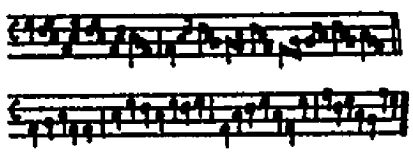
Likewise, IV against V may be with either the same ordering or with the converse.

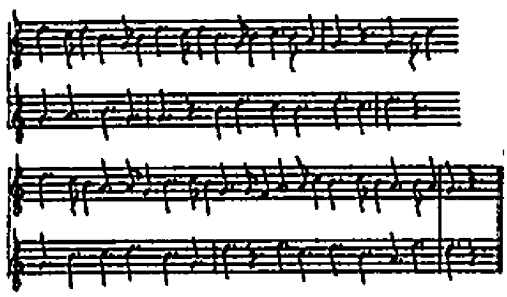




aut e converso, scilicet quintus in loco primi et tertius in loco secundi, ut hic:

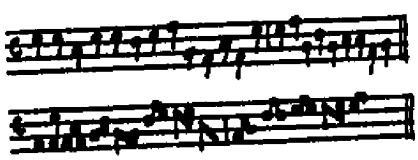
or, the converse, i.e., with the fifth in the place of the first, and the third in the place of the second, as here:

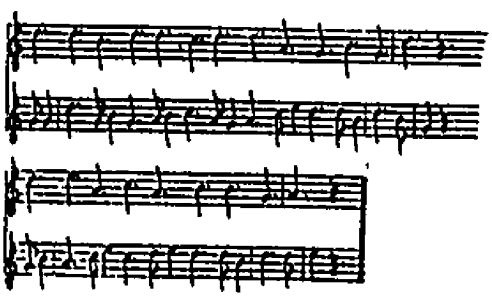




Quartus contra quintum potest dupliciter combinari: aut quartus in loco primi et quintus in loco secundi, ut hic:

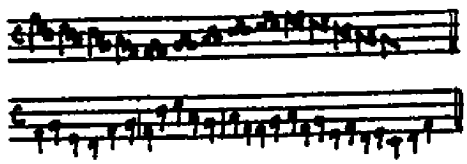
The fourth may be combined against the fifth[43] in two ways: Either with the fourth in the place of the first, and the fifth in the place of the second, as here:



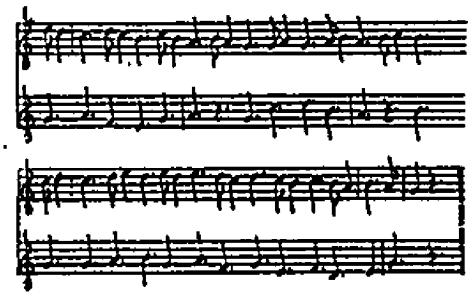


[43]See above, n. 42.

aut e converso, scilicet quintus in loco primi et quartus in loco secundi, ut hic:



or, the converse, i.e., with the fifth in the place of the first, and the fourth in the place of the second, as here:

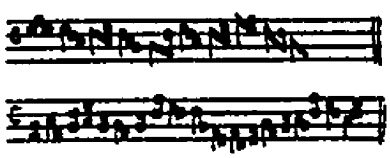


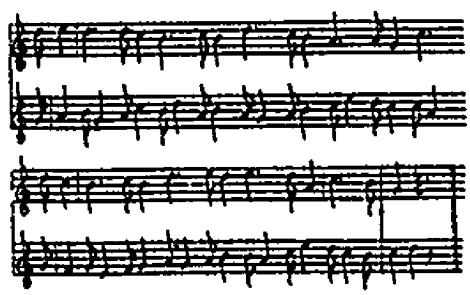
Rectus modus ad modum per ultra mensuram sumitur dupliciter: aut eodem ordine aut converso. Eodem ordine dupliciter: aut par contra parem aut par contra imparem.

A rectus mode against a mode per ultra mensuram may be taken in two ways: Either with the same or with converse ordering. With the same ordering may be of two kinds: Either even against even, or even against odd.

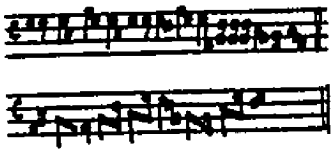
Par contra parem potest dupliciter accipi: aut secundus quarto aut sextus quarto. Secundus quarto dupliciter: aut secundus in loco primi et quartus in loco secundi, ut hic patet:

Even against even may be found in two kinds: Either with the second against the fourth, or the sixth against the fourth. The second against the fourth may be of two kinds: Either with the second in the place of the first, and the fourth in the place of the second, as it shows here:

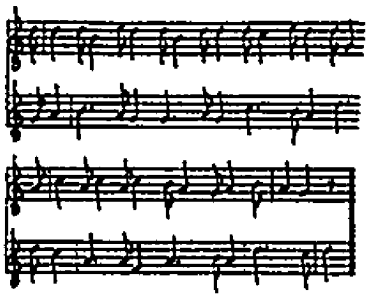




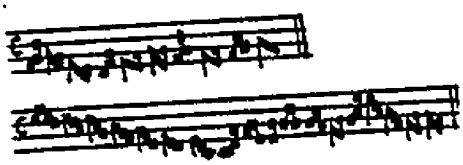
aut fiet converso, scilicet quartus in loco primi et secundus in loco secundi, ut hic:



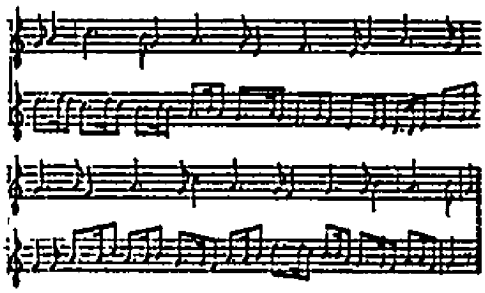
or, the converse, i.e., with the fourth in the place of the first, and the second in the place of the second, as here:



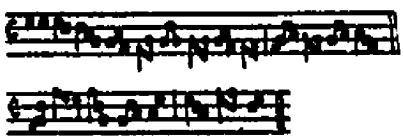
Sextus quarto dupliciter: aut sextus loco primi et quarto loco secundi:



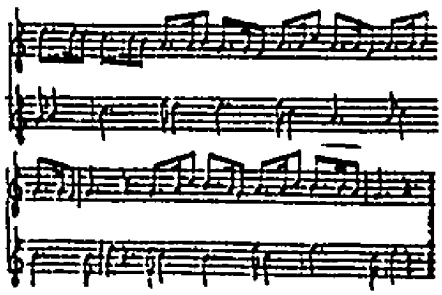
The sixth against the fourth may be of two kinds: Either with the sixth in the place of the first, and the fourth in the place of the second:



aut fiet converso, scilicet quartus in loco primi et sextus in loco secundi:



or, the converse, i.e., with the fourth in the place of the first, and the sixth in the place of the second:



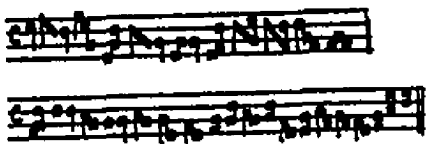
Impar contra imparem sumitur dupliciter: aut primus tertio in tantum quod primus aequipollet debito ordine sexto et sextus

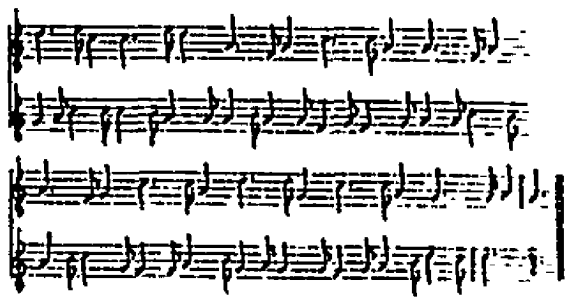
tertio mediante secundo, et ita sumitur primus tertio, sed non proprie sed non reductionem, aut primus quinto.

Odd against odd may be taken in two ways: Either with the first against the third (since the first is equivalent to a required ordering of the sixth, and the sixth [is equivalent to the required ordering] of the third--through the mediation of the second--thus, the first may be combined with the third, but only through reduction and not directly); or, the first against the fifth.

Primus tertio dupliciter: aut primus in loco primi et tertius in loco secundi, ut patet in exemplo subsequenti:

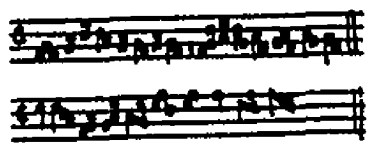
The first against the third may be combined in two ways: Either with the first in the place of the first, and the third in the place of the second, as is shown in the following example:

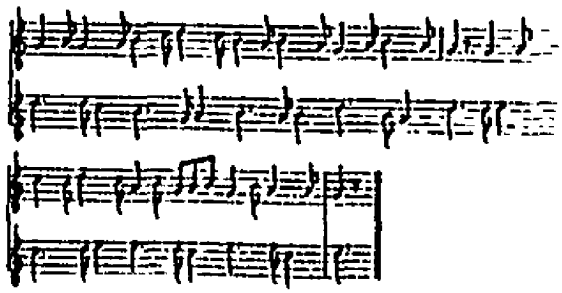




aut fiet e converso, scilicet tertius in loco primi et primus in loco secundi, ut hic:

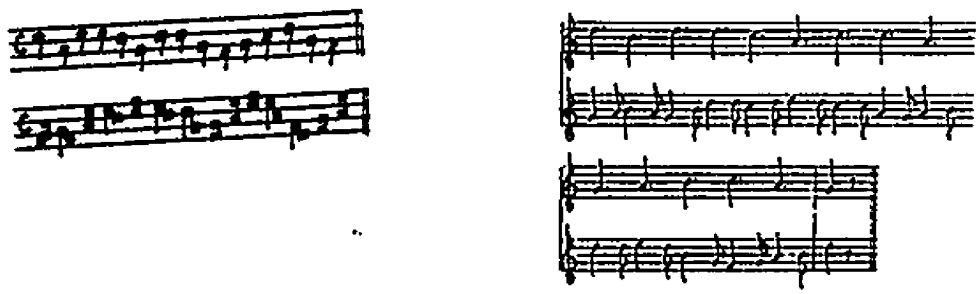
or, the converse, i.e., with the third in the place of the first, and the first in the place of the second, as here:





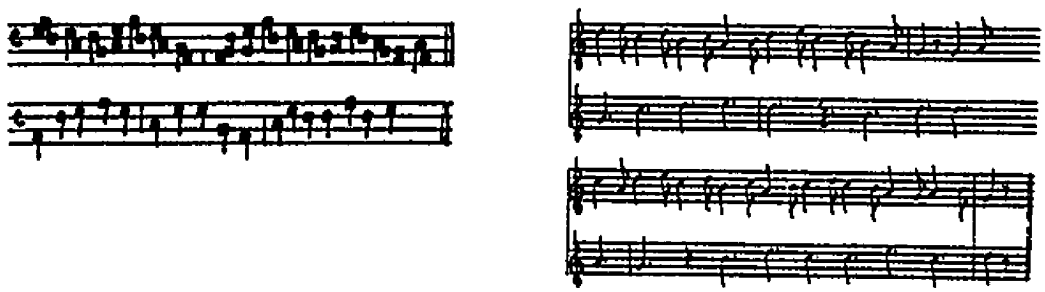
Primus quinto dupliciter: aut primus loco primi et quintos loco secundi:

The first against the fifth may be of two kinds: Either with the first in the place of the first and the fifth in the place of the second:



aut fiet converso, scilicet quintus in loco primi et primus in loco secundi, ut hic:

or, the converse, i.e., with the fifth in the place of the first and the first in the place of the second, as here:



Sextus quinto dupliciter: aut sextus in loco primi et quintus in loco secundi, ut hic:

The sixth against the fifth in two ways: Either with the sixth in the place of the first, and the fifth in the place of the second, as here:[44]

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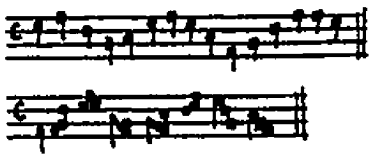
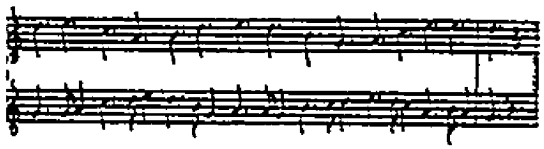
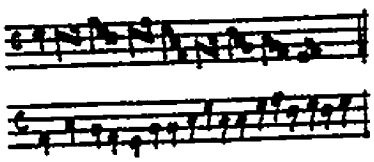
[44]The example which is given is that of the third mode against the fifth. Furthermore, the second of the two ways that the sixth may be combined against the fifth is described as the third against the fifth. (See below, p. 179.) The category that is under discussion is odd against odd, which would indicate that it should be III

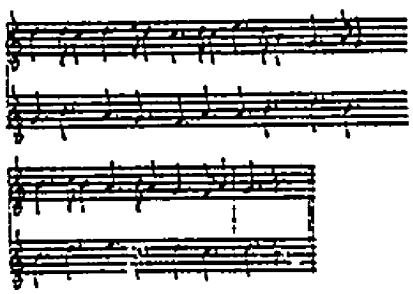




aut fiet converso, scilicet quintus in loco primi et tertius in loco secundi, ut hic apparet:

or, the converse, i.e., with the fifth in the place of the first and the third in the place of the second, as it appears here:





Par contra imparem sumitur tripliciter: aut secundus contra aliquem aut quartus contra aliquem aut sextus contra aliquem.

Even against odd may be taken in three ways: Either with the second against some other [odd mode], or the fourth against some other, or the sixth against some other.

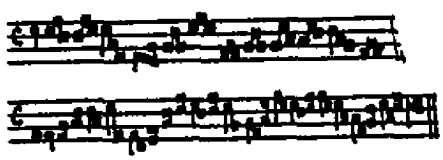
Secundus contra aliquem est dupliciter: aut secundus ad tertius aut idem secundus ad quintum.

The second against some other may be in two ways: Either with the second against the third, or the same second against the fifth.

---

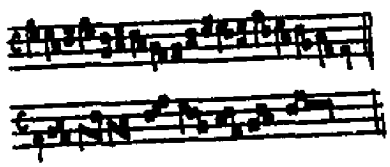
against V. This "mistake" (John's?) is significant for it emphasizes the relationship between Mode III and Mode VI which is inherent in both the notation (which is identical for both modes) and their characteristic rhythms, i.e., Mode III: ; Mode VI: .

Secundus ad tertium potest dupliciter combinari: aut secundus in loco primi et tertius in loco secundi, ut hic patet:

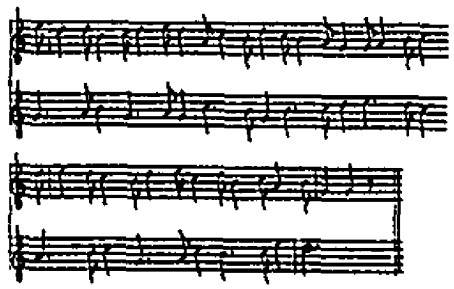


The second may be combined against the third in two ways: Either with the second in the place of the first, and the third in the place of the second, as is shown here:

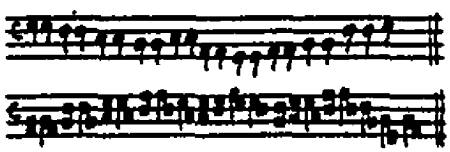
aut fiet converso, scilicet tertius in loco primi et secundus in loco secundi, ut hic:



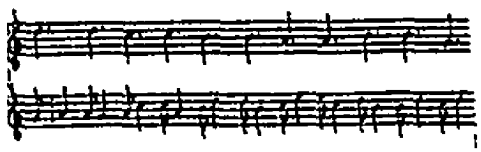
or, the converse, i.e., with the third in the place of the first, and the second in the place of the second, as here:

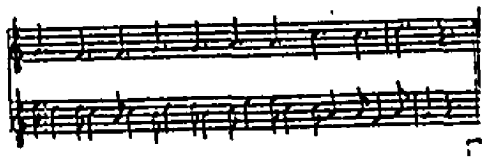


Secundus ad quintum potest accipi dupliciter: aut secundus loco primi et quintus loco secundi, ut hic patet:



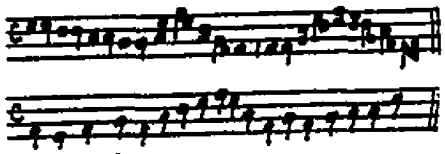
The second against the fifth may be taken in two ways: Either with the second in the place of the first, and the fifth in the place of the second, as is shown here:

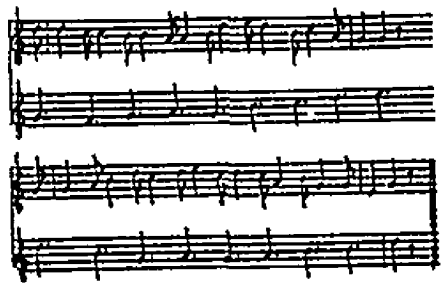




aut e converso, scilicet quintus in loco primi et secundus in loco secundi, ut hic patet:

or, the converse, i.e., with the fifth in the place of the first, and the second in the place of the second, as is shown here:





Quartus contra aliquem potest combinari tripliciter: aut quartus contra primum aut contra tertium aut contra quintum. Sed de istis nullum exemplum traditur, eo quod eorum combinatio raro reperitur.

The fourth may be combined against some other [odd mode] in three ways: Either with the fourth against the first, or against the third, or against the fifth. But concerning these, no example is reported here, because their combination is rarely found anywhere.

Sextus contra aliquem potest combinari tripliciter: aut sextus contra primum aut contra tertium aut contra quintum.

The sixth may be combined against some other in three ways: Either with the sixth against the first, or against the third, or against the fifth.

Sextus contra primum dupliciter: aut sextus loco primi et primus loco secundi, aut e converso. Sed quia horum exempla

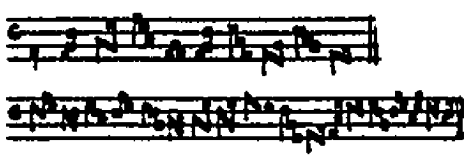
The sixth against the first may be in two ways: Either with the sixth in the place of the first, and the first in the place of the second, or vice versa. But since these examples were given

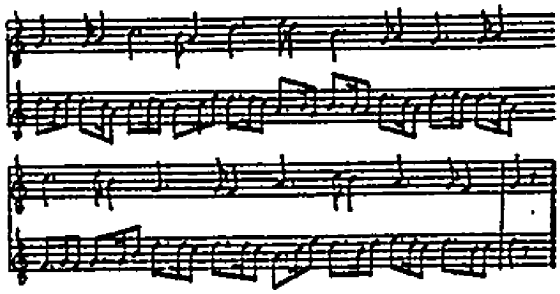
superius dantur, idcirci quoad praesens relinquantur.

above, they are not repeated here.

Sextus ad tertium dupliciter: aut sextus in loco primi et tertius loco secundi, ut hic:

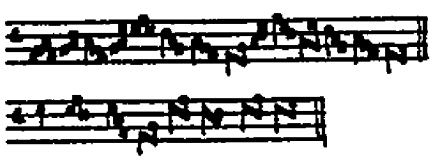
The sixth against the third may be in two ways: Either with the sixth in the place of the first, and the third in the place of the second, as here:

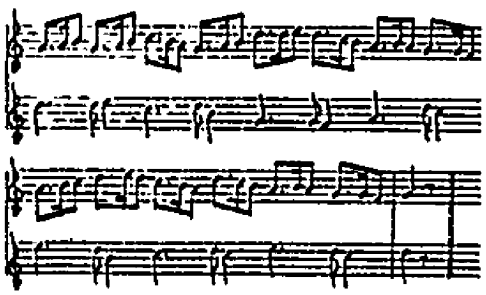




aut fiet e converso, scilicet tertius in loco primi et sextus in loco secundi, ut patet in exemplo subsequenti:

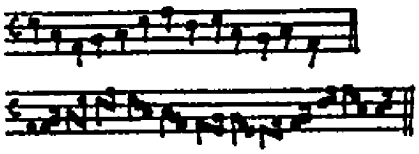
or, the converse, i.e., with the third in the place of the first, and the sixth in the place of the second, as is shown in the following example:

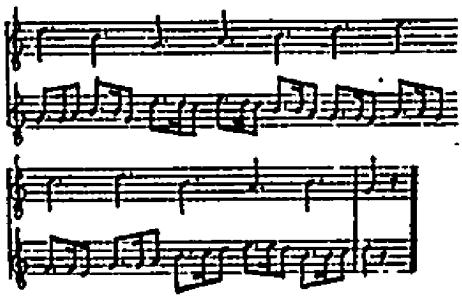




Sextus contra quintum dupliciter: aut sextus in loco primi et quintus in loco secundi, ut hic:

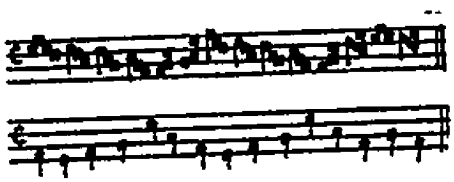
The sixth against the fifth may be in two ways: Either with the sixth in the place of the first, and the fifth in the place of the second, as here:

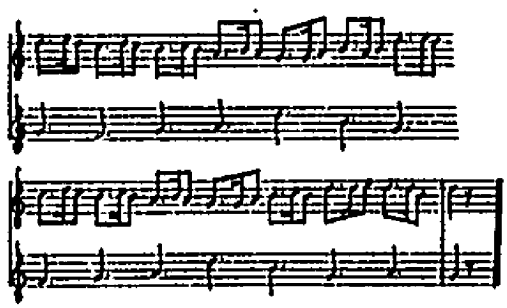




aut fiet e converso, scilicet quintus in loco primi et sextus in loco secundi, ut hic:

or, the converse, i.e., with the fifth in the place of the first, and the sixth in the place of the second, as here:





Et sic de singulis ad invicem secundum aequipollentiam aliquorum modorum.

And so forth for each one in turn, according to the equivalence of all other modes.

Expliciunt omnes combinationes modorum quantum sufficit ad discantum.

Having explained all combinations of the modes, this is sufficient for discant.

Dicto de discantu dicendum est de copula, quae multum valet ad discantum, quia discantus nunquam perfecte scitur nisi mediante copula.

Having spoken about discant, copula (which is of great value to discant) ought to be considered, because discant can never be understood perfectly except by means of copula.

Unde copula dicitur esse id quod est inter discantum

Hence, copula is said to be that which is between discant

et organum. Alio modo dicitur copula: Copula est id quod profertur recto modo aequipollente unisono. Alio modo dicitur: Copula est id ubicumque fit multitudo punctorum. Punctus est hic sumitur est ubicumque fit multitudo tractuum. Et ista pars dividitur in duo aequalia. Unde prima pars dicitur antecedens, secundo vero consequens, et utraque pars continet multitudinem tractuum. Unde tractus fit ubicumque specierum univoce, ut unisoni aut toni secundum numerum ordinatum ordine debito. Et haec sufficiant ad discantum.

and organum. Copula is defined another way as follows: Copula is what is produced by rectus measurement as equivalent to a single sound. It is also described in another way: Copula is where there are many puncti. A punctus is wherever there are a number of tracti, and it may be divided into two equal parts. Hence, the first part is called the antecedent and the second a true consequent. Hence, a tractus is wherever there are several kinds of single vocables, whether unisons or other intervals, according to the regulated pattern of the required ordering. And this suffices for discant.

Organum dicitur multipliciter, generaliter et specialiter. De organo generaliter dictum est superius, nunc autem dicendum est de ipso in speciali.

The term organum is used in several ways: in a general sense and in a specific sense. We have discussed organum in a general sense above. Now, however, it ought to be discussed in a specific sense.

Organum in speciali dicitur dupliciter: aut per se aut cum alio. Organum per se dicitur id esse quidquid profertur seundum aliquem modum non rectum sed non rectum. Rectus modus sumitur hic ille, per quem discantus profertur. Non rectus dicitur ad differentiam alicujus rectae, quae longae et breves rectae sumuntur debito modo primo et specialiter, in non recta vero sumitur longa et brevis non primo modo sed ex contingenti.

Specifically, there are two kinds of organum: either per se or cum alio. Organum per se is said to be that which is produced not by a rectus mode, but by a non-rectus mode.[45] A rectus mode is what discant is made from. A mode is called non-rectus in respect to a given rectus mode (in which the longs and shorts are taken as rectus, as is required especially in the first mode; the longs and shorts in the first mode occur as non-rectus only incidentally).

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[45] I.e., ultra mensuram or oblique modes (III, IV, and V).

Organum autem non rectum dicitur quidquid profertur per non rectum mensuram, ut dictum superius.
Et ejus aequipollentia tantum se tenet in unisono usque ad finem alicujus puncti, ut secum convenit secundum aliquam concordantiam.
Et hoc sufficit de organo quantum ad discantum.

Furthermore, organum non-rectus is said to be whatever is produced through non-rectus measurement,[46] as it is described above. And the equivalent part holds itself to one tone, up to the end of the punctus, where the two parts will come together in some kind of concordance.[47]

This is sufficient for the description of organum as far as discant is concerned.

Longae et breves in organo tali modo dignoscuntur: scilicet per consonantiam, per figuram et per paenultimam. Unde regula: omne id quod accidit in aliquo secundum virtutem consonantiarum dicitur longam. Alia regula: quidquid figuratur longum secundum organa ante pausationem vel loco consonantiae dicitur longum. Alia regula: quidquid accipitur ante longam pausationem vel ante perfectam concordantiam dicitur esse longum.

The longs and shorts in organum are recognized in this manner: namely, by consonance, by the notation, and by the penult. Hence the rule: Whatever occurs as consonant with another is called a long. Another rule: Whatever is notated as a longa in the organal voice, either before a rest or at a place of consonance, is said to be long. Another rule: Whatever occurs before a long rest or before a perfect consonance is said to be long.[48]

Sequitur de

The following is about

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[46]I.e., with a non-rectus or oblique mode.

[47]In this sentence, punctus has two possible meanings: phrase and/or ligature.

[48]Thus, a final short, followed by a long rest, is actually a long. See above, p. 78.

TRIPLICIBUS.

Triplum est commixtio trium sonorum secundum habitudinem VI concordantiarum, scilicet unisonus, diapason etc., et hoc in eodem tempore. Et ista est communis descriptio. Specialiter autem sic describitur: triplum est cantus proportionatus aliquas conveniens et concordans cum discantu. Et sic est tertius cantus adjunctus duobus.

Unde prima regula: triplum specialiter sumptum debet ex remoto concordare primo et secundo cantui, nisi fuerit concordantia insimul per sonum reductum, quod sibi aequipollet.

Proprium est diapason et infra; remotum est duplex diapason et infra usque ad diapason; remotissimum est duplex diapason et infra usque ad duplex diapason.

Diapason dicitur dupla; diapente cum diapason dicitur tripla; bis diapason quadrupla; diapente cum bis diapason sextupla; triplex diapason, quod vix reperitur nisi instrumentis a flatu, dicitur octupla. Et ista probantur maxime per magnam figuram musicalem.

TRIPLA.

Triplum is the mixing together of three sounds at the same time according to the rules of the six concordances (namely, unison, octave, etc.). This is the common description. However, it is described in a more precise manner: Triplum is some proportioned melody agreeing and concording with a discant. Thus, it is a third melody joined to two others.

Hence the first rule: Triplum specialiter ought to be chosen at a range to concord with both the first melody and the second melody. Otherwise, there might be a concordance at the same time, resulting from the reduction of an interval that is equivalent to itself.[49]

The range within an octave is proper; between the double octave and the octave is "remote"; between the triple and double octaves is "most remote."

The octave is called dupla; major twelfth is called tripla; double octave, quadrupla; two octaves and a fifth, sextupla; triple octave (which is rarely found except for wind instruments), is called octupla. This range is used especially for large musical forms.

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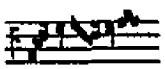
[49]In a proper sense, triplum indicates a particular texture or sonority, resulting from the simultaneous combination of three independent voices. If confined to a very small range, numerous unisons would result, causing the apparent texture to be that of only two, not three, voices.

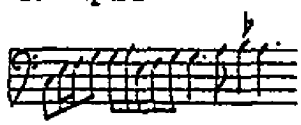
Multa in praedictis dimisimus, quae partim continentur in triplicibus nunc praepositis et parti in quadruplicibus postpositis. Primum est de errore; secundum de eorundem colore; tertium est in positione brevium in propriis locis; quartum est nobilitate soni; quintum est de dissonantia, ut sit concordantia; sextum est de copulatione soni.

We omitted many things above, because they are contained partly in tripla, now under discussion, and partly in quadrupla, which is to be dealt with below. The first of these concerns variability;[50] the second, their colors; the third concerns putting the short in a particular place; the fourth is the ennobling of a sound;[51] the fifth concerns concordant dissonance; and the sixth concerns the copulation of sounds.

Error tertii soni quando ordinamus sonos male convenientes, quod per quator regulas cognoscimus, quarum prima talis est: quotiens ascendimus per tonos integros et postea jungendo semitonium in tonus, converitur et ultimus tonus in semitonium. Quod fit mediante synemmenon, ut patet in exemplo:

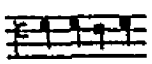
The variability of the third tone results when we arrange poorly agreeing sounds. These we know through four patterns, of which the first is the following: Whenever we ascend by integral tones, by joining a semitone to a tone, the final interval is changed to a semitone. This is accomplished by means of the synemmenon, as is shown in this example:



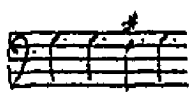


Alia regula de eodem est hic: si descendimus tonum et iterum tonum ascendimus, ibi similiter per synemmenon fiet subtractio toni vel soni, ut hic:

Here is another pattern for the same thing: If we descend a tone and then ascend a tone, then similarly, through the synemmenon, the tone or interval is reduced, as here:



Cunctipotens



Cunctipotens

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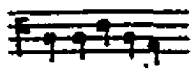
[50]Literally, "wandering," referring to the variability of certain pitches and the application of ficta.

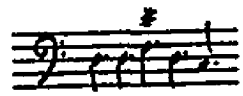
[51]Referring to the rhetorical devices of amplification.

Alia regula de eodem: quotiens ascendimus et iterum descendimus, ascensus largiatur; et hoc fit aliquotiens per synemmenon, aliquotiens autem non, ut hic:



Beata nobis

Another rule for the same thing: Whenever we ascend and then we descend, the ascent may be made large; this is sometimes accomplished by the synemmenon and sometimes not, as here:



Beata nobis

Quartua regula est: continuatio sonorum si post semitonium fit vel tonus et conveniens fit super quietam, paenultima proportio minuitur, sive fuerit semitonium vel tonus:

The fourth rule is: If the sounds continue after a tone or semitone, and concordance is reached before a rest, then the penultimate proportion is lessened; this may be either a semitone or a tone:

Istae regulae tenentur in cantu plano, sed aliquotiens restringuntur in discantu propter habitudinem concordantiae ipsius discantus, quia subtilis debet cantum suum conformare respectu superioris cantus vel inclinare vel acuere, ut melius conformetur concordantiae inquantum poterit supradictas regulas observando.

These rules are observed in plainsong, but they are sometimes restricted in discant, because of the restrictions of the concordances in the discant itself, because the lower part must conform its melody in respect to the upper part, either by turning or sharpening, so that it may be better adapted to concordance as much as possible, observing the rules described above.

Color est pulchritudo soni vel objectum auditus per quod auditus suscipit placentiam. Et fit multis modis: aut

Color[52] is the beauty of sound or the object of hearing through which the ear receives pleasure. It is achieved in several ways: Either by the

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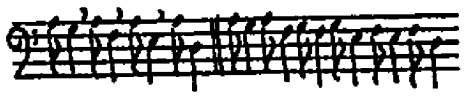
[52]Again, John uses a musical analogue for a rhetorical device. Color refers to figures of speech used for embellishment and amplification.

sono ordinatio, aut in florificatione soni aut in repetitione ejusdem vocis vel diversae.

ordering of an interval, or in the florification of an interval, or by the repitition in the same or in a different voice.

In sono ordinatio fit dupliciter: aut in respectu unius secundum proportionem infra diapente, ut hic:

For the ordering of an interval, there are two kinds: Either in respect to one interval within the range of the perfect fifth, as here:

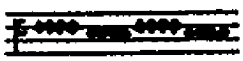


aut respectu plurium infra diapente proprie, ut patet in exemplo, et per abundantiam usque ad triplum. Et tali ordinatione utimur in instrumentis triplicibus et quadruplicibus.

or, respecting several intervals, properly below the perfect fifth, as is shown in the example, and so forth through abundance up to the triplum. We use such ordering in instrumental tripla and quadrupla.

In florificatione vocis fit color, ut commixtio in conductis simplicibus. Et fit semper ista commixtio in sonis conjunctis et non disjunctis, ut hic apparet:

Color as florification of a tone occurs as the mixing together in simple conductus. Such mixing together is always in conjunct and not disjunct intervals, as it appears here:



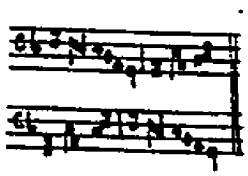
Repetitio ejusdem est color faciens ignotum sonum esse notum, per quam notiatiam auditus suscipit placentiam. Et isto modo utimur in rondellis et cantilenis vulgaribus.

Repetition in the same voice is a color which makes an ignoble sound become known, through which familiarity the ear receives pleasure. It is used this way in rondelli and in popular songs.

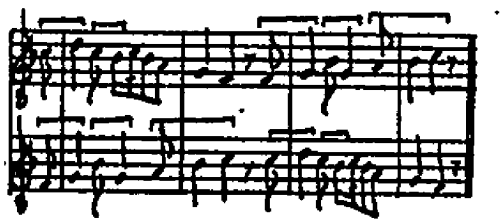
Repetitio diversae vocis est idem sonus repetitus in tempore diverso a diversis vocibus. Et iste modus reperitur in triplicibus, quadruplicibus et conductis et multis aliis, ut patet

Repetition in a different voice is the same pattern repeated at different times in different voices. This kind is found in tripla, quadrupla, conductus, and many others, as is shown in the example

in exemplo subposito:



placed below:



Positio brevium in primo modo est quod ipsa brevis debet sic poni in concordantia sive discordantia, ut habeat ordinationem suam cum sono anteposito et postposito. Et per viam alicujus coloris, sive fuerit in eadem voce sive in diversis.

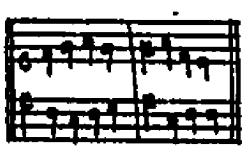
The placement of shorts in the first mode is such that the short itself ought to be placed so that, whether in concordance or discordance, it may have its own ordering in relation to the preceding and following sounds. This is accomplished by means of some color, whether it is in the same voice or in different voices.

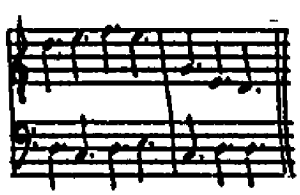
Nobilitatio soni est augmentatio ejusdam vel diminutio per modum superbiae; in augmentatione ut melius vidatur; in grossitudine ut bene audiatur; in fictione ut melius appetatur; in dimissione ut spiritus recurventur.

The ennobling of a sound is the augmentation of the same, or diminution in the manner of embellishment; in augmentation so that it may seem better; in greatness so that it may be heard better; with ficta so that it may be more desirable; and in sending out so that the spirit may be recovered.

Dissonantia ut sicut concordantia est inter duplex diapason et diapente et diapason, una dissonantia vel duplex bene concordat, ut hic:

Concordant dissonance is between the double octave and the twelfth, where one or two dissonances concord well, as here:





Copula duplex est: una quae est medium inter organum purum et discantum. Altera est quae fit in abscissione sonorum aut sumendo tempus post tempus et tempora post tempora. Et iste modus sumitur flaiolis. Et aliqui vocant ochetum modum istum.

Copula is of two kinds: One is what is the mediant between organum purum and discant. Another is brought about by the truncation of sounds or by subtracting tempus after tempus and tempora after tempora. This type is called flaiolis.[53] Others call the same thing hocket.

Sequitur de

The following is about

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[53]Perhaps this should be flaviolis, indicating an instrumental form.

QUADRUPLICIBUS.

Sonis praepositis et praeparatis quartus superveniens in debita quantitate ordinatus, et isto modo quadruplum nuncupatur. Et sciendum quod duplex est via quadrupli. Una est secundum viam propriam, alia secundum viam communem.
Et ad hoc bene percipiendum talis est noster processus.

Proprius situs primi dicitur diapason et infra. Proprius situs secundi est in duplici diapason et infra. Proprius situs tertii est in duplici diapason et infra cum commixtione VI concordantiarum sive in simplicitate sive in compositione ad utrumque. Situs proprius quadrupli in triplici diapason et infra, quod vix in opere ponitur, nisi in instrumentis, ita quod longae in primo modo concordant cum omnibus praedictis, scilicet tribus cantibus praepositis, sive in concordantia simplici sive composita. Sed proprietas praedicta vix tenetur in aliquibus, quod patet in quadruplicibus magistri Perrotini per totum in principio magni volumnis. Quae quadrupla optima reperiuntur et proportionata et in colore conservata, ut manifeste ibidem patet.

QUADRUPLA.

A fourth voice rising above previously prepared voices, and ordered by the required quantities, is called a quadruplum. Let it be known that there are two ways to [compose] a quadruplum. One is according to a proper method, the other according to a common method. By this time this should have been learned well, for such has been our procedure.[54]

The proper range of the first [melody][55] is said to be within the octave. The proper range of the second is within the double octave. The proper range of the triplum is also within the double octave, with the mixing together of the six concordances (either simple or composite) in respect to both. The proper range of the quadruplum is in the triple octave (which is rarely used except in works for instruments) so that the longs of the first mode will concord with all of the others (namely, with the three prepared melodies), either in simple or composite concordance. But this propriety is rarely observed by other composers , as is evidenced by the quadrupla of Master Perotin throughout that first great volume. These quadrupla are found to be excellent, proportioned, and conservative in color, as is manifestly shown therein.

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[54]I.e., contrasting general and specific categories, as has been done for mode, discant, copula, etc.

[55]I.e., the tenor.

Sed quadruplum communiter sumptum, de quo ad praesens intendimus, modum tripli in altitudine et gravitate recipit, quamvis aliquantum excedat in aliquibus locis. Et sic tale quadruplum cum tribus sibi associatis ab aliquibus duplex cantus nuncupatur, quia duo invicem nunc cum ono, nunc cum reliquo adientibus tamquam esset duplex discantus. Percipitur tamen in instrumentis maxime completis.

But, a quadruplum of the common sort, about which we intend to speak now, follows the manner of the triplum in regard to range, although it sometimes exceeds it in certain places. And so, such a quadruplum, associating itself with the triplum, is called by some a double discant. Because the two which are heard alternately, now with one, now with the other, are perceived by the listeners as if they were two discants. Furthermore, it is only totally complete with instruments.

Situs proprius primi infra diapason, ut superius. Situs vero secundi est infra duplex diapason et simplex diapason; tertius in triplici usque in duplici; quartus in quadruplici et infra usque in triplici, et tamen in adjutorio.[55]

The proper range of the first [melody] is within an octave, as above. The true range of the second is between the double octave and the octave. The range of the triplum is between the double and triple octaves. The quadruplum is between the triple and quadruple octaves, although it requires [instrumental] assistance.[55]

Si enim aliquis cantus transcendat per actum et grave suum diapason respectu soni infimi, unus intrat alium per viam accomodationis secundum quod necess fuerit. Sed quia vox humana ad talia non ascendit, ideo quiescamus infra duplex diapason.[56] Si possibilitas sit in voce et procedamus in praedicta quadrupla per ejus regulas.

If, indeed, any melody exceeds its own octave through acute and grave, in respect to the overlapping interval, one enters the other by way of accommodation as is necessary. But because the human voice cannot rise to such things, we remain, therefore, below the double octave.[56] If the voice is capable, then we may proceed into the prescribed quadruplum with its rules.

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[55]Reimer, Johannes, 2:42, assumes that in adjutorio refers to Perotin's triplum Alleluia posui adjutorium.

[56]MS has duplex diapente ("double fifth").

Unde prima regula est, quod si sit de primo modo, ponendae sunt omnes longae in concordantia cum omnibus longis trium subpositorum ut diximus, suo modo.
Alia regula: si ascendis cum uno vel descendis una proportione, vel duas ascende postea vel descende cum reliquo, et sic mutando descensionem vel ascensionem, nunc cum uno nunc cum reliquo, donec veniat ad finem. Et eodem modo intellige de omnibus aliis.
Tertia regula est: pone colores loco sonurum proportionator ignotorum, et quanto magis colores, tanto sonus erit magis notus. Et si fuerit notus, erit placens. Item loco coloris in regione cujuslibet pone cantilenam notam copulam vel punctum vel descensum vel ascensum alicujus instrumenti vel clausam lay.[57]
Haec positio Johannis dicti de Garlandia de musica mensurabili.

Hence, the first rule (if it concerns the first mode) is that all longs must be placed in concordance with all of the longs in the lower three [parts], as we have indicated, in terms of its own mode.
Another rule: If you ascend by one or similarly descend by one, then afterwards, ascend by two or descend with the remainder. Continue in this way by changing descent or ascent, now with one, now with the other, until the end is reached. Determine everything else in the same way.
A third rule is: Put colors in place of relatively obscure sounds, for the more colors, the more the sound will be notable. If it is memorable, it will be pleasing. Or in place of a color put at any point a well known song, copula, or punctus, or any instrumental ascent or descent or clause of a lai.[57]

This is the position of John of Garland concerning mensurable music.

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[57]or, perhaps, clausula. (?)

## APPENDIX B

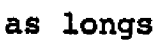
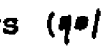
## MUSICAL EXAMPLES

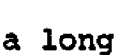
The examples which follow were selected to illustrate many of the statements made in the body of the present study. Specific references are made in the text of this study to the Skolion of Seikelos; Haec dies; Alleluia, Dies sanctificatus; Benedicamus Domino; Cunctipotens; and Deus in adjutorium. The Alleluia, Corpus beatae virginis is included since its tenor is the only known source for Agmina, which is one of the examples used in John of Garland's De mensurabili musica. The two discant clausulae (p. 206) illustrate typical Mode II constructions.

Since they represent a catalogue of the various possible rhythmic structures in discant composition, the forty clausulae of the St. Victor manuscript are also included. The motets were selected in order that they might be compared with their corresponding clausulae.

Although some of the transcription techniques differ from those in general use, whenever possible commonly used signs and devices have been employed. When the original notation is not also provided, all composite figures are denoted by square brackets. Plicae are denoted in the usual manner with a slash through the note stems. The

eighth note denotes one tempus, i.e., the brevis. Although modern clefs (G, transposing G, and F) are used in place of the original C and F clefs, they do not necessarily indicate exact ranges. John of Garland's discussion of proper ranges might indicate that the upper parts should sometimes be performed an octave higher than indicated.[1]

Final shorts followed by a long rest are transcribed as longs (  =  ). Solid barlines are used at cadences which terminate with a rest (or breath) and dotted barlines are used after an upbeat at the beginning of a phrase (to indicate the first downbeat) as well as to indicate changes in rhythmic groupings.

The rhythms should be considered to be entirely metrical, i.e., stress is a function of greater duration. No meter signatures have been used since they are not necessary in purely quantitative rhythmic structures. Longer values always attract greater stress. In no instance should a short value be stressed when it is followed by a long.  always indicates  and never  .

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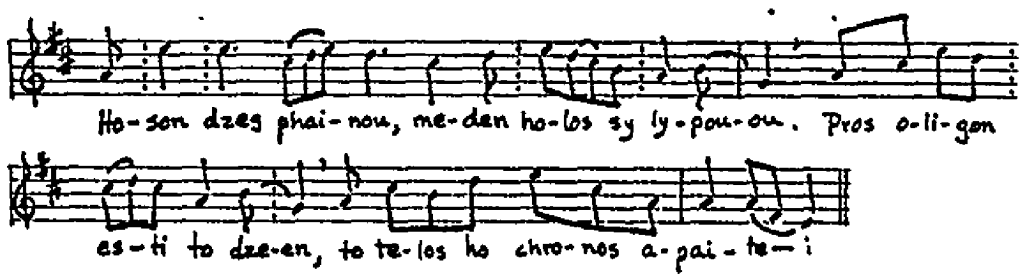
[1]See above, pp. 188, and 192-193.

SKOLION OF SEIKELOS

(Second century B.C.) (MGG 5:col. 847)

C Z Z KIZ I K I Z IK O C OΦ C
Ὅ-σον ζῇς φαι νου μη-δὲν ὅ-λως σὺ λυ-που πρός
K Z I KI K C OΦ C K O I Z K C C αῖ
ὀ-λί-γον ἐσ-τὶ το ζῆν τὸ τέ-λος ὁ χρό-νος ἀπ-αι-τεῖ

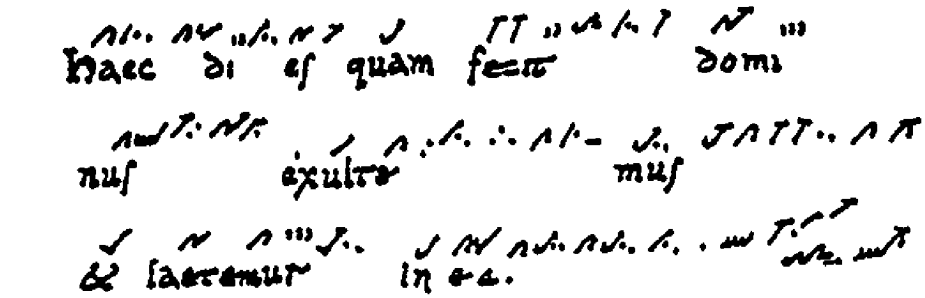


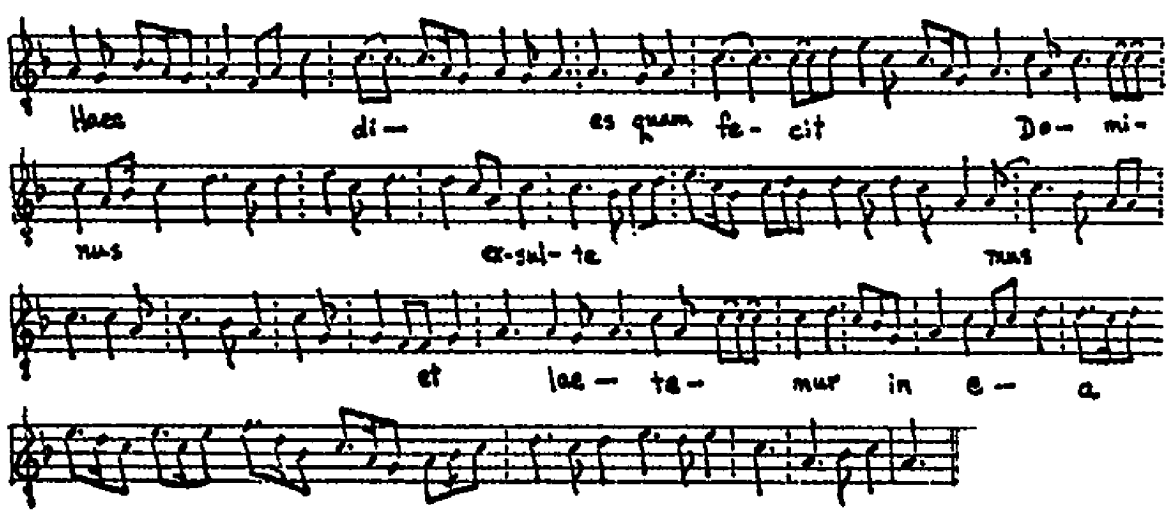

Be cheerful as long as you live; let nothing grieve you.
Life is short, and time claims its reward.

Easter Gradual: HAEC DIES

(St. Gall, Cantatorium, Cod. 359; ca. 900)

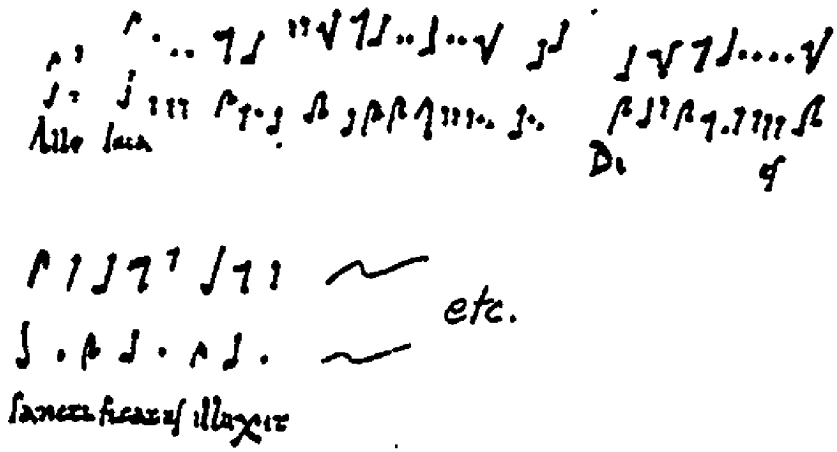
(Apel, Gregorian Chant, Plate I)

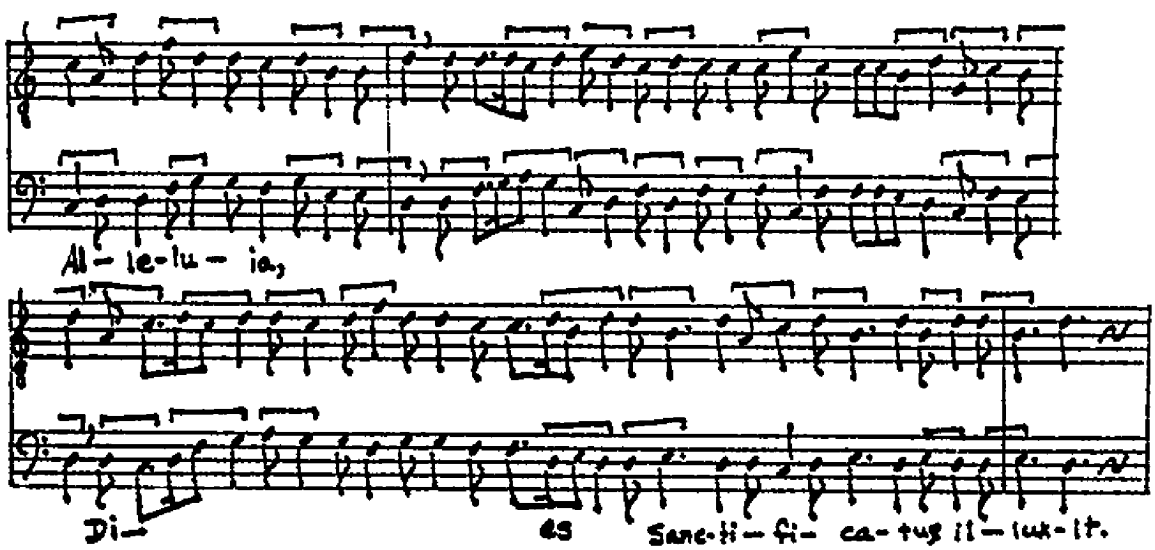





This is the day the Lord has made; let us rejoice and be glad in it.

DISCANT: Alleluia, Dies Santificatus; Eleventh Century.
(Chartres, Bibliotheque de la Ville, 130, fol. 50)
(Parrish, Notation, Plate XXc.)



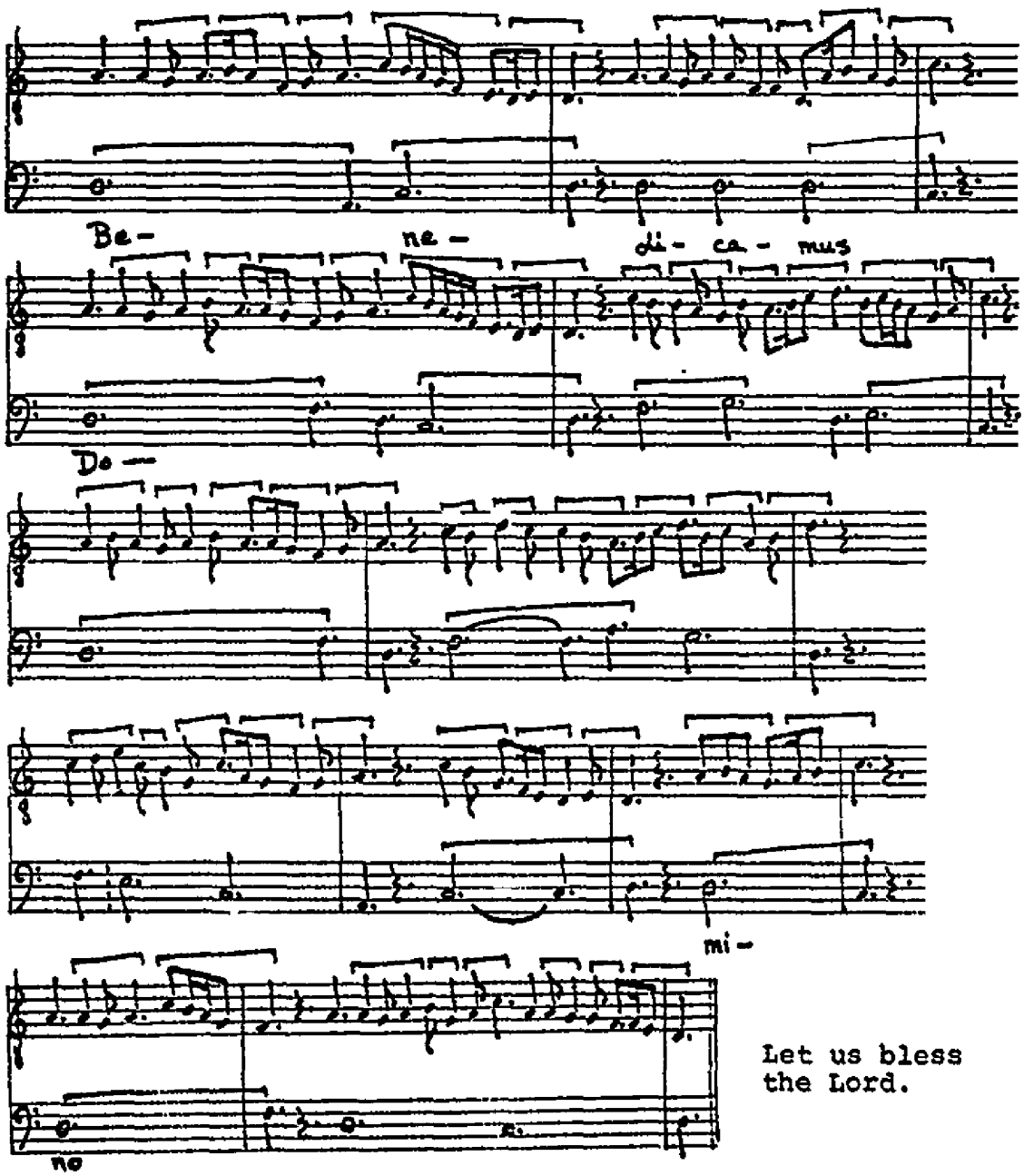




Alleluia. The blessed day shines upon us.

ORGANUM: Benedicamus Domino

(Santiago de Compostela, Cod. Calixtinus, fol. 190, ca. 1125.)

(Based on the transcription in Angles, El Codex musical Las Huelgas, 3:47.)

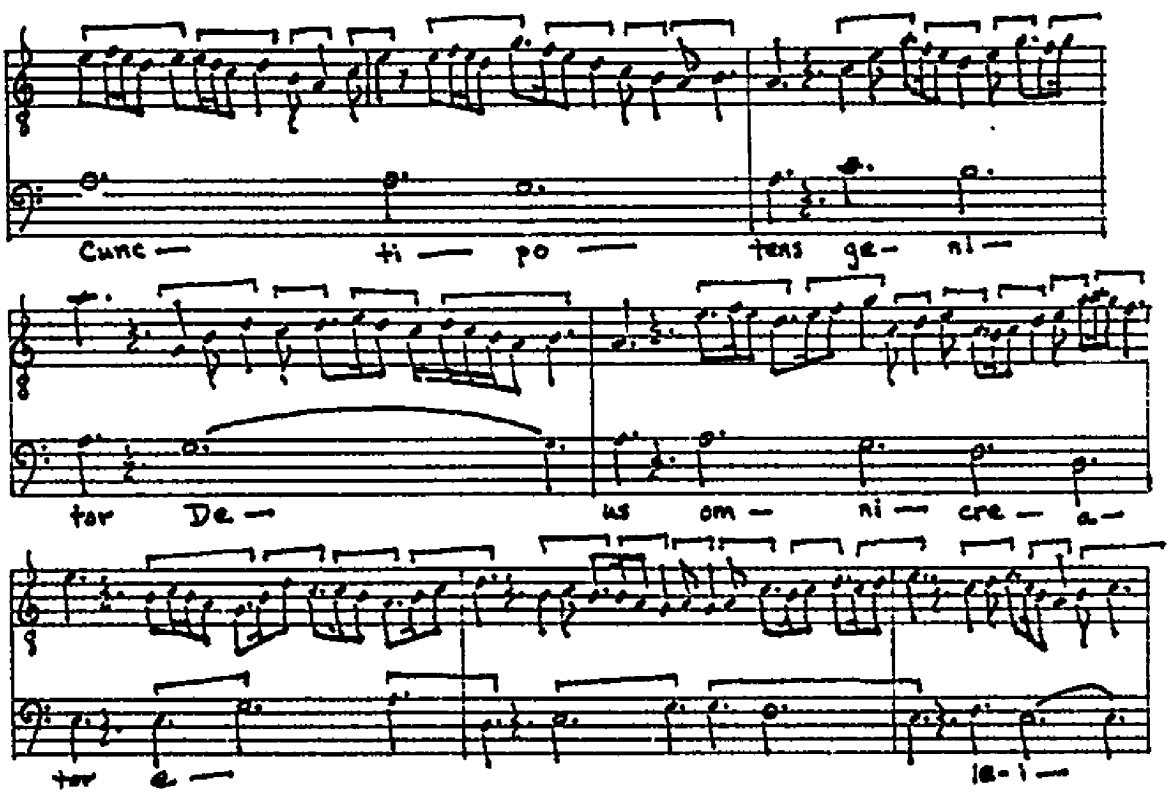


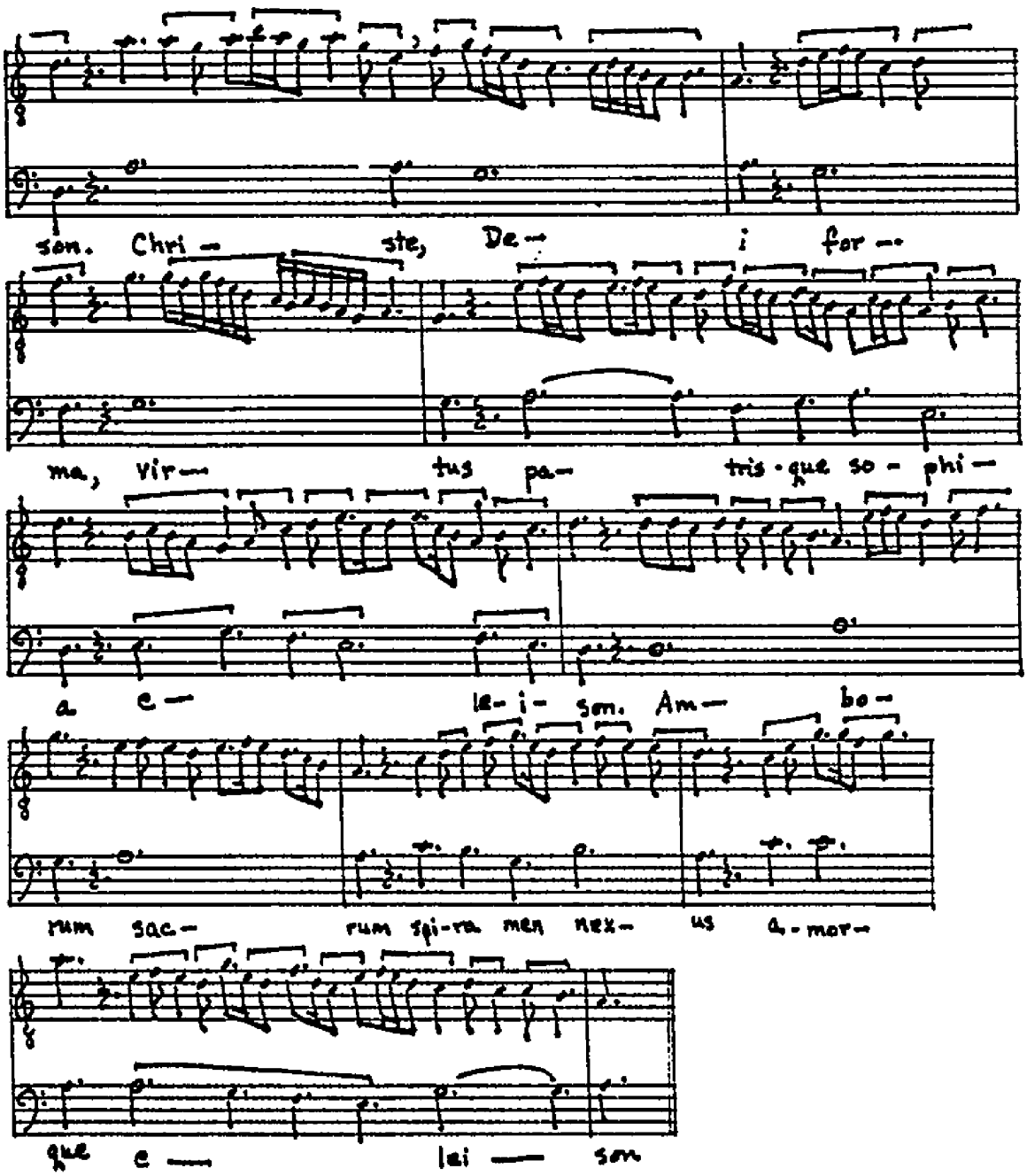

Let us bless the Lord.

ORGANUM: (Kyrie) Cunctipotens.

(Santiago de Compostela, Cod. Calixtinus, fol. 190.)

(Based on the transcription in Angles, El Codex musical de Las Huelgas, 1:61.)

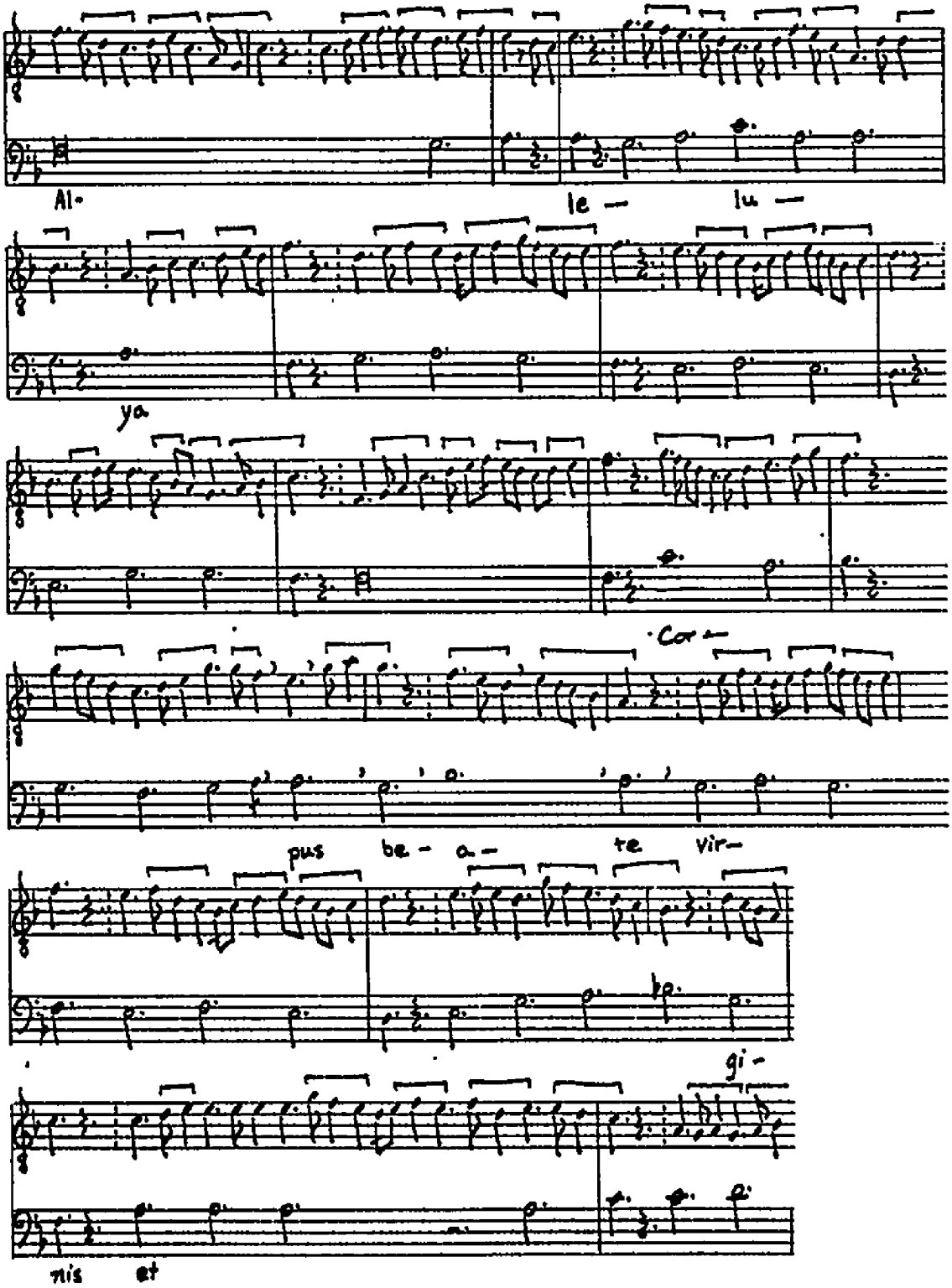


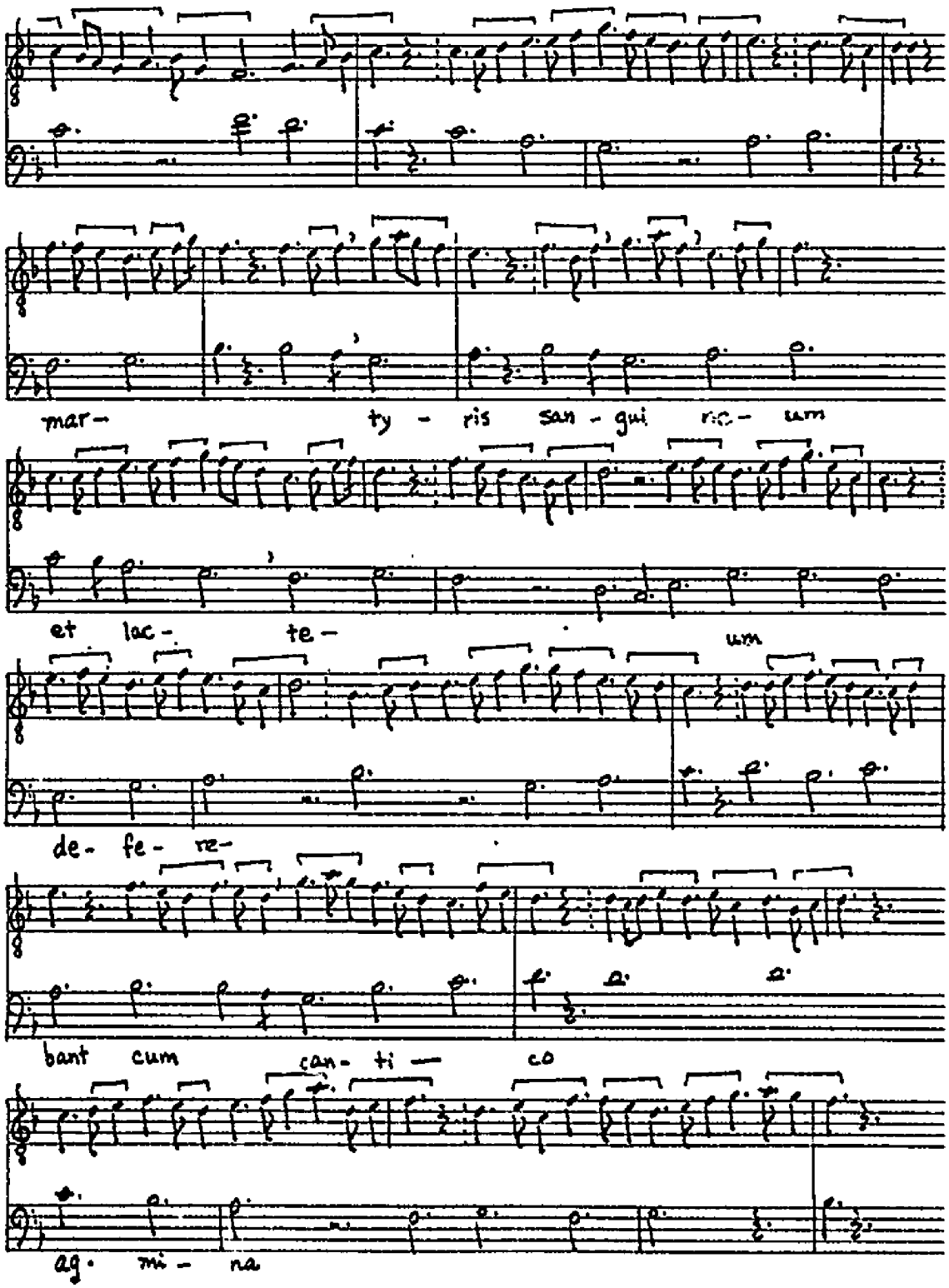


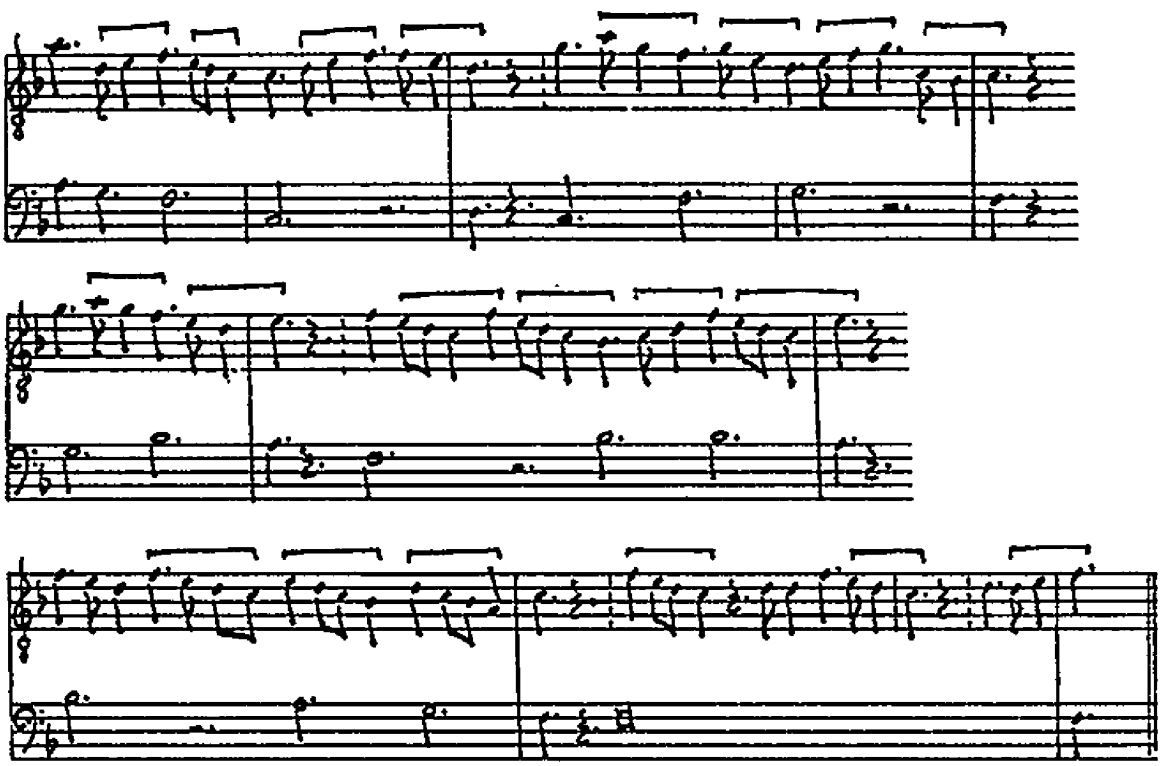

Almighty father, God, creator of all: have mercy.
Christ, formed of God and virtue of the Father: have mercy.
Holy Spirit, love of both joined together: have mercy.

ORGANUM: Alleluia, Corpus beatae virginis. (ca. 1225-1250)

(StV, fols. 286v-287v.)





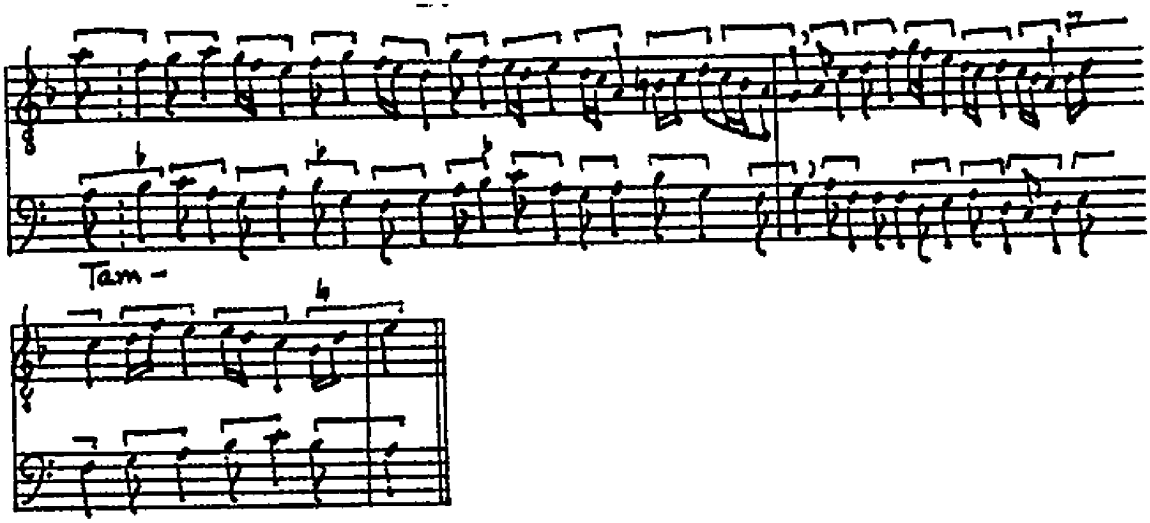


Alleluia. With a song, the army (of angels) carried away the body of the blessed virgin and martyr, bleeding milk.

DISCANT CLAUSULA: Tamquam sponsus.

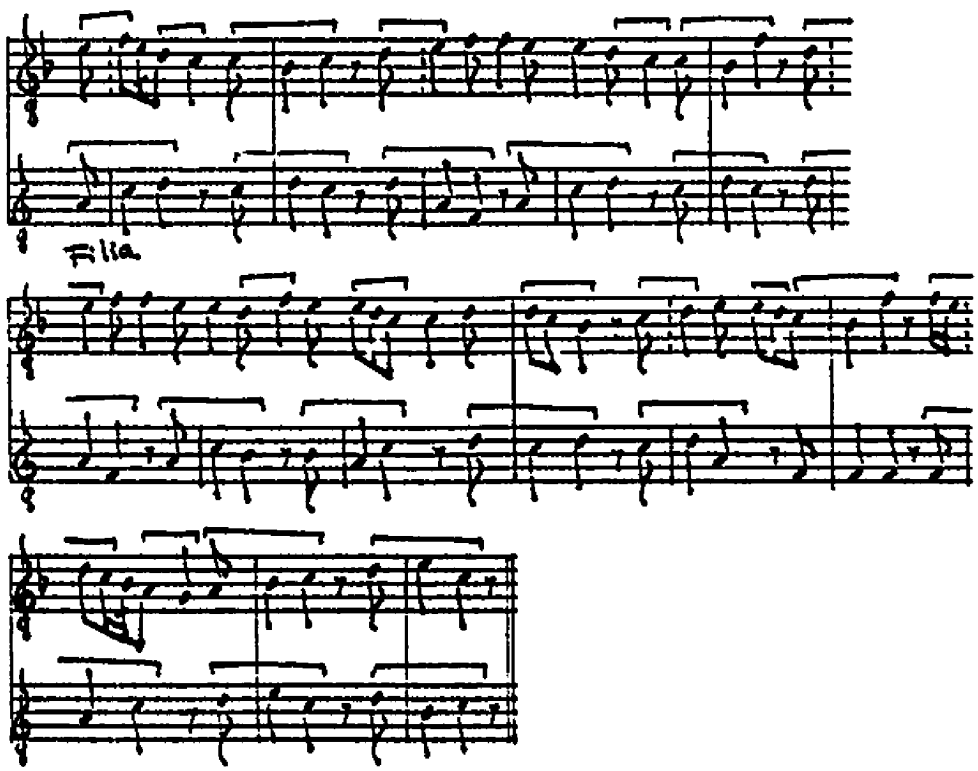
(Leonin, Magnus Liber, ca. 1190)

($W_1$, fol. 17v.)



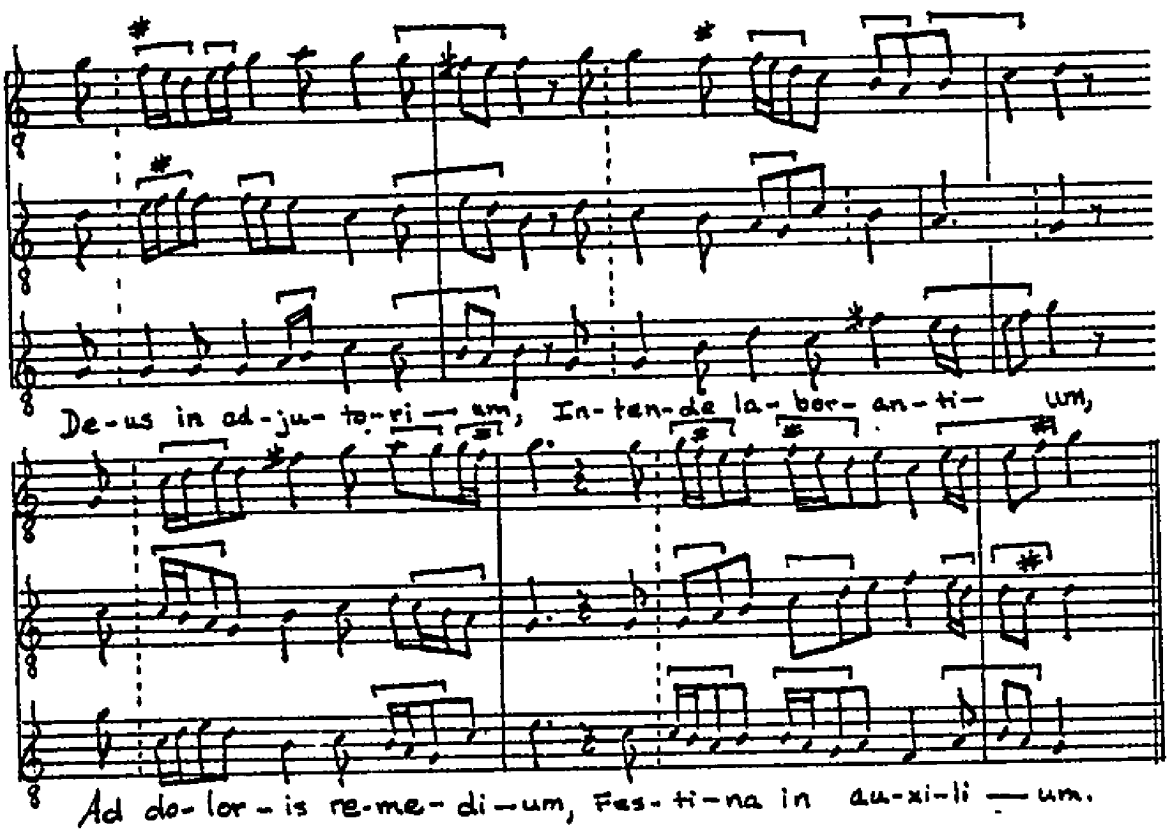

DISCANT CLAUSULA: Filia. (ca. 1200-1225.)

(F, fol. 168.)



CONDUCTUS: Deus in adjutorium (ca. 1225)

(Ba, fol. 62v.)




God, our helper, Direct our labors
Toward the cure of sorrow, Hasten to our aid.

## THE ST. VICTOR CLAUSULAE

The forty clausulae which follow are from the famous St. Victor manuscript (Paris, Bibliotheque Nationale, Latin 15139), fols. 288-292v. Although some of the non-musical material in this manuscript was copied in the twelfth century,[1] it appears that the music was composed between 1220 and 1250.[2] Rokseth, Waite, and Thurston consider these clausulae to have been originally composed as motets and later stripped of their texts.[3] This conclusion seems to be based on the fact that the motet incipits are included in the margins of the manuscript. However, since these incipits were inserted by a later hand, this may not have been the case.

Ludwig termed the clausulae of the St. Victor manuscript "the work of a creative mind active during the reign of Philip Augustus,"[4] who died in 1223. Sanders

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[1]Ethel Thurston, The Music in the St. Victor Manuscript, Studies and Texts 5 (Toronto: Pontifical Institute of Mediaeval Studies, 1959), p. 2.

[2]Levy, "A Dominican Organum Duplum," p. 208.

[3]Rokseth, Polyphonies du XIIIe siècle, 4:70-71; Waite, Rhythm of Twelfth-Century Polyphony, p. 101; and Thurston, Music in the St. Victor Manuscript, p. 1.

[4]Ludwig, Repertorium, p. 145.

has even suggested that the clausulae were composed before 1220 and that "it seems entirely possible that at least some of these compositions represent the late stage of Perotin's career."[5]

Regardless of their origin, several observations can be made concerning these clausulae. Rhythmically, they make up a catalogue or compendium of various styles of discant compostion, ranging from very simple forms in which the tenor is of equal longs of three tempora with the upper part moving in Mode I (numbers 11 and 33) to the very complex hocket forms in numbers 4 and 13. Although some of the motets (found in extant manuscripts) are almost identical with the clausulae, some are so different that either the clausulae must be considered to be highly embellished and expanded versions of the motets, or the motets must be considered to be simplified versions of the clausulae.

Many of the chant sources are also used in John of Garland's De mensurabili musica (Latus, Regnat, Flos. filius eius, Fiat, and Agmina). John's use of Latus for Mode I is almost identical to the tenor for clausula number 6.[6] Furthermore, the only extant source for Agmina (which John uses and which also appears as the tenor for clausula

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[5]Ernest H. Sanders, "The Question of Perotin's Oeuvre and Dates," in Festschrift fur Walter Wiora zum 30. Dezember 1966 (Basel: Bärenreiter, 1967), pp. 247-248.

[6]See above, p. 129.

number 40 and in the corresponding motet Agmina milicie/ AGMINA, both in the St. Victor manuscript) is the organum setting of the Alleluia, Corpus betae virginis, also in the St. Victor manuscript.[7] Although it would be unwise to draw any conclusions from these observations alone, they do arouse the suspicion that there might possibly be some connection between John of Garland and the St. Victor manuscript. If, as has been proposed,[8] John was Dean of St. Quentin, it might help explain the ascriptions of ownership of the manuscript to "Jacque Bauchant . . . a St. Quentin," and also "Jehan du pont."[9]

Following the St. Victor clausulae, transcriptions of several corresponding motets from other sources are also given.

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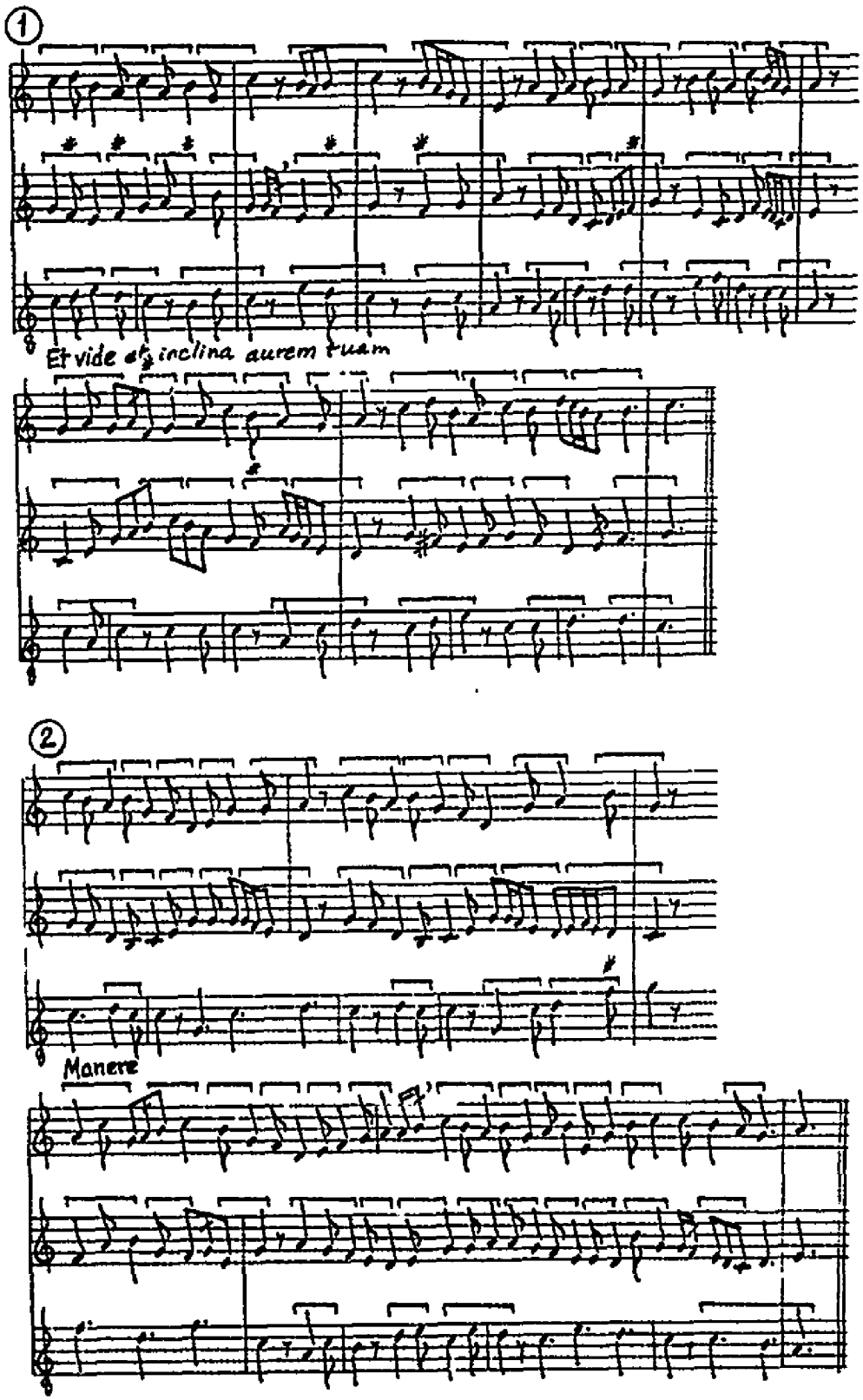
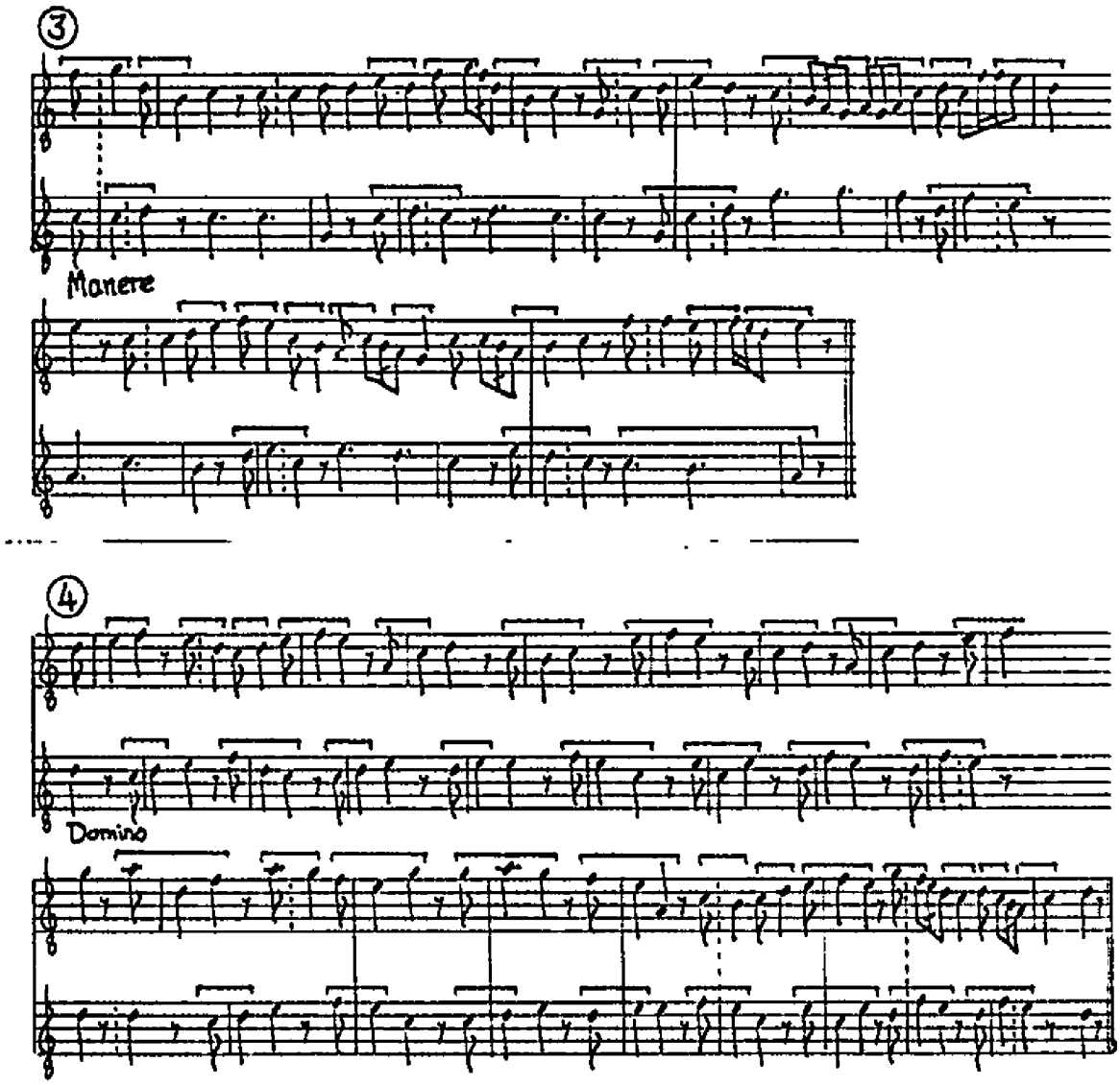
[7]StV, fols. 258-258v, 286v-287, and 292v; transcribed above, pp. 203-205 and below, pp. 231 and 238-239.

[8]Above, pp. 115-117.

[9]Thurston, Music of the St. Victor Manuscript, p. 2.





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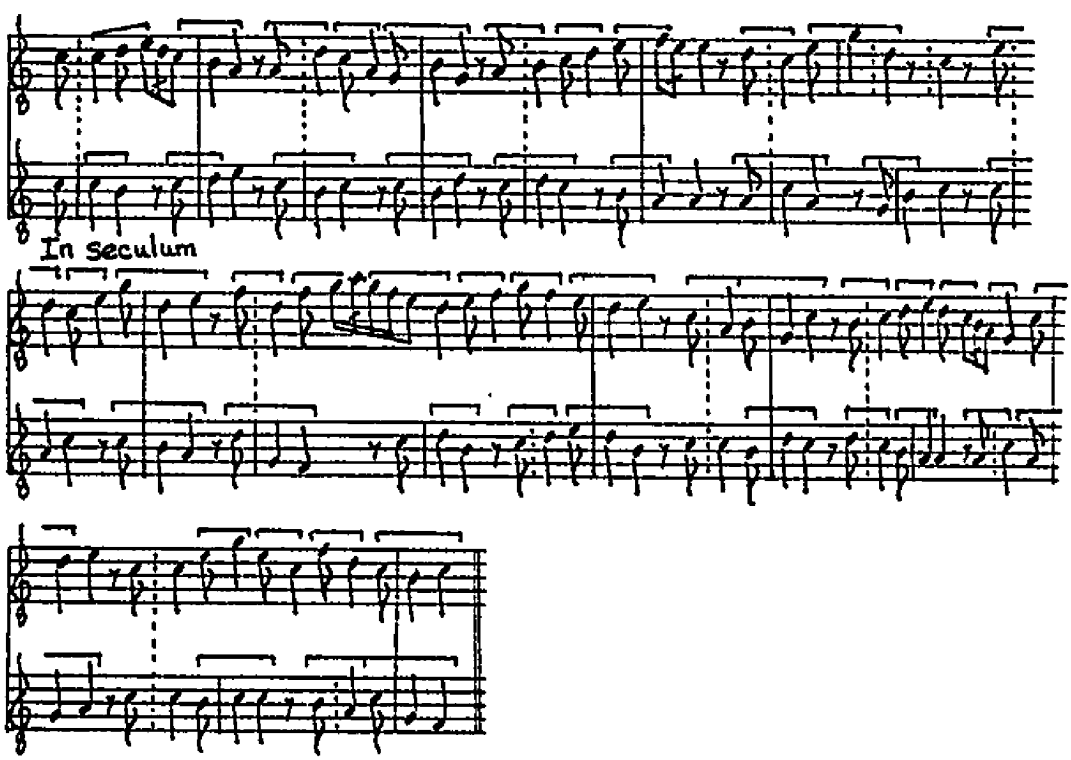
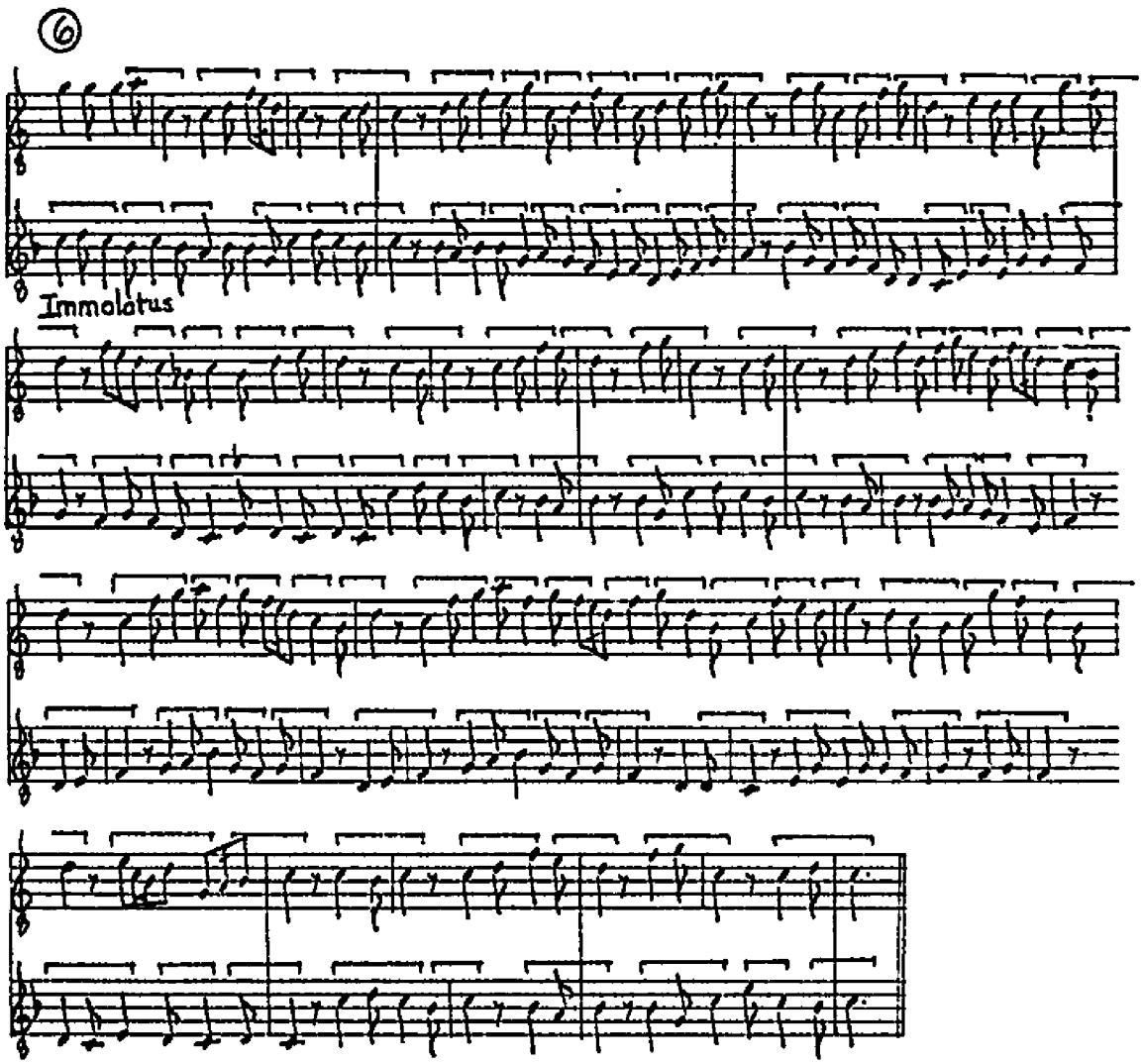
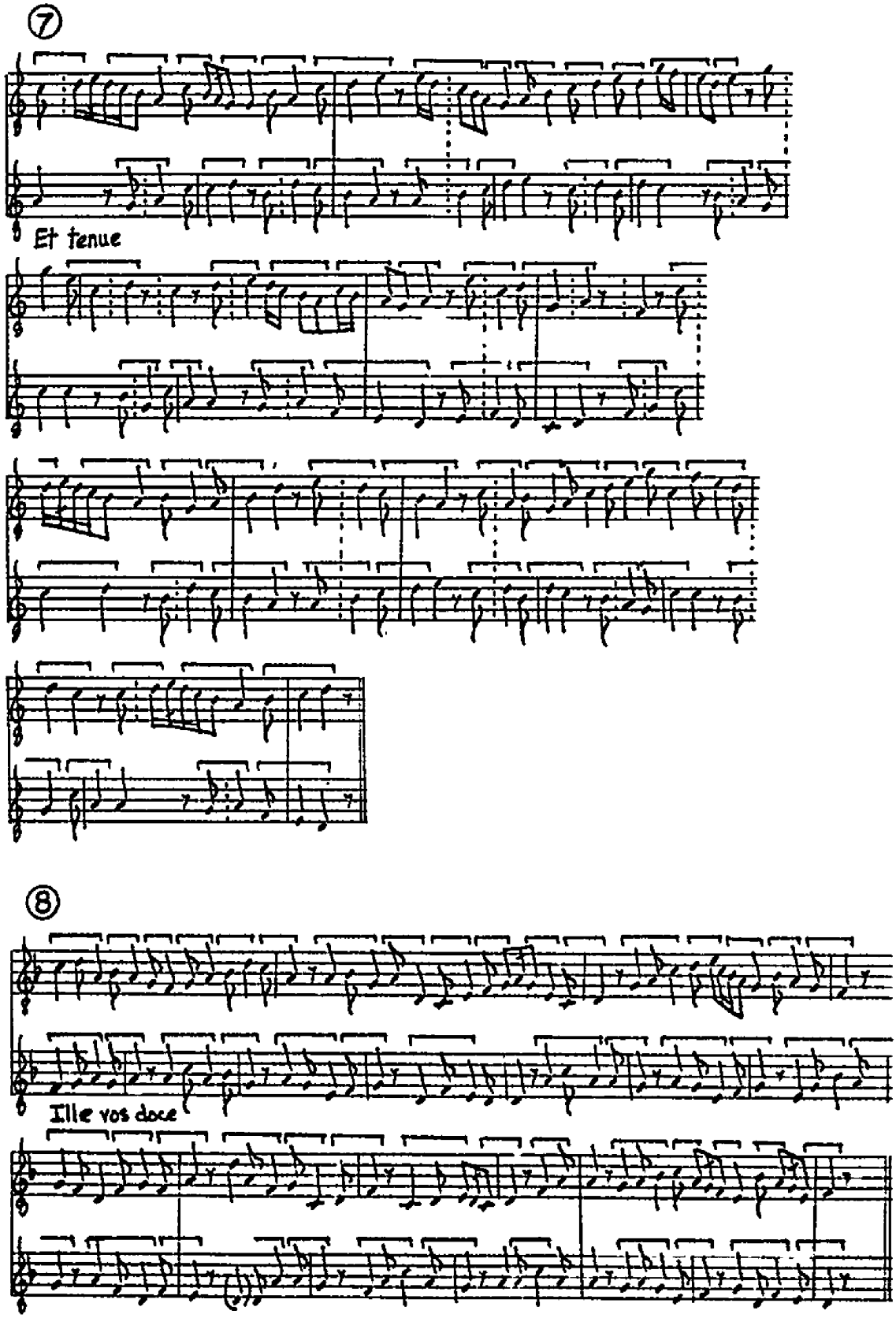
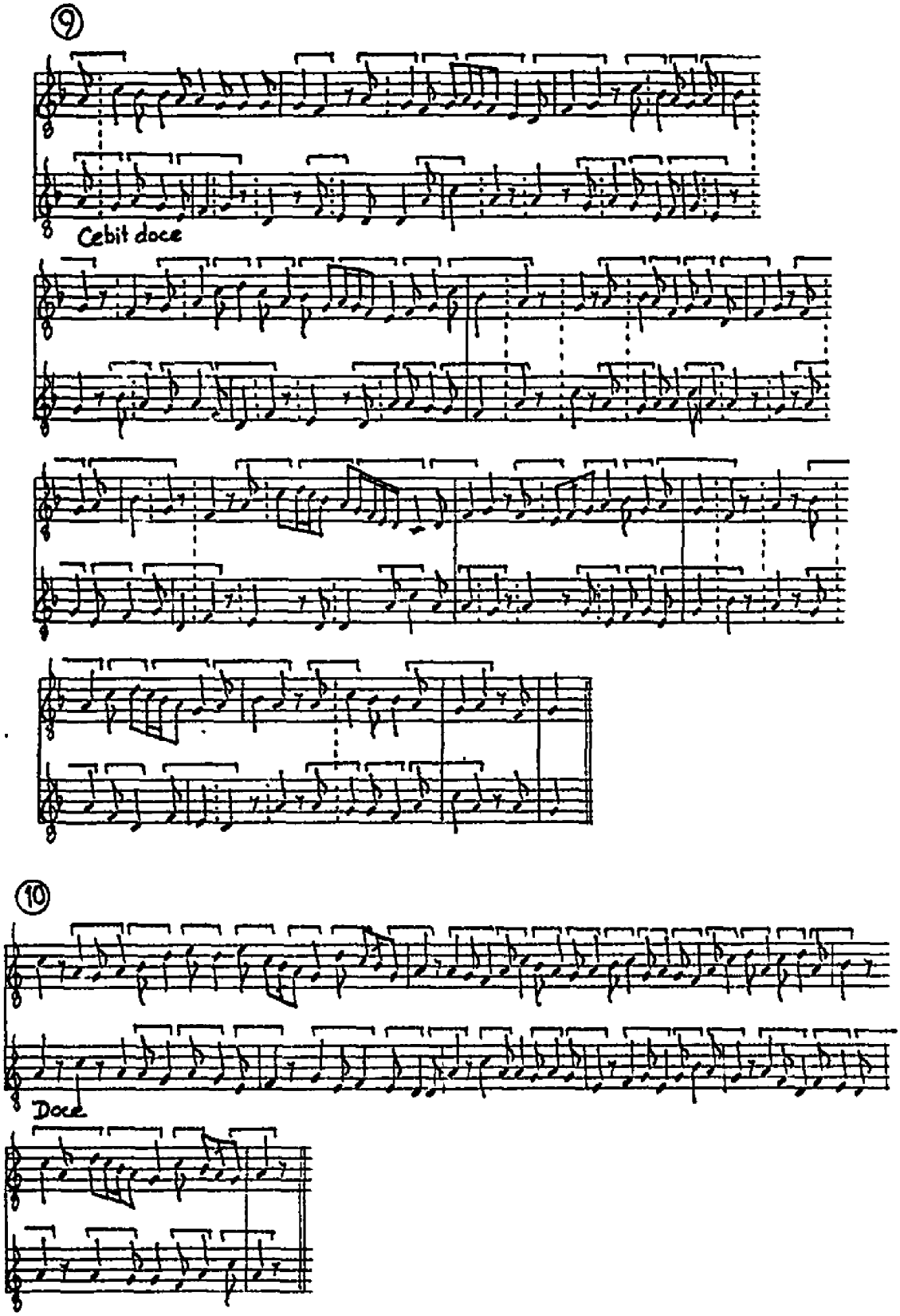
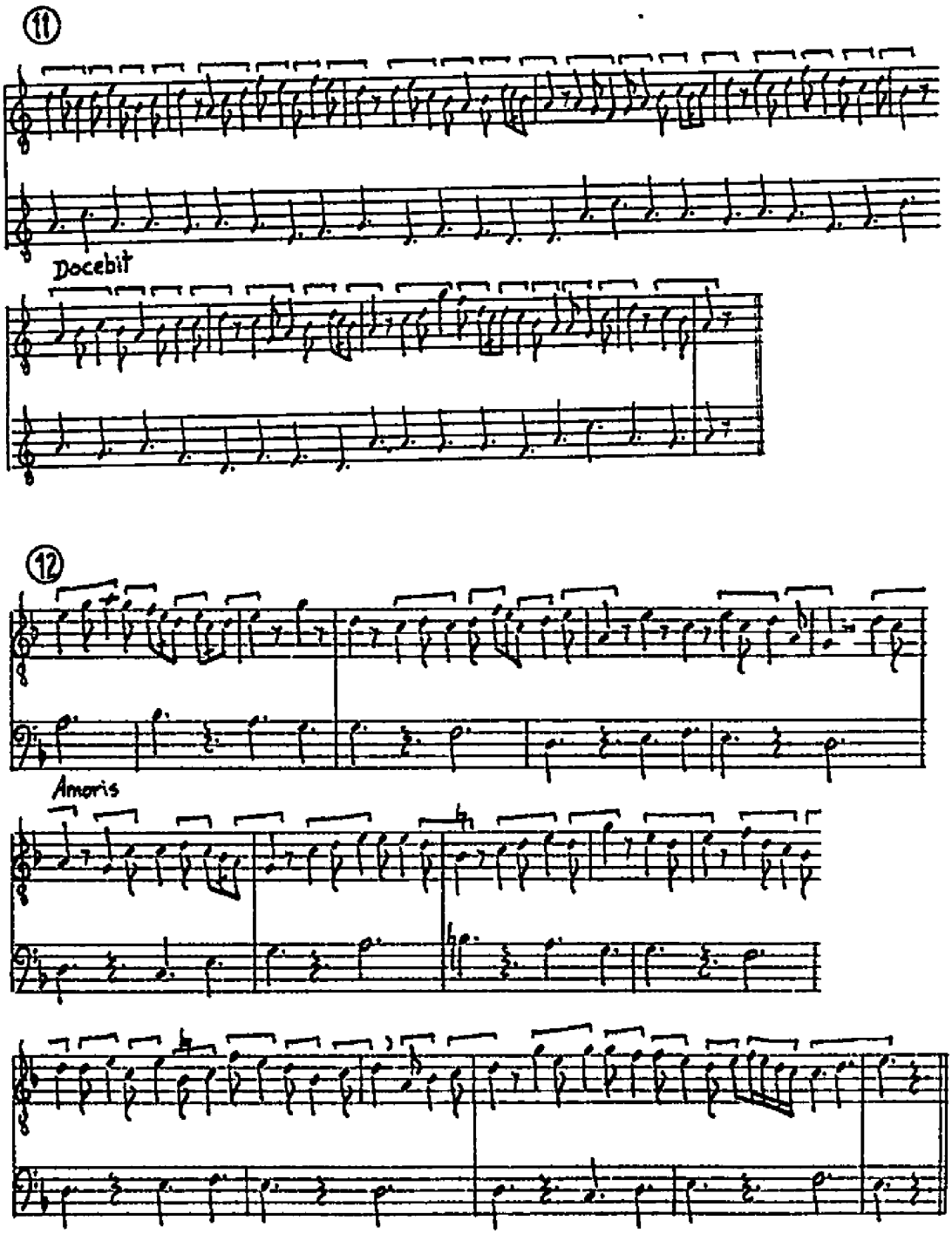
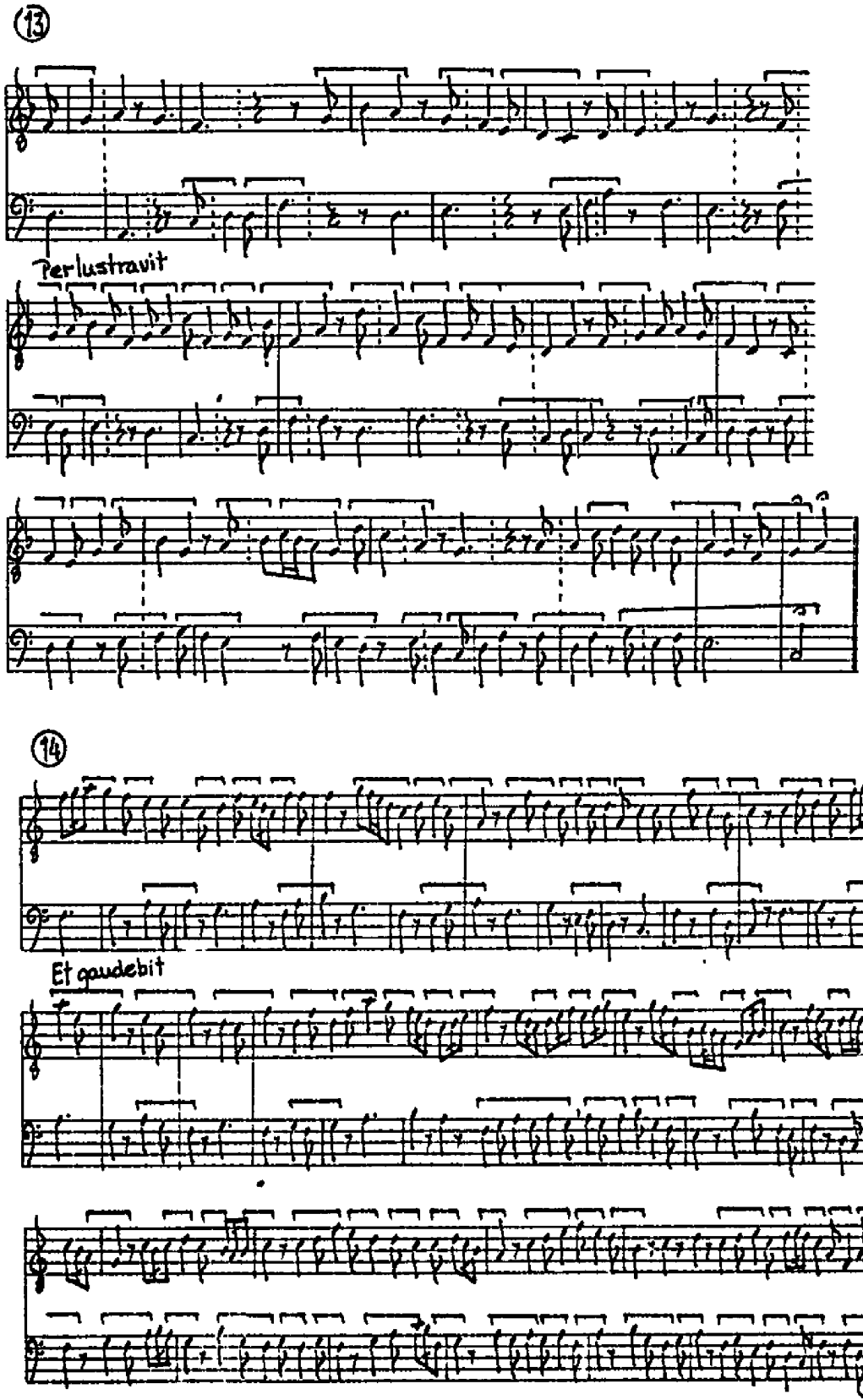


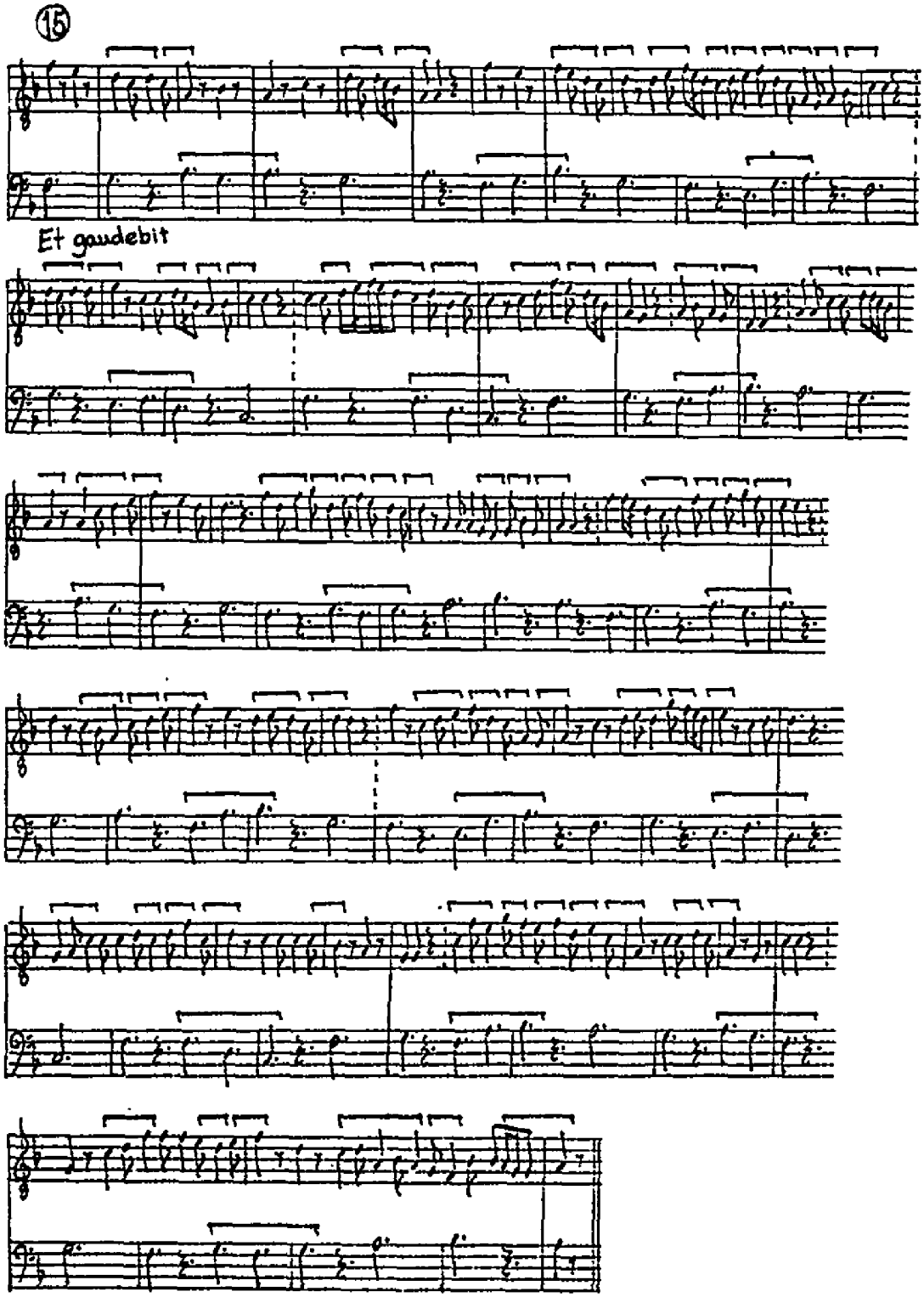


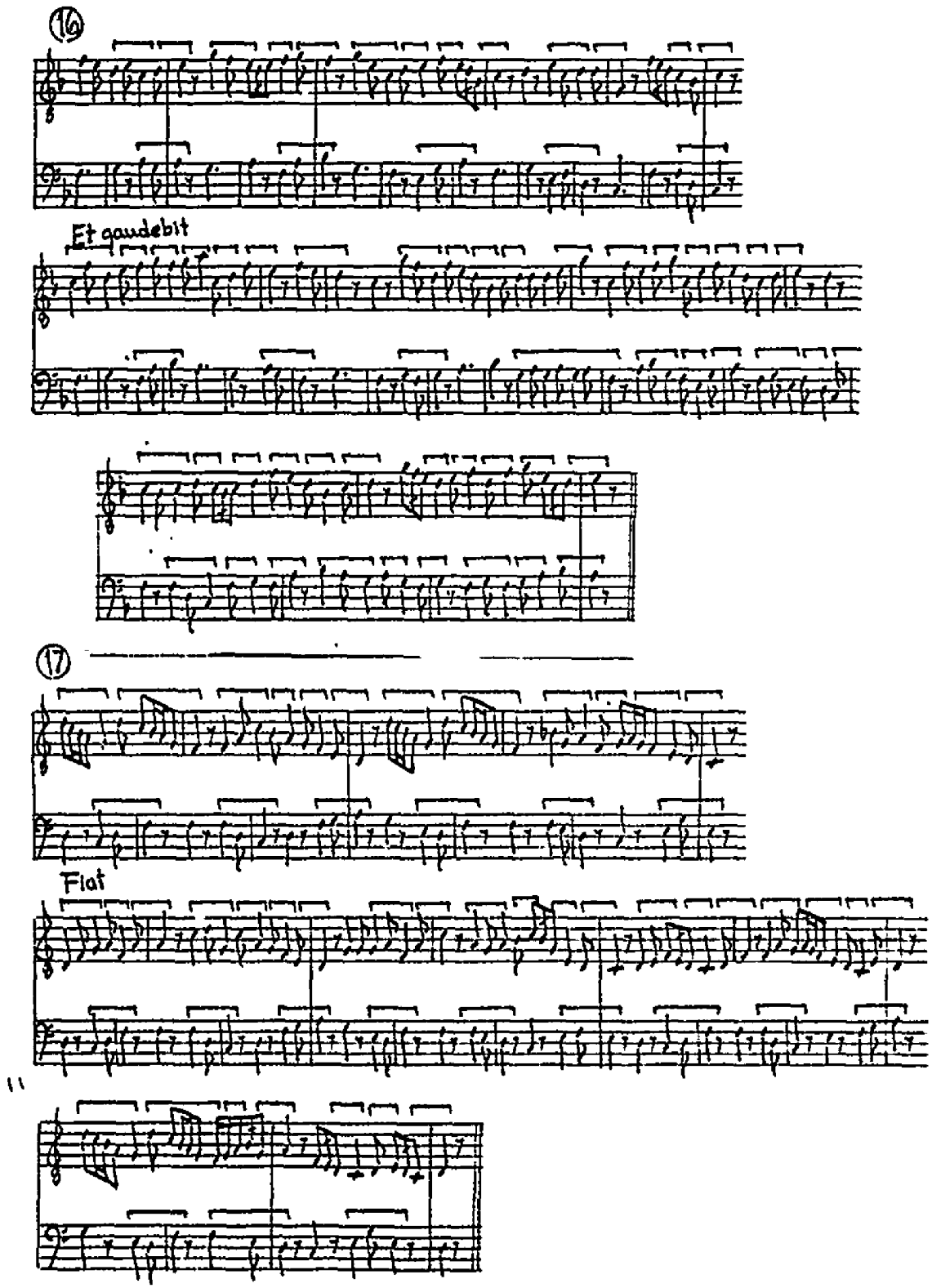


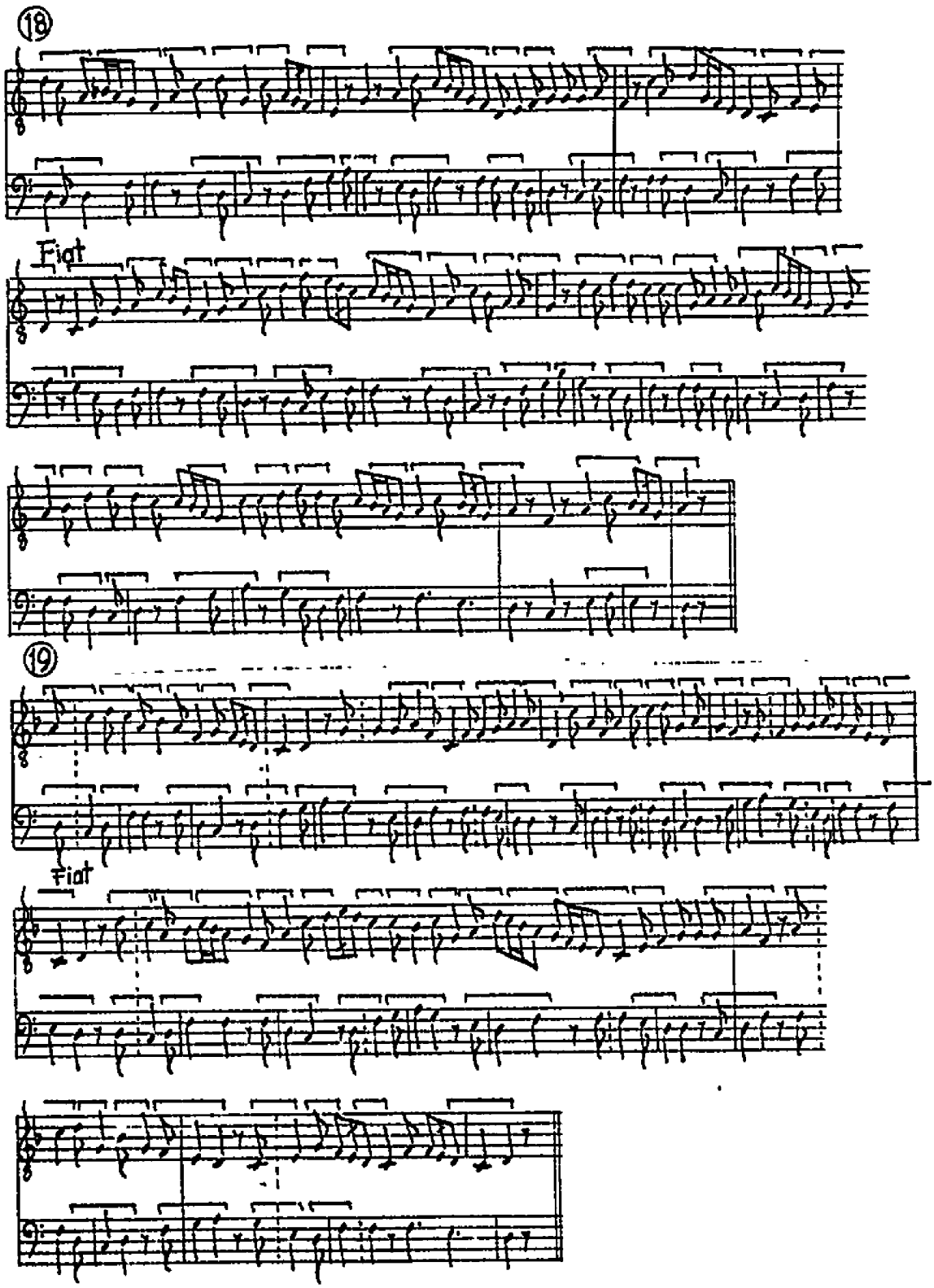


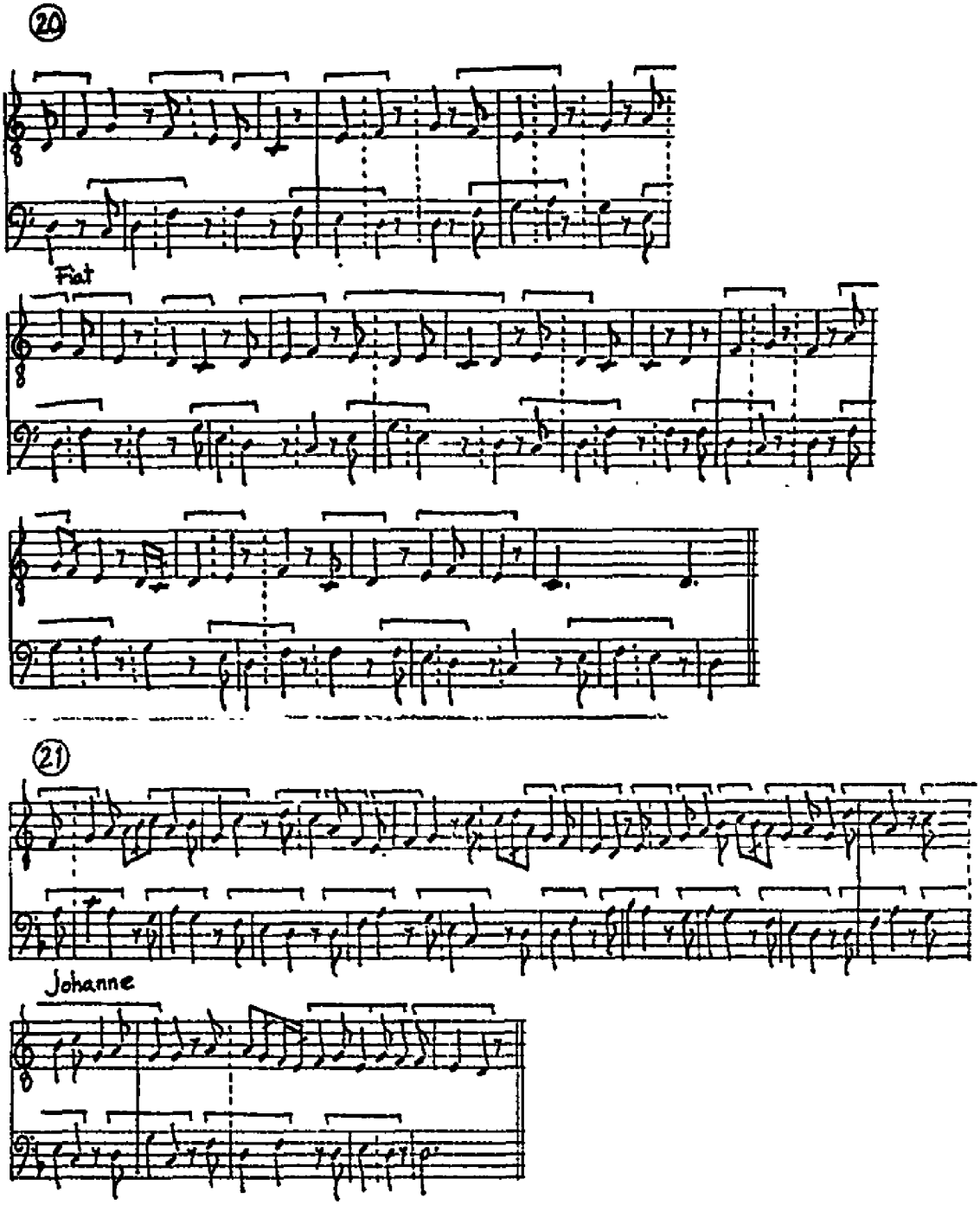


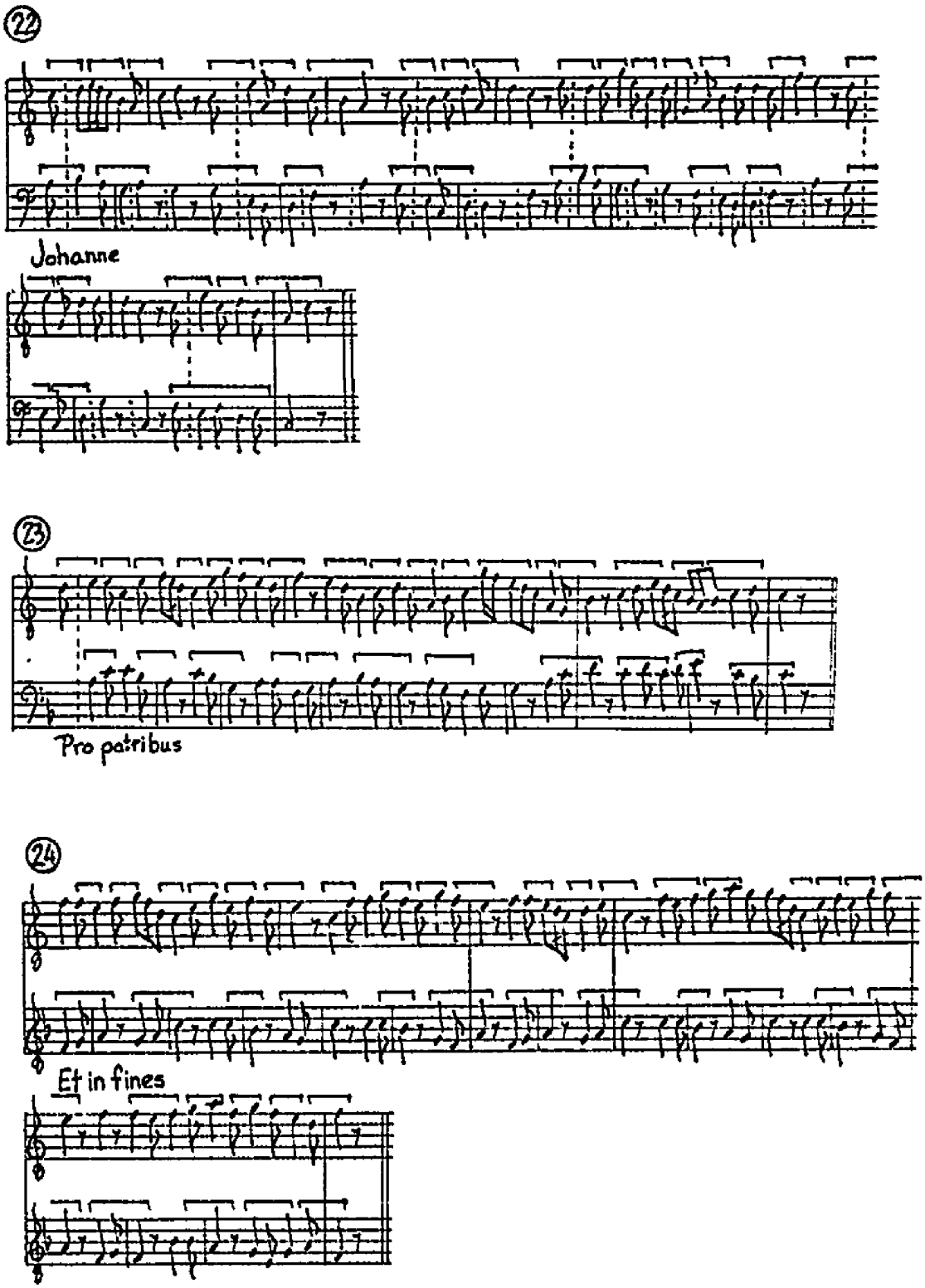


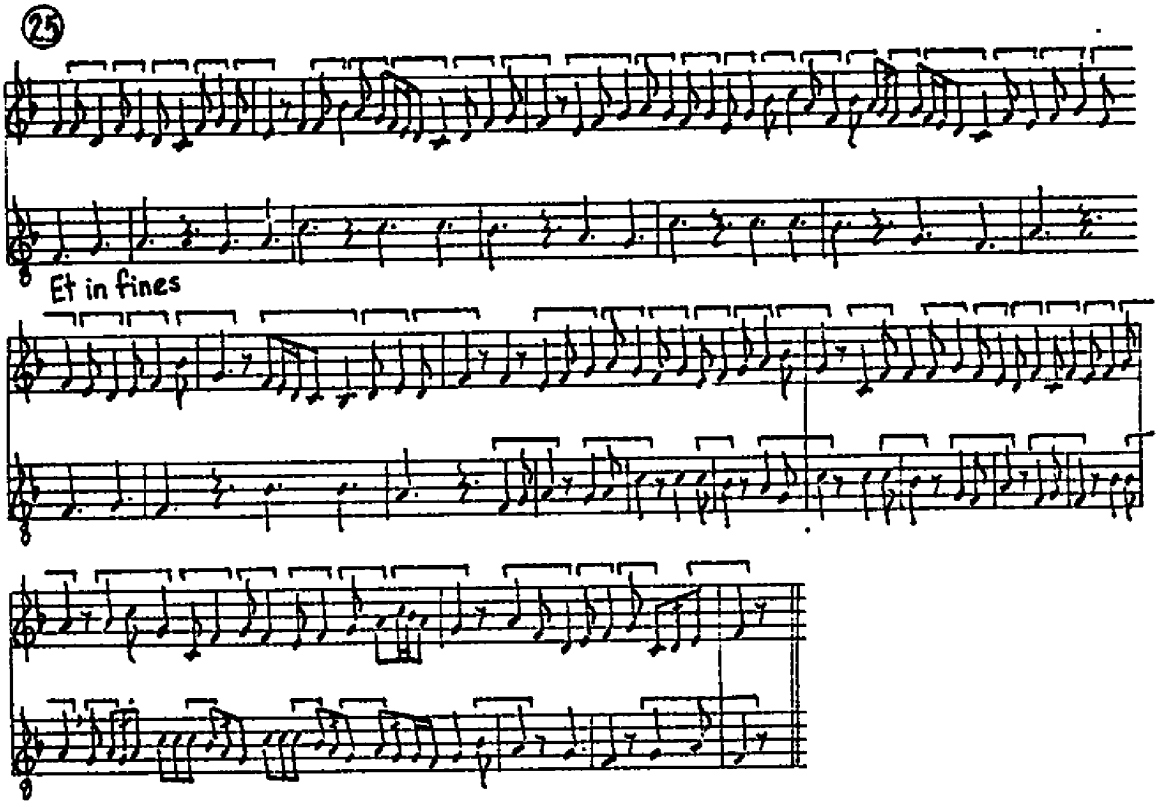


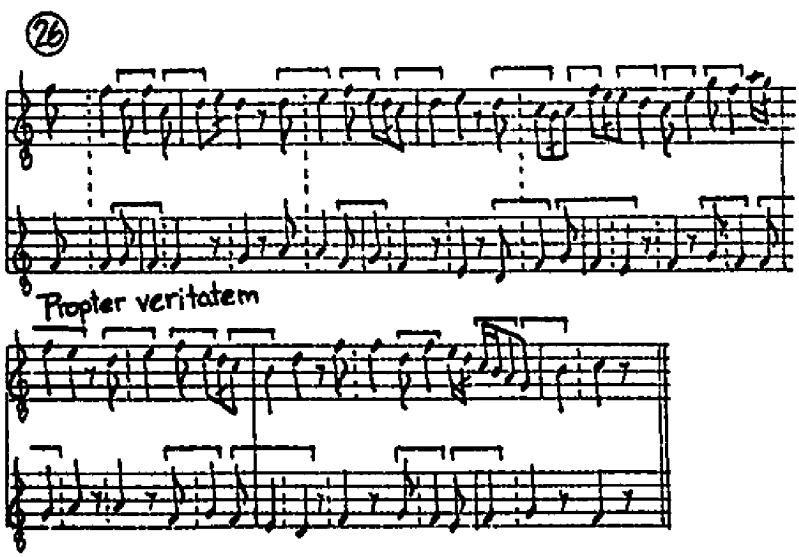


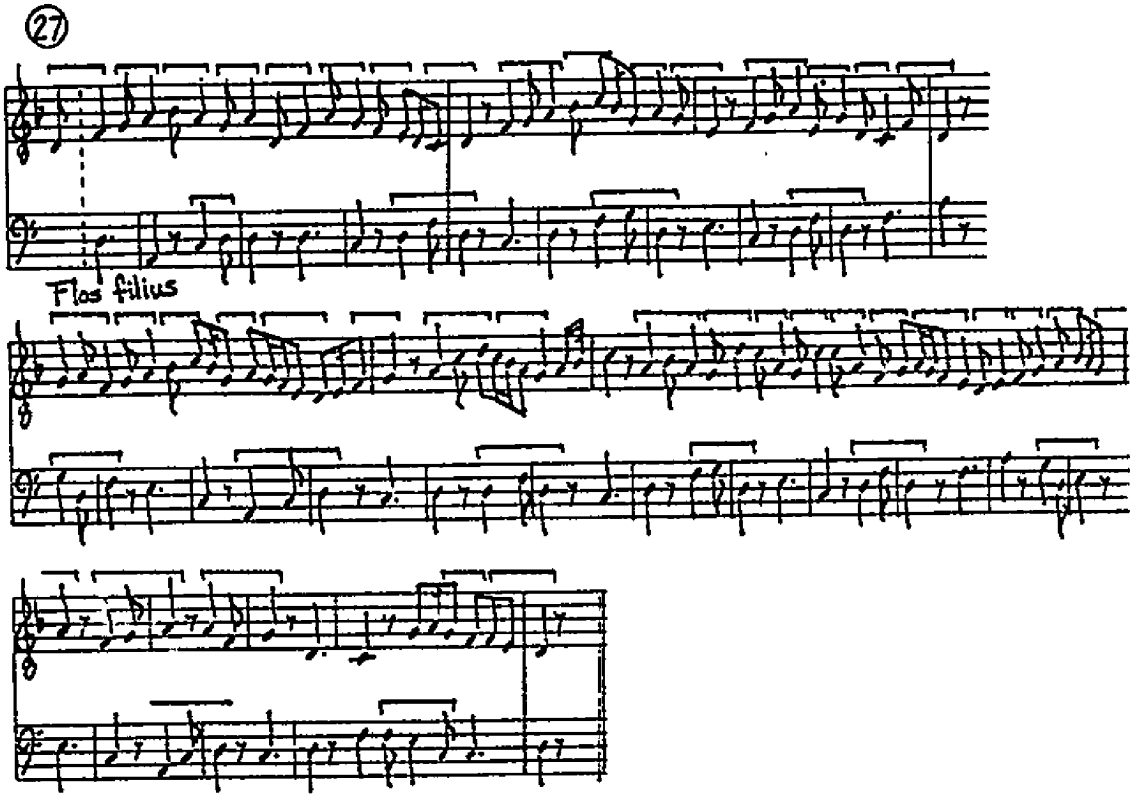


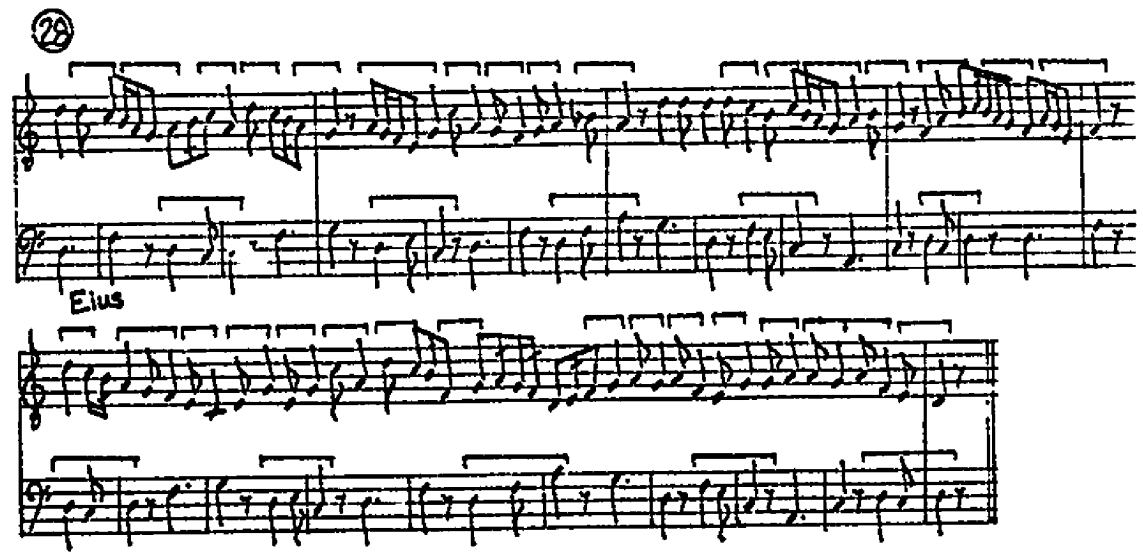


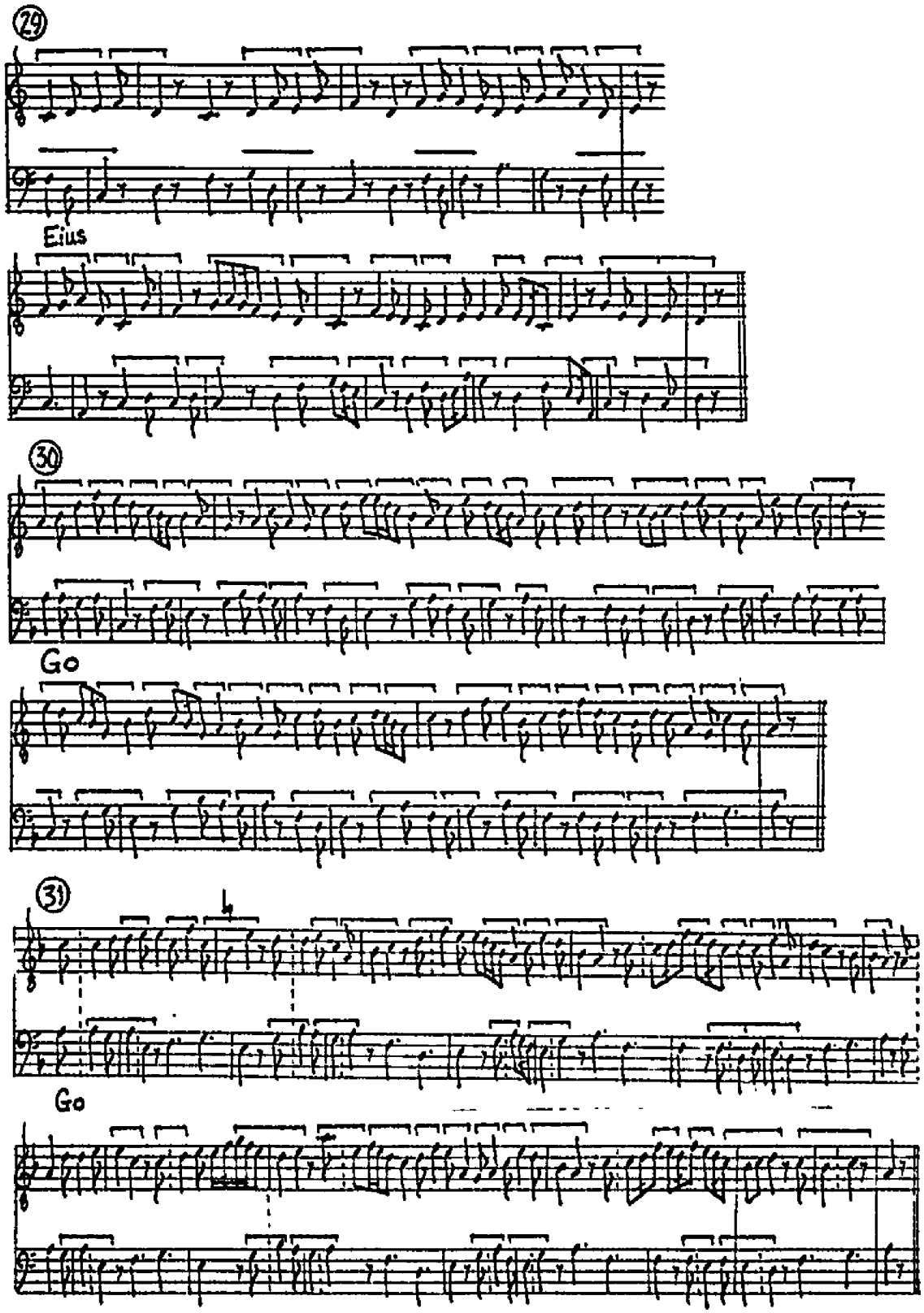


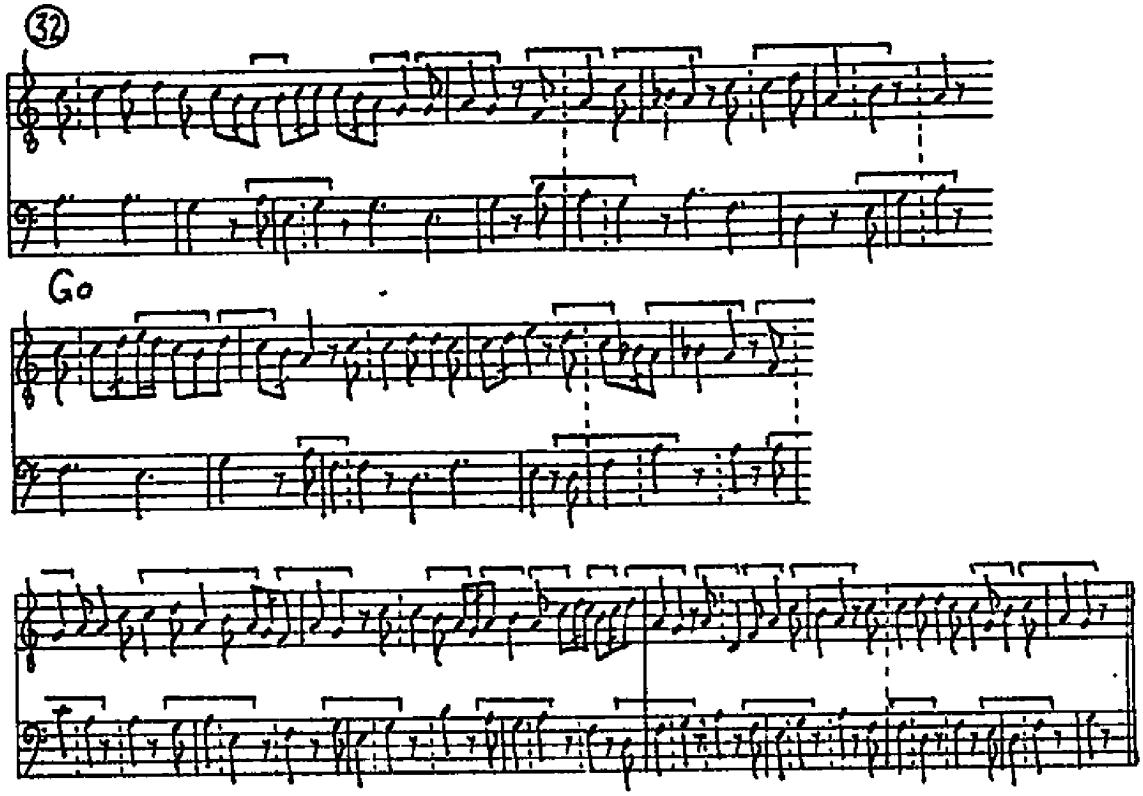


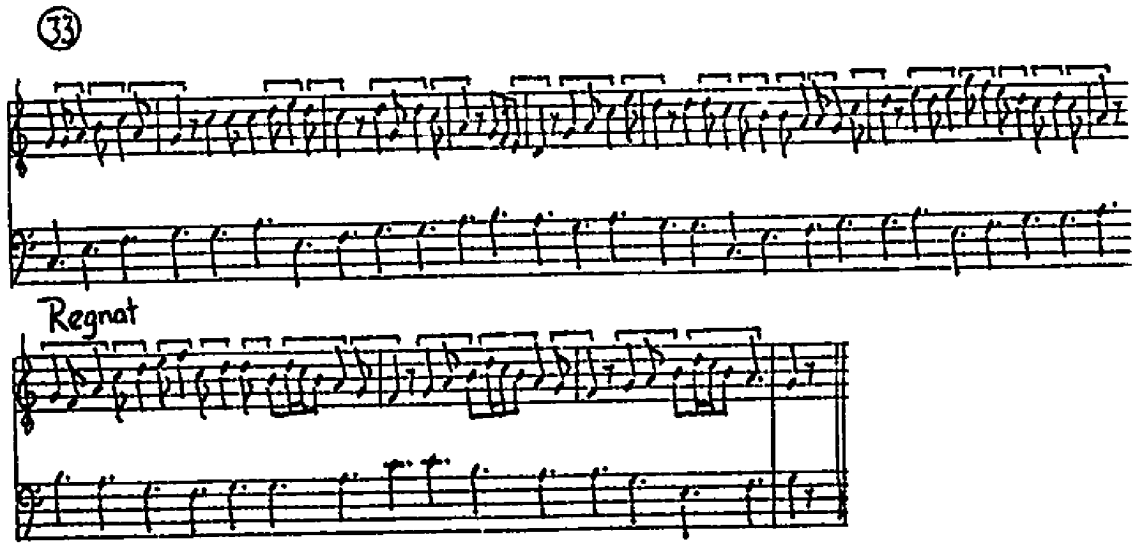



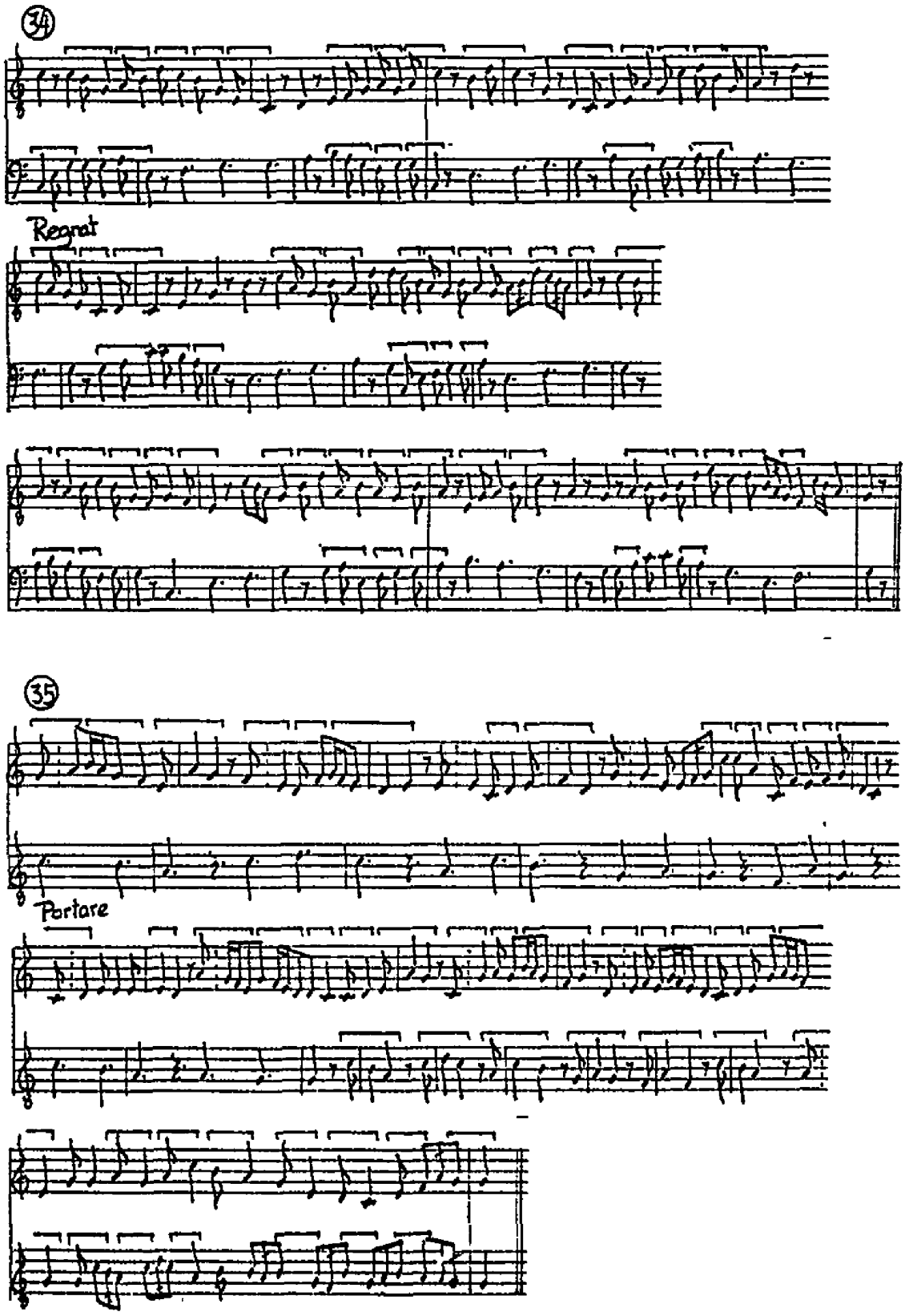


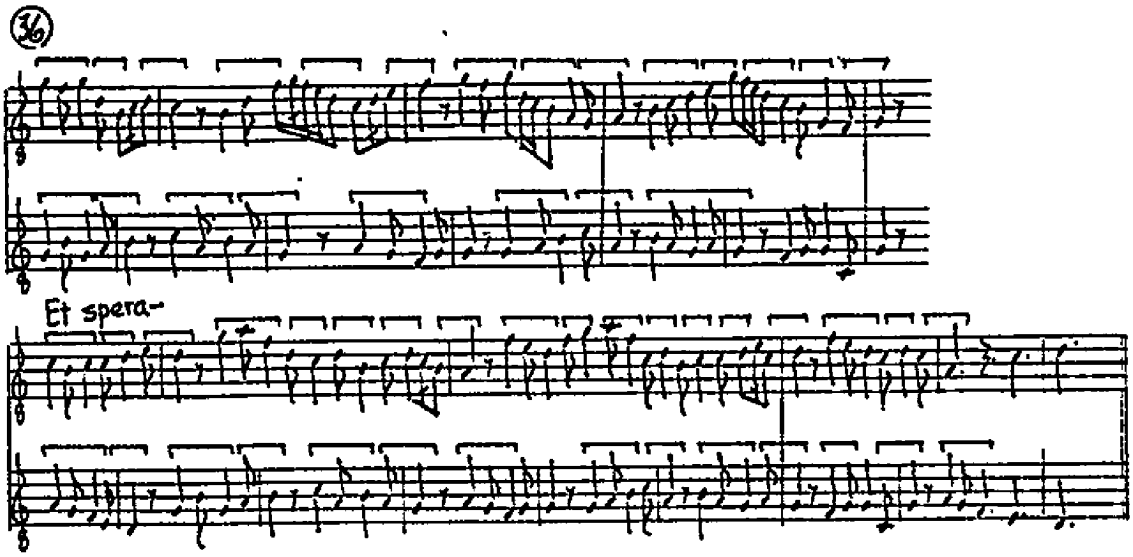



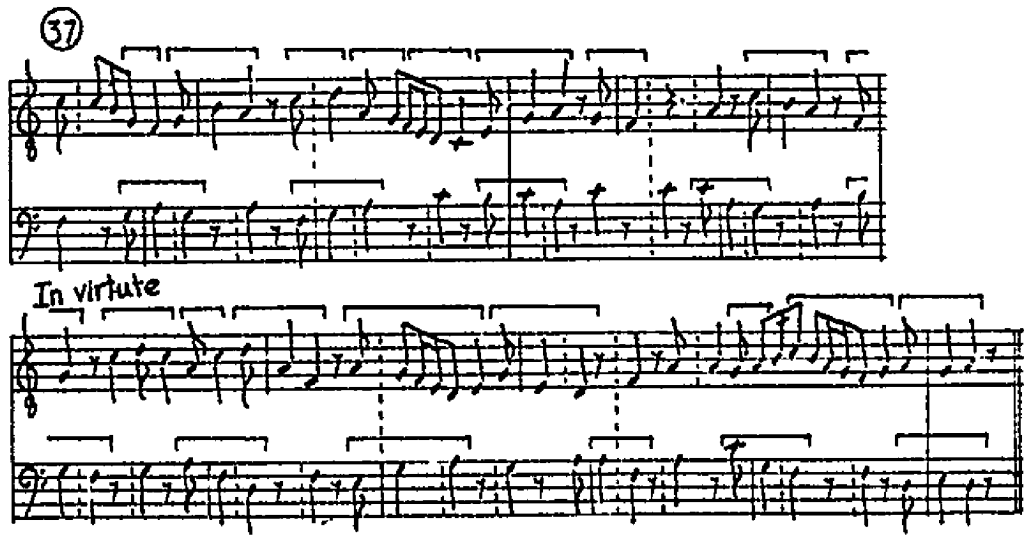


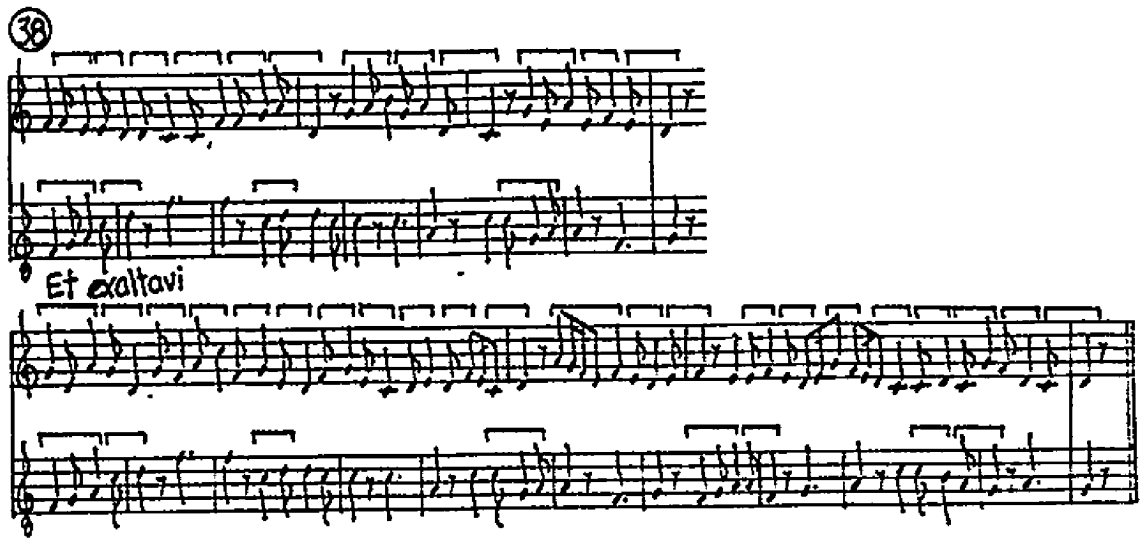


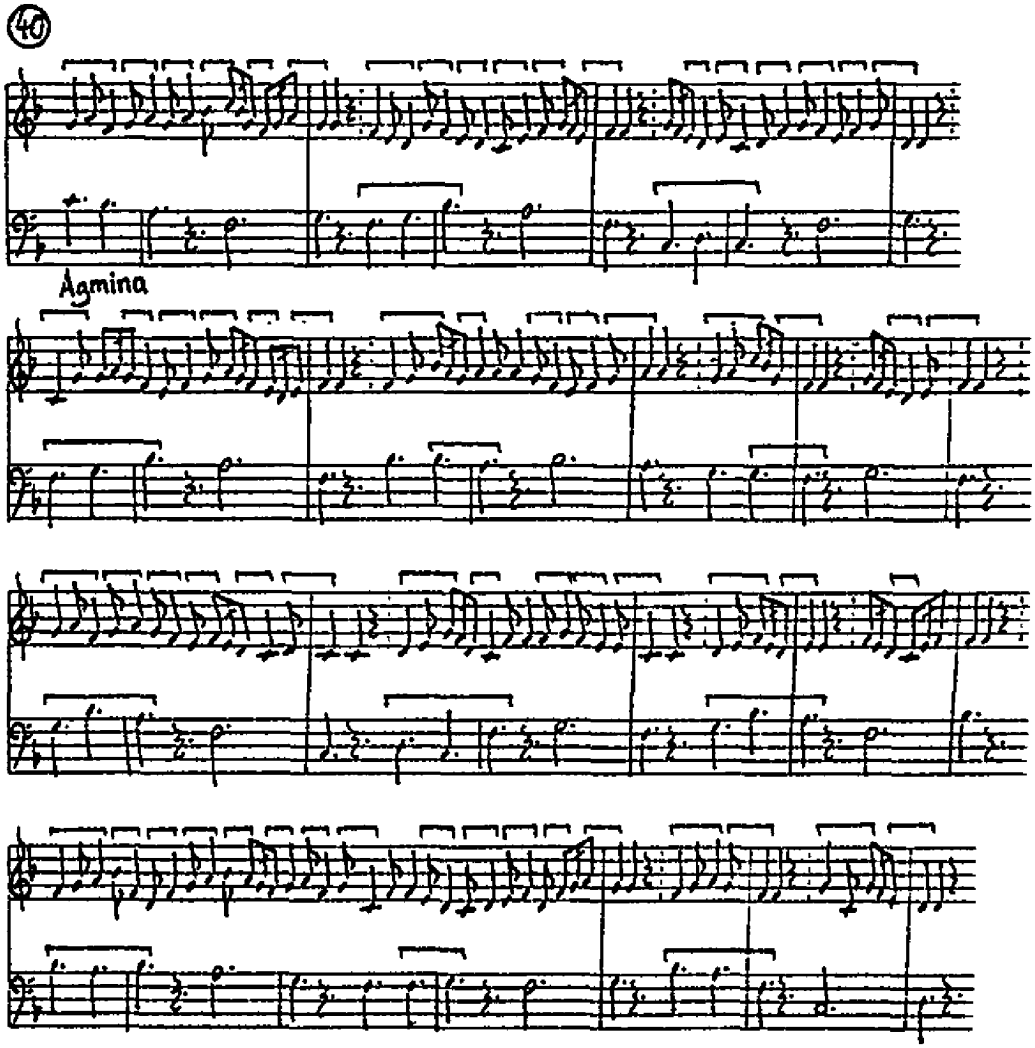







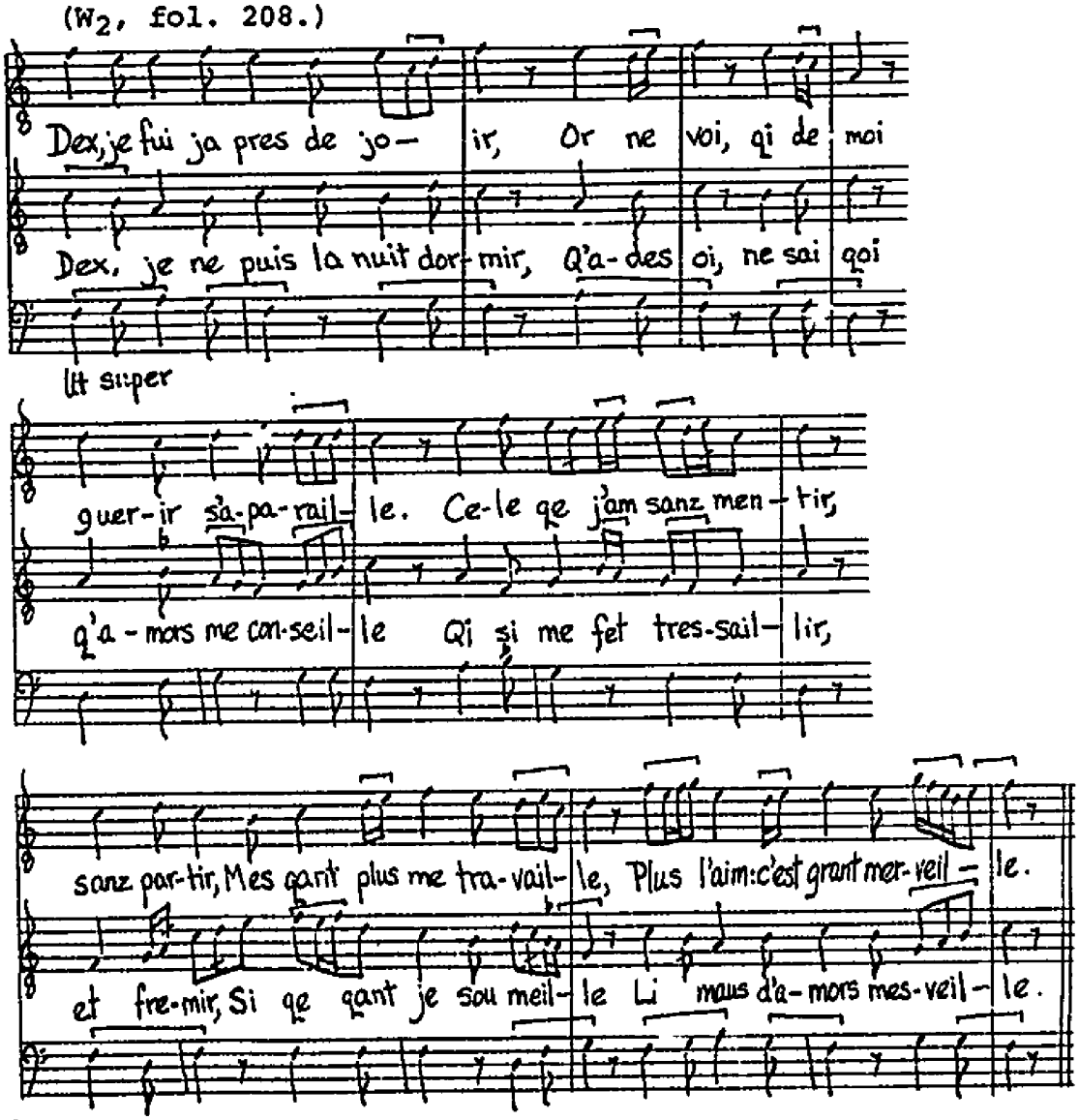


MOTET:

Dex je fui ja pres/Dex je n'i puis/UT SUPER

($W_2$, fol. 208.)



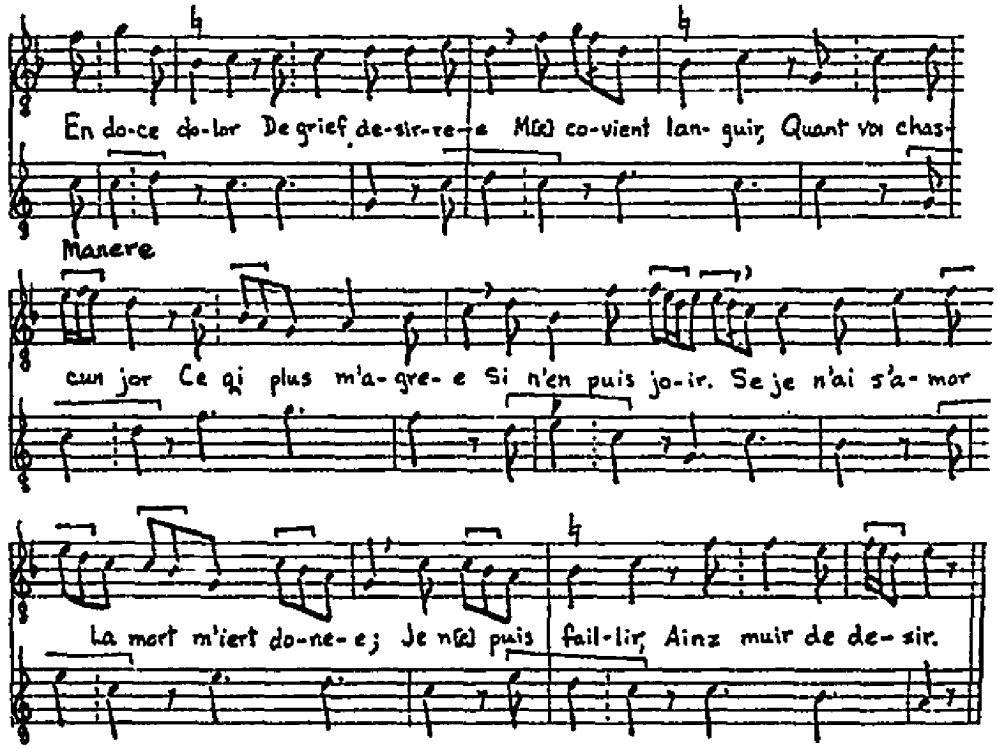

God, I was once close to joy,
But now I see no one preparing to cure me.
She whom I love truly and faithfully,
The more she tortures me,
The more I love her: this is most strange.

God, I can't sleep at night
Because I can't tell what love is counselling me to do,
He makes me so to tremble and shiver,
So that when I sleep
The pain of love awakens me.

MOTET:

En doce dolor/MANERE

(Munich, Bayerische Staatsbibliothek, Mus 4775, I, fol. 9v.)

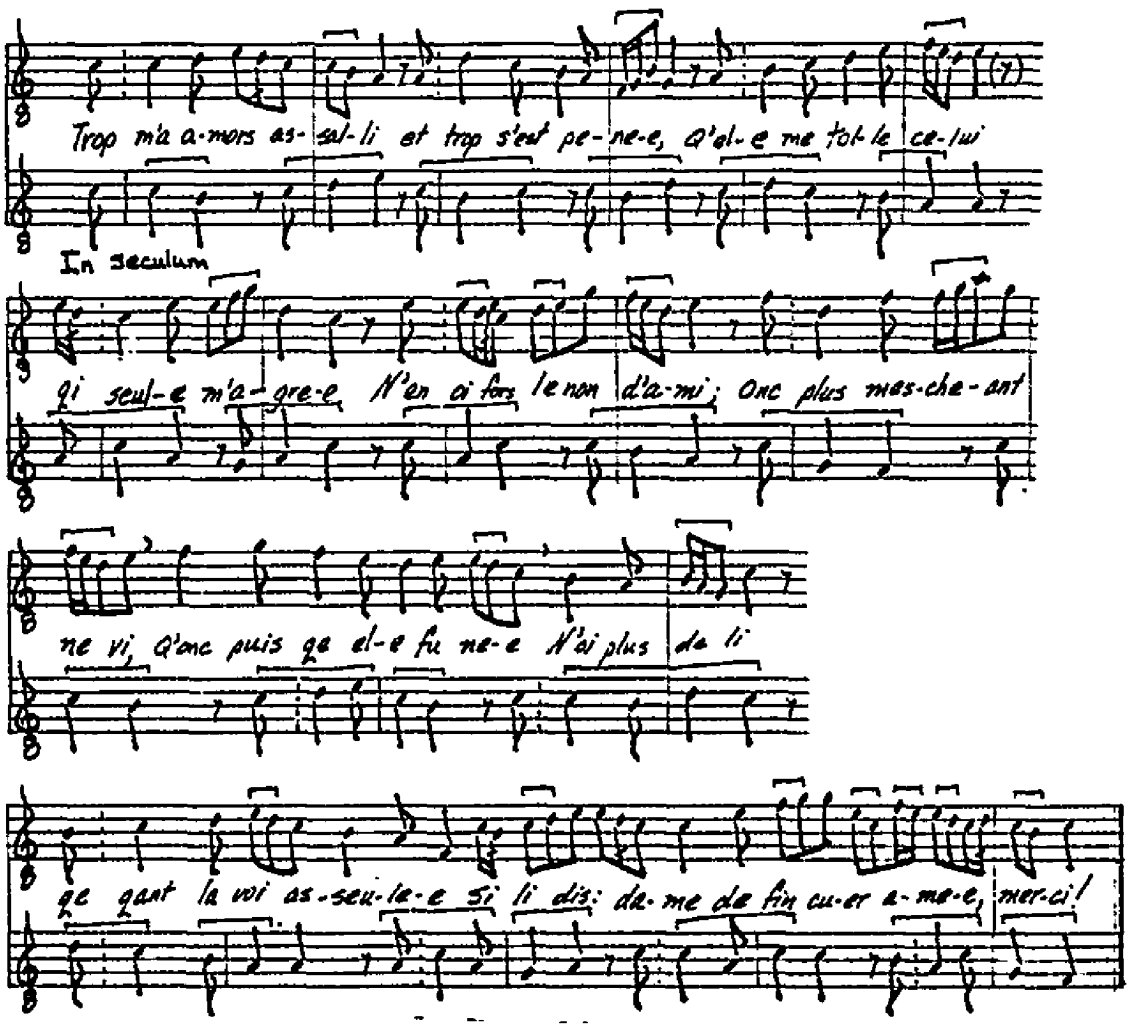



In the sweet sorrow
Of the pain of desire
I am obliged to languish,
When I see each day
That which pleases me most,
Yet cannot enjoy it.
If I don't obtain her love
I'll be given over to death;
I must not fail,
I'm dying of desire!

MOTET:

Trop m'a amors/IN SECULUM

($W_2$, fol. 248.)

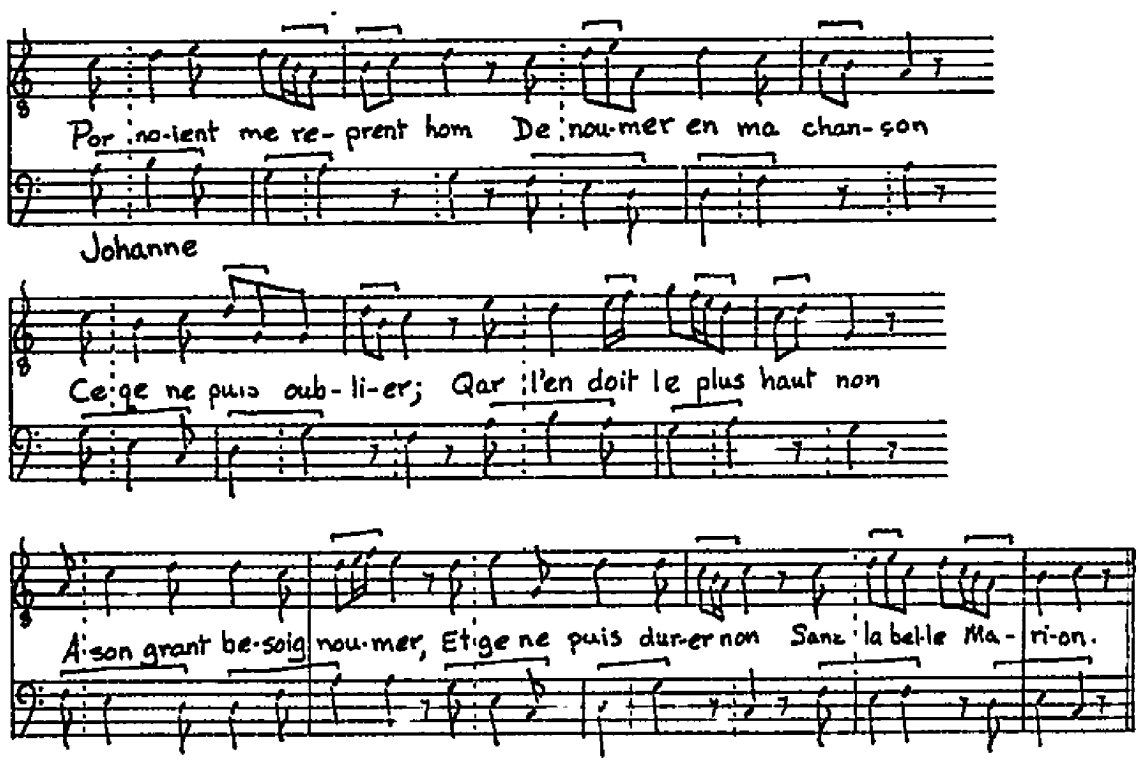



Love has assailed and hurt me so much
That he hides from me she who alone pleases me.
I have no more than the name "friend";
Never was so unhappy a man seen,
That never since she was born
Have I wanted her more than when I see her alone
And say to her: "Sweet beloved lady, have pity!"

MOTET:

Por noient me reprent/JOHANNE

($W_2$, fol. 239v.)

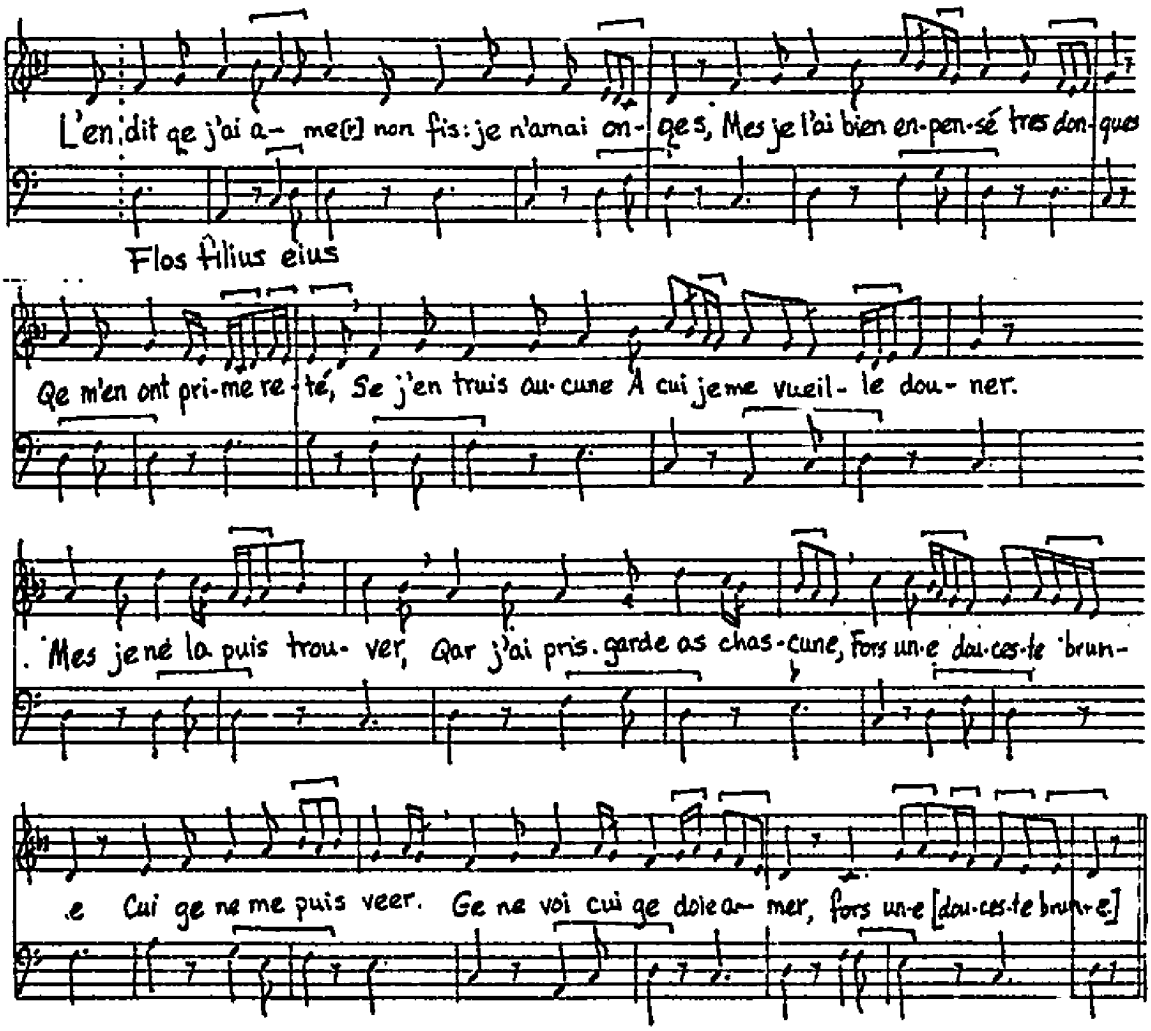



People reproach me uselessly
For naming in my song
That which I cannot forget;
But one must speak the most exalted name
In one's great need,
And I can't live at all
Without the beautiful Marion.

MOTET:

Len dit que j'ai amer non fis/FLOS FILIUS

($W_2$, fol. 237v.)

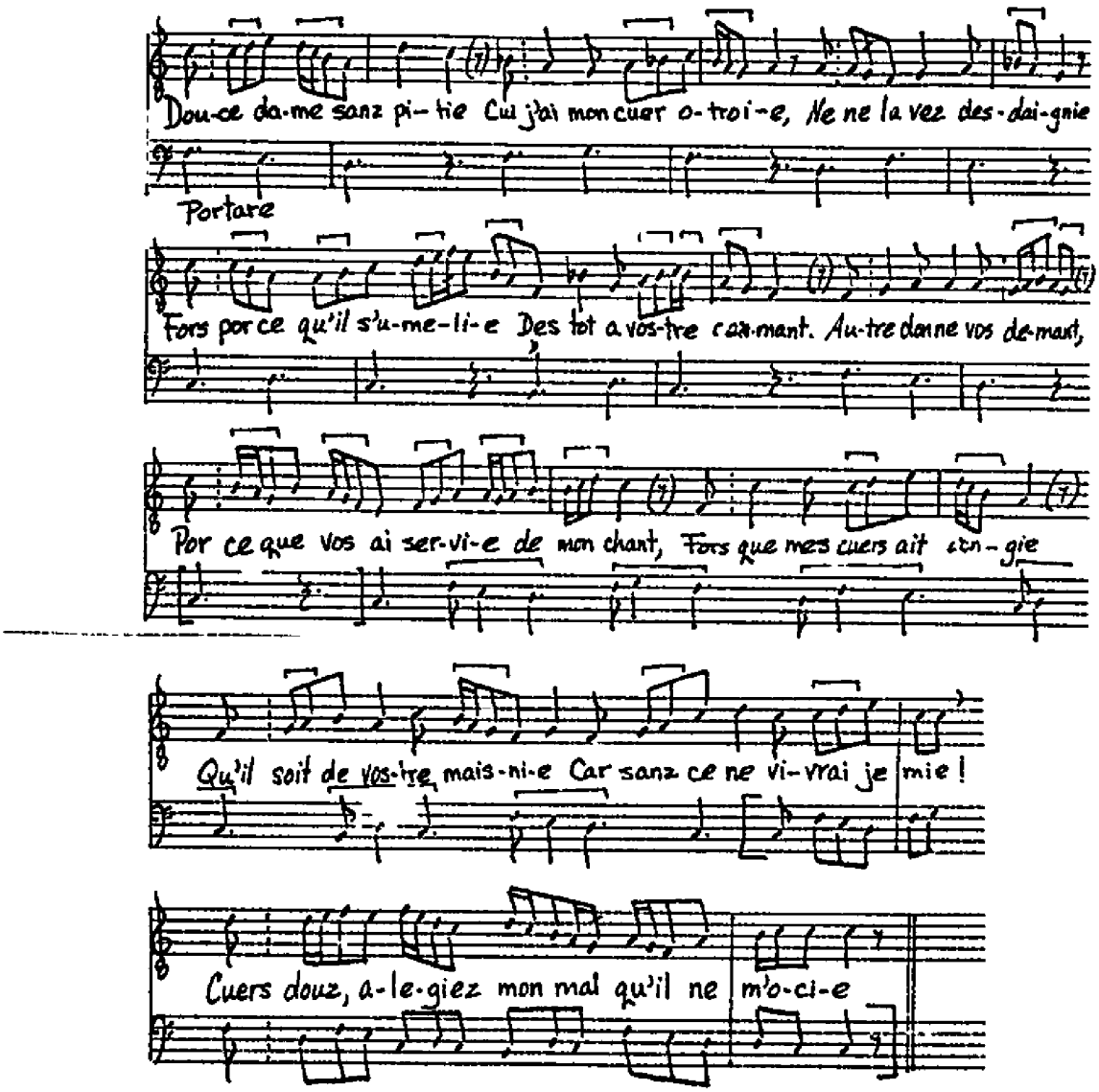



They say that I have never loved: I never have loved,
But I have considered it thoroughly ever since
I was first reproached about it,
Whether I can find anyone/ To whom I would like to give myself./ But I can't find her, / I am on guard against each one,/ Except perhaps for one very sweet brunette/ Whom I am unable to see. / I can't tell whom I should love, except for one (very sweet brunette).

MOTET:

Douce dame sanz pitie/PORTARE

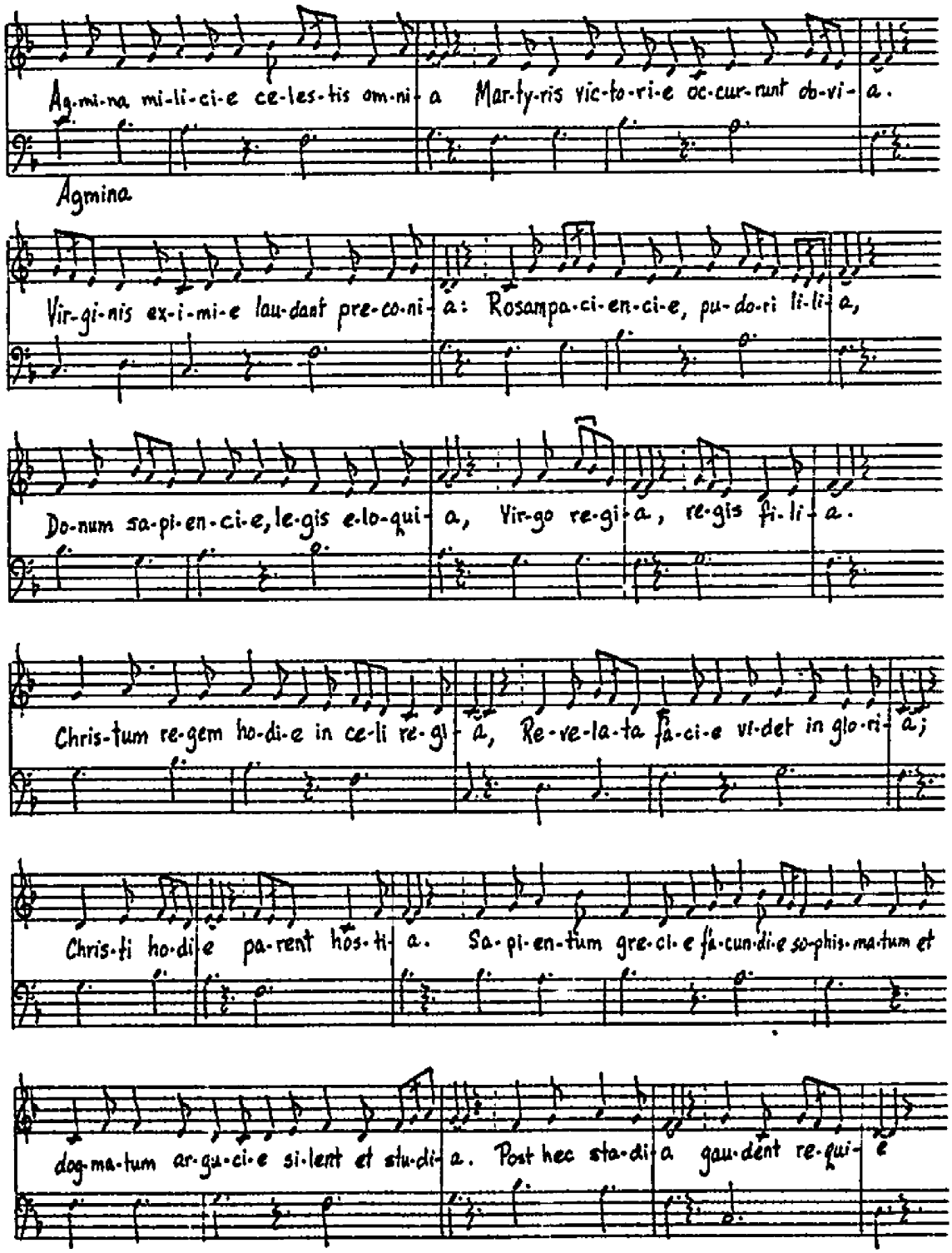
(R, fol. 207c.)

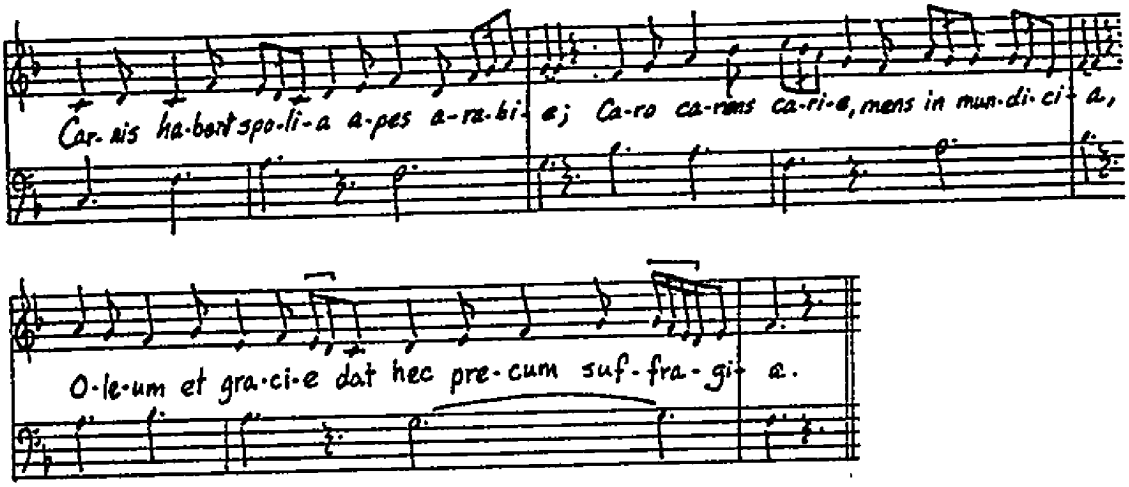



Sweet lady, without pity/ To whom I have given my heart/ Do not disdain it/ Simply because it humbles itself/ In everything at your command./ I ask no other reward/ For serving you in my song,/ Except that my heart have permission/ To join your followers,/ For without that I can't live at all./ Sweet heart, lighten my pain so that it doesn't kill me.

MOTET:
Agmina milicie/AGMINA

(StV, fols. 258-258v.)






All the armies of the heavenly host
Come forth to meet the victorious martyr.
They sing the praises of the matchless virgin:
"Rose of suffering, Lily of chastity,
Gift of wisdom, Eloquence of law,
Royal virgin, Daughter of the King."
Today she sees Christ the King in heaven's palace,
His countenance revealed in glory;
Her sacrafice is offered today to Christ.
The eloquence of the Greek sages,
The sagacity of sophistries and dogmas,
Are silent, their studies too.
After running the race, she rejoices in rest.
The bees of Arabia possess the spoils of the flesh;
But flesh without decay, pure understanding,
Unction and grace, these suffrages are granted through prayer.

(This poem is honor of St. Katherine of Alexandria, virgin and martyr, patron of philosophers and students. Having rebuked Maxentius for his persecution of Christians, and having outwitted the fifty philosophers he sent to confute her, St. Katherine was beheaded, and milk flowed from her veins. She was called the flower and gem of Greece, the bride of God, a soldier of Christ, and the rose of heaven. See the poem Pulcra casta Katerina, above, p. 33, a longer poem by John of Garland in Lawler, Parisiana poetria, pp. 173-175, and the Alleluia, Corpus beatae virginis, above, pp. 203-205.)

# APPENDIX C

## A CONCORDANCE OF THE LITURGICAL MELODIES USED IN DE MENSURABILI MUSICA AND THE ST. VICTOR CLAUSULAE WITH THIRTEENTH CENTURY ENGLISH SOURCES

DMM indicates used in De mensurabili musica

StV indicates use in St. Victor clausulae

GrSar Graduale Sarisburiense

AnWor Antiphonaire . . . de Worcester

. . . . . .

DMM StV AGMINA
Alleluya. Corpus beate virginis et martyris . . . deferebunt cum cantico agmina.

Found only in organum setting, StV, fols. 286v-287.

StV AMORIS
Alleluya. Veni sancte spiritus, reple tuorum corda fidelium et tui amoris in eis ignem accende.

GrSar: 138.

DMM ANGELUS
Alleluya. Angelus domini descendit . . .

GrSar: 125.

DMM AUDI FILIA (See Propter veritatem)

DMM BALAAM
Epiphany sequence: Balaam de qua vaticans (?)

(Compare with motet: Balaam prophetanti/ BALAAM; London, British Museum, MS Egerton fols. 6v-7.)

DMM BEATA NOBIS
Hymn: Beata nobis gaudia, anni reduxit orbita.

12th century MS: Rome, Biblioteca Casanatense 1574, fol. 136. (Bruno Stablein, ed., Monumenta monodica medii aevi, vol 1: Hymnen, Kassel: Bärenreiter, 1956, p. 421.

With different text (Deus, tuorum militum): AnWor: 10x.

StV CUMQUE
Responsary: Terribilis est locus est. Vs. Cumque evigilasset Jacob . . .

AnWor: 317.

DMM CUNCTIPOTENS
Kyrie trope: Cunctipotens genitor . . .

GrSar: 4* & 7*.
(Also in a 13th century Sarum missal: Bologna, Univ. Bibl. 2565, fol. 590.)

StV DOCEBIT (See Ille vos docebit)

StV DOMINO (See In seculum)

DMM StV EIUS (See Flos filius eius)

StV ET EXALTAVI
Alleluya. Posui adjutorium super potentem et exaltavi.

GrSar: 224.

StV ET FLOREBIT
Alleluya. Justus germinabit sicut illum, et florebit in eternum ante dominum.

GrSar: 222.

StV ET GAUDEBIT
Alleluya. Non vos relinquam orphanos, vado et venio ad vos et gaudebit cor vestrum.

GrSar: k

StV ET IN FINES
Alleluya. In omnem terram exivit sonus eorum et in fines orbis terre.

GrSar: 207.

DMM StV ET SPERABIT
Alleluya. Letabitur justus in domino et sperabit in eo et lautabuntur omnes recticorde.

GrSar: 207.

StV ET TENUE
Alleluya. Surrexit dominus et occurens mulierbus ait: Avete; tunc accesserunt et tenuerunt pedes ejus.

GrSar: 120.

StV ET VIDE ET MELINA AUREM TUAM (See Propter veritatem)

DMM StV FIAT, FIAT
Responsary: Benedictus dominus. Vs. Replebitur majestate eius omnia terra; fiat, fiat.

AnWor: 159.

DMM StV FLOS FILIUS EIUS
Responsary: Stirps Jesse. Vs. Virgo, dei genitrix, virga est, flos filius eius.

AnWor: 303.

StV GO
Gradual: Benedicta es virgo Maria . . .
Vs. Virgo dei genitrix, quem totus non capit orbis, in tua se clausit viscera factus homo.

GrSar: q.

StV ILLE VOS DOCEBIT
Alleluya. Paraclitus spiritus sanctus, quem mittet pater in nomine meo, ille vos docebit omnem veritatem.

GrSar: 138.

DMM StV IMMOLATUS
Alleluya. Pascha nostrum immolatus est Christus.

GrSar: 117.

StV IN SECULUM
Gradual: Hec dies, quam fecit Dominus . . .
Vs. Confitemini domino, quoniam bonus, quoniam in seculum misericordia ejus.

GrSar: 117.

StV JOHANNE
Alleluya. Inter natos mulierum non surrexit major Johanne baptista.

GrSar: m.

DMM LAQUEUS
Gradual: Anima nostra, sicut passer. Vs. Laqueus contritus est.

GrSar: 17.

DMM LATUS (See Immolatus)

StV MANERE
Gradual: Exiit sermo inter fratres . . .
Vs. Sed: sic eum volo manere, donec veniam, tu me sequere.

GrSar: 16.

DMM OMNES
Gradual: Viderunt omnes fines terre salutare dei nostri, jubilate deo omnis terra.

GrSar: G.

StV PERLUSTRAVIT
Alleluia. Spiritus sanctus procedens a throno apostolorum pectora invisibile hodie perlustravit potentia.

GrSar: 137.

StV PORTARE
Alleluya. Dulce lignum, dulces clavos, dulcia ferens pondera, que sola fuisti digna sustinere (portare) regem celorum et dominum.

GrSar: 185.

StV PRO PATRIBUS
Gradual: Constitutes eos principes super omnem terram . . . Vs. Pro patribus tuis nati sunt tibi filii . . .

GrSar: x.

DMM StV PROPTER VERITATEM
Gradual: Propter veritatem, et mansuetudinem, et justiam, et deducet te mirabiliter dextera tua. Vs. Audi filia, et vide et inclina aurem tuam, quia concupivit rex speciem tuam.

GrSar: s.

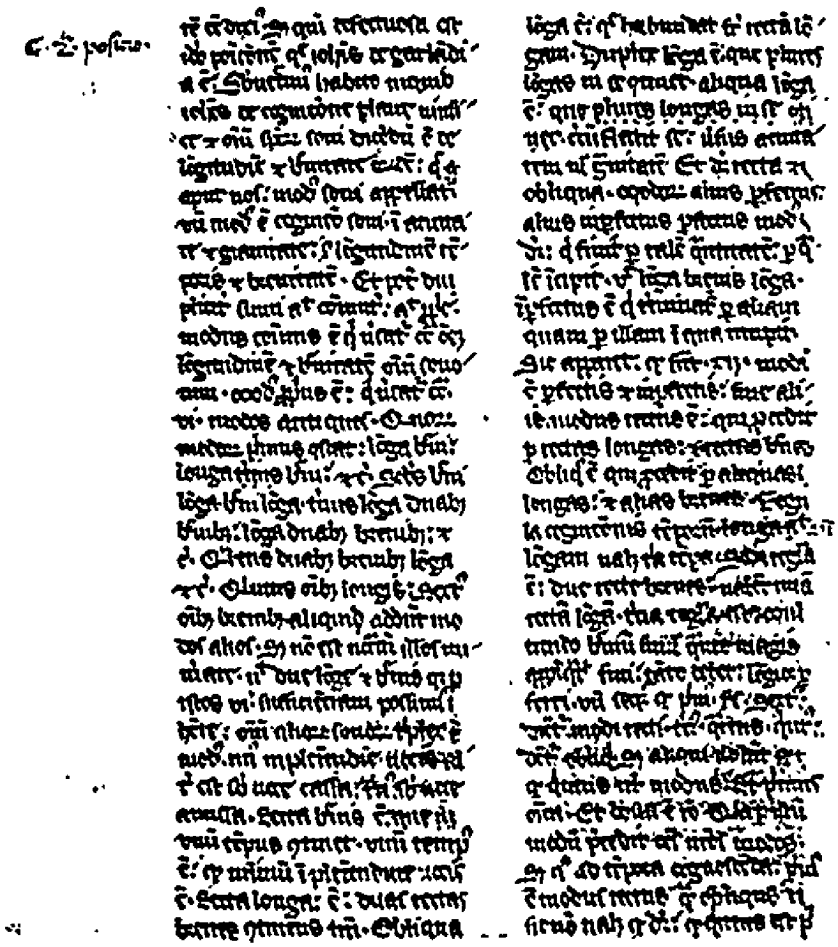
DMM StV REGNAT
Alleluya. Hodie Maria virgo ascendit; gaudete quia cum Christo regnat in eternum.

GrSar: 195.

DMM SPERABIT (See Et sperabit)

SUSTINE (See Portare)

PLATE 1.



Ms. Paris, Bibliothèque Nationale, fonds latin 16803, fol. 68v

(Reproduced from Reimer, Johannes.)

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## ABBREVIATIONS

| | |
|---|---|
| ACTA | Acta Musicologica |
| AfMW | Archiv für Musikwissenschaft |
| Ba | Bamberg. Staatsbibliothec, Ed. IV 6 (facsimile in Aubry, Cent motets.) |
| CCR | Calendar of Charter Rolls |
| CPR | Calendar of Patent Rolls |
| CR | Close Rolls |
| CS | Coussemaker, Scriptorum de musica medii aevi |
| F | Florence. Biblioteca Mediceo-Laurenziana, Plut. 29.1 (facsimile: Publications of Mediaeval Musical Manuscripts 10-11.) |
| GS | Gerbert, Scriptores ecclesiastici de musica sacra |
| Hu | Burgos. Codex Las Huelgas (facsimile in Angles, El codex musical de las Huelgas.) |
| JAMS | Journal of the American Musicological Society |
| Ma | Madrid. Biblioteca Nacional Ms 20486 (facsimile: Publications of Mediaeval Musical Manuscripts 1.) |
| MD | Musica Disciplina |
| MGG | Die Musik in Geschichte und Gegenwart |
| M&L | Music and Letters |
| Mo | Montpellier, Bibliothèque de l'Ecole de Médicine Ms H 196 (facsimile in Rokseth, Polyphonies du XIIIe siècle.) |
| MQ | Musical Quarterly |
| MR | Memoranda Roll |

PR Pipe Roll

R Paris. Bibliothèque nationale fr. 844
Manuscrit du Roi
(facsimile in Beck, Les chansonniers.)

StV Paris. Bibliothèque nationale lat. 15139
(facsimile: Thurston, The Music in the St. Victor Manuscript.)

$W_1$ Wolfenbüttel. Herzog August Bibliothek Ms 677
(facsimile: Baxter, An Old St. Andrews Music Book.)

$W_2$ Wolfenbüttel. Herzog August Bibliothek Ms 1206
(facsimile: Publications of Mediaeval Musical Manuscripts 2.)

ZfMW Zeitschrift für Musikwissenschaft