The Anonymous *Musicae artis disciplina: A Critical Edition*

by

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A thesis submitted in conformity with the requirements for the degree of Doctor of Philosophy
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**ABSTRACT**

Although *Musicae artis disciplina* (hereafter *Musica*) has long been associated with the same Italian musico-theoretical tradition that gave birth to the anonymous *Dialogus* and the writings of Guido of Arezzo, the treatise itself has received little scholarly attention. Perhaps this is due to the lack of a strong textual basis for the treatise; so far, the only published edition of *Musica* is found in Martin Gerbert’s *Scriptores ecclesiastici de musica*, which dates from 1784.

This dissertation stands as the first complete critical edition of *Musicae artis disciplina*. In order to contextualize the treatise, two introductory chapters represent a thorough investigation of *Musica’s* theories and its rightful place in music theory of the Middle Ages. The first chapter considers notions of pitch, intervals, melodic shape, and musical grammar, as outlined in *Musicae artis disciplina*. I then situate the treatise within the Italian musico-theoretical school of the early eleventh century by examining the similarities in content, orientation, musical citation, and terminology, and by considering the manuscript tradition of the anonymous *Dialogus*, the writings of Guido of Arezzo, and *Musicae artis disciplina*. Contrary to current theories regarding *Musica’s* origin, I argue that the treatise was likely written in the mid-eleventh century, after the *Dialogus* and treatises of Guido of Arezzo.
The third chapter features an analysis of *Musica*’s textual tradition, complete with a *stemma textuum*. *Musica* survives today in six known medieval manuscripts (five of which contain the complete text of the treatise) and in Gerbert’s edition, which was based on a manuscript that is no longer extant. Each of these sources is examined in detail, and a full codicological description is provided for each manuscript. An examination of common and separative errors in each witness is then used as the basis for a *stemma textuum*; although the lines of affiliation are somewhat indistinct due to high levels on contamination, I contend that these witnesses fall into two families, both of which stem from a single source that is no longer extant. The dissertation concludes with a complete critical edition of *Musicae artis disciplina*. 
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PART ONE
CHAPTER 1

Musicae artis disciplina: A Synopsis

The turn of the first millennium was an exciting time for musicians and performers: the Silver Age of plainchant was well underway, and the liturgy had shaken off the chains of previous centuries, embracing new genres and various forms of musical embellishment.\(^1\) This period of intense musical activity also saw the composition of several musico-theoretical treatises; while religious leaders sought to codify and standardize liturgical chant, theorists responded by providing the necessary tools for the singer to come to an understanding of the science of music and its newly-formed notation.\(^2\) Among the many treatises stemming from this dynamic musical setting is the Musicae artis disciplina (hereafter Musica), an anonymous text likely written in Northern Italy in the mid-eleventh century. Musica’s objective is clearly stated from the outset: to equip boys with a solid musical foundation, enabling them to perform any unknown chant without the help of a teacher. After a brief introduction expounding upon the Godly virtues inherent in learning music – a gesture which is meant both to entice the reader, as well as justify the author’s effort – Musica leads the reader on a theoretical journey through music’s most basic rules and principles, followed by an interesting discussion of melodic contour.

\(^1\) There are several studies dealing with the musical expansion of the liturgy from the tenth to twelfth centuries, most of which focus on particular genres or methods of embellishment. For a general survey of the musical activity during this time period, see David Hiley, Western Plainchant: A Handbook (Oxford: Oxford University Press, 1993), 518-20; David Fenwick Wilson, Music of the Middle Ages: Style and Structure (New York: Schirmer Books, 1990), 73-77; and Richard Hoppin, Medieval Music (New York: W. W. Norton & Company, 1978), 143-71.

The Gamut and its Intervals

Just as boys are taught the letters of the alphabet before they learn to read, *Musica* begins by introducing “all the pitches from which every song is created” (edition, lines 23-25) on the monochord. Initially, this gamut spans two diatonic octaves beginning on A, with a b-flat in the upper octave as the only chromatic alteration: A B C D E F G a♭ c d e f g a. Throughout *Musica*, these pitches are referred to as the first (A), the second (B), and so on. Instead of proceeding on to an in-depth explanation of how these pitches are produced on the monochord (as one would expect at this point) the author instead decides to focus on intervallic theory; the rules pertaining to the division of the monochord only come about in conjunction with the discussion of each interval.

According to *Musica*’s teachings, plainchant is comprised of pitches that are joined to one another by one of six intervals: the minor and major second, minor and major third, diatessaron (or perfect fourth), and diapente (perfect fifth). Since every pitch in *Musica*’s gamut is distant from another by either a tone or a semitone (ll. 28-29), the first intervals to be examined are the seconds. The major second is shown to come about by an 8:9 division of the monochord, creating the first two pitches of the gamut, A and B. Throughout *Musica*, this interval is referred to as the “epogdous tonus,” a term dating back to an older speculative music theory tradition (see Chapter 2). Using musical examples to demonstrate the practical application of intervallic theory to plainchant, the author first cites “Angelus Domini” for the major second, with its

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4 Now and throughout this study, ♭ is used to signify b-natural in the second octave of the gamut, whereas b denotes the neighbouring b-flat.
initial descent from D to C.

The investigation of the minor second, or “semitonius,” is much more expansive than that of the major second, largely due to the fact that it requires a lengthier explanation to map its location on the monochord. In Musica’s initial gamut (see above), there are five semitones: B to C, E to F, a to b, b- to c, and e to f.\(^5\) By way of example, the text explains how one would go about finding the first semitone, B to C. Since there is no ratio given for the minor second (the Pythagorean semitone ratio 256:243 would not have been easily mapped on the monochord), Musica first explains how to obtain a perfect fourth from A to D by a 3:4 division of the string.\(^6\) From there, the third pitch, C, is obtained by means of a 9:8 division from D. This leaves an interval from the second pitch, B (shown above), and the third pitch C, which is that of the first semitone.

The discussion of the semitone is further prolonged by Musica’s explanation of the b-flat and b-natural. Since all the pitches are numbered in terms of their position in the gamut, pitches a through c are initially referred to as “octavum a, nonum b, decimum b, undecimum vero c” (ll. 78-79). But the author of Musica is quick to dispense with these numeric designations for two reasons: 1) b-flat and b-natural are never to be joined together sequentially in any melody, eliminating the need to refer to these pitches using two separate numbers (ll. 77-78), and 2) it is “absurd” that a diatessaron from a to d should have five pitches, rather than four (ll. 85-87).

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\(^5\) According to contemporary music theory, there would also be a semitone between b to b- that is equal to all the others due to equal-temperament; this was not the case in the Middle Ages, where music theory was governed by Phythagorean temperament. The five semitones in Musica’s gamut, with their 256:243 ratio, are equal to the Pythagorean limma or diatonic semitone. The interval between b and b-, however, is a chromatic semitone, or Pythagorean apotome, and has a ratio of 2187:2048. Musica refers to this as the “tonus falsus.” See Jan Herlinger, "Medieval Canonics," in Cambridge History of Music Theory, ed. Thomas Christensen (Cambridge: Cambridge University Press, 2002), 171-78.

\(^6\) The author introduces the perfect fourth here only as a means for finding the first semitone on the monochord; a complete explanation of the diatessaron is reserved for later.
Therefore, for the remainder of the treatise, b and ⁷ are labelled “nona prima” and “nona secunda,” and the semitone between the two pitches – which should never occur in any melody – is called the “tonus falsus.” Finally, the author lists “Vigilate animo,” with its initial ascent from E to F, as a musical example of the minor second.

After briefly passing over the interval of a third in a single sentence (ll. 94-95), there is a lengthy examination of the perfect fourth. The diatessaron, notes the author of *Musica*, comes about by a 3:4 division of the monochord, and “howsoever you will have joined two tones and one semitone” (l. 113). Each instance of the perfect fourth from the first (A), second (B), and third (C) pitches is laid out, along with the customary warning about the tritone arising from certain pitch combinations, like b-flat and e. What is most interesting here, in terms of melodic chant theory, is the author’s assertion that any melody comprised of pitches spanning less than a fourth is “not called a song” (l. 95). “Secundum autem” is then used as an illustration for its initial descent of a perfect fourth from D to A, followed by the chant “Christus vincit,” which features a melody spanning one diatessaron from E to a.

With the addition of one full tone to the diatessaron comes the diapente, a consonance “no less wonderful” than the fourth (l. 120), and the next topic of discussion in *Musica’s* roster of intervals. The perfect fifth arises with a 2:3 division of the monochord, and is comprised of three tones and one semitone. The author of *Musica* makes special note of the fact that the removal of a tone from either the beginning or the end of a diapente creates a diatessaron – assuming, of course, that a semitone did not occupy the first or last position. The nine instances of perfect fifths within the established gamut of the treatise are then clearly laid out, followed by the
musical example “Bella bis quinis,” whose melody spans a diapente from C to g.

The preceding examinations of the diatessaron and diapente lead smoothly into *Musica’s* discussion of the diapason (or octave), since the octave arises from a combination of these very intervals. When the monochord is divided by half of its length from the location of any pitch, a diapason is sounded through a 1:2 ratio. The octave, containing five tones and two semitones, is most useful when boys and men sing the same melody together (ll. 156-60), since pitches that are an octave apart retain the same surrounding intervallic content. It is also frequently heard in “vulgar music,” that is, music played on the pipe, cithara, or fidula (ll. 166-67). Whereas the perfect fourth represents the minimum range for a chant melody, the octave is important in marking off the outer boundaries of plainchant; according to “ecclesiastical customs” (l. 168), no song, notes the author of *Musica*, should ascend higher than an octave from its final. Should this happen, a descent of no more than a major second from the final ought to take place, creating an overall range of a major ninth (the combination of two perfect fifths). The treatise maintains that only in very rare instances will the range of any melody comprise a tenth, citing the Psalms and David’s ten-stringed psaltery as license for this practice.

The examination of the diapason concludes the treatise’s discussion of intervallic theory. The author then proceeds to expand the range of the two-octave gamut established earlier – even though music will rarely call for any additional pitches (ll. 183-84). The first pitch added is gamma (Г), which is found before the lowest pitch A, thus creating an octave with G. Since this pitch is rarely used, maintains the author of *Musica*, it is not referred to as the first pitch, but

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7 This example is a musical setting of a Boethian metrum from *De consolatio philosophiae*. It is also found in an Anglo-Saxon manuscript from ca. 1000, currently housed at the Bodleian library (MS Auct. F. I. 15). See Christopher Page, “The Boethian Metrum,” in *Boethius: His Life, Thought and Influence*, ed. Margaret Gibson (Oxford: Basil Blackwell, 1981), 306-11.
rather an “added pitch” (l. 186), realized through a 9:8 division from A.

What follows is an examination of the occasional use of chromatic notes in addition to the b-flat called for in Musica’s upper octave. Sometimes, the author notes, semitones above and beyond the five mentioned earlier in the treatise come about through the carelessness of musicians (l. 196). These are B-flat (after A), E-flat (after D), e-flat (after d), and another b-flat (referred to as B – Greek capital beta – an octave above b). With the exception of the b-flat in the uppermost octave, these extra chromatic pitches are never officially added to Musica’s gamut; rather, they are only to be used in order to avoid instances of a tritone. Overall, the author cautions, these notes should be avoided, rather than accepted (l. 208).

As well as Г and the occasional use of chromatic notes, Musica’s range of pitches is further extended with the addition of four extra pitches to the top end of the gamut: а, Е, ε, and Δ, which are an octave above а, с, c, and d, respectively. In spite of the fact that these pitches are scarcely, if ever, used in any melody (l. 210), they are added to the gamut in case a singer should decide to perform any given chant using the upper octave (l. 211). The extraneous semitone B (see above) is also added to these four pitches, creating an uppermost range of а, В, Е, ε, and Δ.

Musica’s examination of pitches and intervals culminates in figure ten – an extremely detailed chart showing every one of the treatise’s accepted pitches, complete with all the possible intervallic combinations at the second, fourth, fifth, and octave, as well as a summary of the ratios used to extract one pitch from another on the monochord. The author concludes this section by defending his decision not to delve any deeper into the topic of pitches and their

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8 It is interesting to note that the author of Musica adds the uppermost b-flat (an octave above b), before the surrounding pitches of the uppermost octave are even introduced.
relationships, calling on the authority of the Bible to justify his intent to nurture the reader with milk, rather than suffocate them with too much food (ll. 254-55). At the same time, the author of Musica notes that the rules given thus far are all necessary for arriving at a true knowledge of singing (ll. 257-59), and, more importantly, for preserving the pristine virtue (l. 280) of Gregorian chant.

The Melodic Shape of Plainchant

While the topics explored in section one are very typical of music treatises from the Middle Ages, the second section of Musica is unique in its examination of what Snyder has termed “contour theory,” that is, the various melodic contours that come about when one to five pitches are joined together within a certain intervallic range. For purposes of explanation, the theorist adopts a grammatical model of syllables, parts, and distinctions as a basis for dividing chant into increasingly smaller melodic cells, to which the contour theory is then applied. According to Musica, syllables arise in music whenever one, two, three, or four pitches are joined together (ll. 284-288), and the combination of one to several of these syllables creates a musical part (ll. 288-92). The musical distinction, containing anywhere from one to three musical parts, is described as however much of a chant is performed before the singer takes a breath (ll. 293-94). It is the combination of this hierarchical system of syllables, parts, and distinctions that creates verses, antiphons, and responsories, which all come together to comprise an antiphonary (ll. 296-300). Knowing how to compose syllables, parts, and

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9 John Snyder, "Pitch and Pitch Relationships in Musicae artis disciplina: Letter Notation, Species, and Contour Theory," Theoria 17 (2010): 17-57. N.B. Snyder’s article is the first in-depth study of Musica and its contents. I did not know about its publication until August, 2012, at which point the majority of this dissertation, including the critical edition, was finished. His article was useful, however, in confirming the validity of my own translation of the treatise.
distinctions appropriately is of utmost importance in plainchant, since each musical genre has inherent qualities requiring appropriate musical settings (ll. 301-09). The reader is encouraged to examine the antiphonary of St. Gregory, since he, of all men, was most adept at this musical skill (ll. 300-01).

It is first crucial to understand the various principles upon which Musica’s contour theory is based. To begin with, contour theory is applied at the level of the musical syllable only; it is the singer’s responsibility to group the syllables appropriately into parts, distinctions, and ultimately into plainchant melodies. Furthermore, as mentioned earlier, pitches can be joined to one another using any one of the following six intervals: the tone, semitone, major and minor third, diatessaron, and diapente; as such, no pitch combinations within one syllable are to exceed a perfect fifth. Moreover, the author of Musica notes that musical syllables are, by nature, either simple or compound, referring to the number of pitch movements (“motus”) in syllables containing a minimum of two pitches: a simple syllable is one that features two different pitches in direct ascent to or descent from one another (two movements), whereas a compound syllable denotes the use of three (or more) movements between the two to three pitches. Finally, any given syllable can contain pitches in conjunct or disjunct motion.

1. Syllables Containing One Pitch

Musica’s discussion of contour theory begins at the smallest possible level: syllables comprised of one pitch. These contain one to three movements, meaning that a single pitch is sung once, twice, or three times. Although there is not much to be said on this topic, the theorist does note that the repetition of the same pitch should not occur too often, since “excess in every case is harmful; every moderation benefits sufficiently” (ll. 324-25).
2. Simple and Compound Syllables Containing Two Pitches

The principles of *Musica*’s contour theory really begin to take shape with the examination of syllables featuring two different pitches, and two to four movements. This discussion begins by examining pitches that are a minor second apart (the pitches E and F shall be used here for purposes of illustration). For simple syllables with two movements, there are only two possible variations: E to F or F to E. Here, the chant “Iubilate Deo,” with its initial ascent from E to F, is cited as an example. Yet when an extra movement is added, creating a compound syllable with two pitches and three movements, there are six possible scenarios: EEF, FEE, FFE, EFF, EFE, or FEF. Should one decide to add yet another movement, *Musica* notes the following four possible pitch combinations: EFEF, EFEE, FEFE, or FEFF. If yet another movement is included, the author notes that countless other variations arise, but maintains that syllables containing four or more movements ought to be split up into two different syllables.

When syllables contain pitches that differ from one another by a tone, the same possible pitch combinations present themselves as those mentioned above in conjunction with the semitone. The same can be said for pitches that are a major or minor third apart, yet these are not as common as melodic movements of a second (ll. 400-01). Even less common, notes the author of *Musica*, are syllables that feature two pitches that are a fourth or fifth apart: such wide leaps rarely occur consecutively without the mediation of at least one additional pitch (ll. 405-06).

3. Compound Syllables Containing Three Pitches

*Musica*’s notion of contour theory is further developed in the discussion of syllables that join...
together three different pitches. If the pitches are conjunct, there are six different possibilities for a syllable of three pitches and three movements (C, D, and E shall be used here for purposes of illustration): CDE, CED, DCE, DEC, ECD, or EDC. When additional pitches are added to any of the aforementioned examples, the author of *Musica* maintains that they ought to be separated into two syllables, unless the added pitch is simply a repetition of the last pitch in the syllable: CDEE, CEDD, DCEE, DECC, ECDD, or EDCC. In this case, the syllable will have four movements and three pitches.

When musical syllables feature three pitches in disjunct motion, a host of possibilities arise, and the author of *Musica* makes no effort to document the various potential pitch relationships, except to note that a musical syllable should not contain pitches that are farther than a fourth or fifth apart (ll. 441-42). The theorist does note, however, that a syllable containing three pitches and three movements, while encompassing an interval of a fourth, will require at least one or two notes to be passed over, and a syllable comprising a fifth will require the same for at least one, two, or three notes.

This lengthy, and at times tedious discussion of contour theory concludes with various diagrams documenting every possible intervallic pitch combination from the semitone to the perfect fifth within *Musica’s* established gamut. Special attention is given to the relationship between the tone and semitone, so that the various instances of the minor third involving a semitone followed by a tone are documented separately from those involving a tone followed by a semitone, much in the manner of the theory of intervallic species.\(^\text{11}\) Yet the manner in which these intervals are to be applied to *Musica’s* theory of syllables – or even how any given melody

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\(^\text{11}\) Again, see ibid., 31-36.
ought to divided into its constituent musical parts in the first place – is left to the singer’s discretion, since such things are taught more by experience than by written rules (ll. 451-54).

Overall, *Musicae artis disciplina* teaches the very basics of music theory, specifically as it applies to the plainchant repertory. The discussions of pitches, intervals, and musical grammar provide a solid foundation for understanding the mechanics of medieval music. Noticeably absent, however, is any discussion of the medieval modes and their inherent musical qualities – a topic that is directly applicable to much of the intervallic theory presented throughout the treatise, and that is “perhaps the greatest preoccupation of medieval theory.” Furthermore, some of *Musica’s* theories remain underdeveloped, requiring the reader to call on years of practical knowledge to supplement the theoretical knowledge presented in the text; for instance, the method whereby one might divide a melody into its constituent parts is left to the judgement of the singer, and the discussion of intervallic species and the permissible range for plainchant melodies remains incomplete without a consideration of the modes. Nevertheless, the author of *Musica* does succeed in providing the reader with a practical glimpse into the complexities of medieval music theory, and in doing so, he aligns himself with the Italian musico-theoretical tradition of the early eleventh century – a topic which shall now be given in-depth consideration.

\[12\] ibid., 35.
CHAPTER 2

Positioning *Musica* in Eleventh-Century Italian Music Theory

To date, *Musica* has been virtually ignored in musicological scholarship. With the exception of Lambillotte’s *Esthétique, théorie et pratique du chant grégorien*\(^\text{13}\) and Hans Oesch’s *Guido von Arezzo*,\(^\text{14}\) no study has even attempted to address the most basic of questions surrounding the treatise: Where was it written? When was it written? Who was it written by? The present chapter thus seeks to remedy this by examining *Musica’s* place within the musico-theoretical environment of the early eleventh century, based on a comparison with five well-known Italian treatises contemporaneous to *Musica*: namely, the *Dialogus de musica* (or *Dialogus*) of Pseudo-Odo, and the *Micrologus, Regule rithmice, Prologus in antiphonarium*, and *Epistola ad Michaheim* of Guido of Arezzo. In order to place *Musica* within this milieu, I shall first examine the musico-theoretical tradition that gave birth to these texts. Secondly, I shall consider each text not only in terms of its orientation, but also as a vehicle for the transmission and propagation of: ancient music theory, theories on musical notation, pitch classification, and monochord division, and intervallic theory. Thirdly, having situated the treatise within this northern-Italian school, I shall examine current theories regarding *Musica’s* origin. Finally, I shall propose a new date for composition based on a study of the treatise’s musical examples, use of terminology, and manuscript evidence.

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Musica: A Musico-theoretical Contextualization

As a cultural text, Musica bears witness to a turning point in the history of medieval music theory. From the fifth century onwards, the speculative writings of Martianus Capella, Cassiodorus, Boethius, and Isidore had dominated the musico-theoretical tradition. Martianus Capella’s De Nuptiis Philologiae et Mercurii and Cassiodorus’ Institutiones firmly established music as one of the seven liberal arts, setting a standard for music education for centuries to come. Isidore of Seville, moreover, approached music in a purely literary and encyclopedic manner in his Etymologies. Yet Boethius was the most influential of all the early writers: his De institutione musica was the most widely copied musical treatise throughout the Middle Ages, playing a fundamental role in musical instruction at the monastery and


university, and in the transmission of Greek music theory into the Middle Ages. In spite of their varying content, one thing that each of these treatises had in common was their emphasis on learning music for the sake of learning, rather than practicing. Mastering the precepts of music was viewed not as an end in itself, but rather as “an indispensable discipline preparing the student for the highest philosophy.” This ideal shines brightest in De institutione musica in particular; Boethius did not shy away from his belief that the musicus (i.e. the one who understands the science of music) was far superior to the everyday practitioner of the art.

This philosophical way of considering music did not last: the Carolingian Renaissance of the 8th and 9th centuries, coupled with subsequent monastic and liturgical reforms, ushered in a new era in music theory in which the speculative orientation of earlier medieval writings gradually

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22 “Now one should bear in mind that every art and also every discipline considers reason inherently more honorable than a skill which is practiced by the hand and the labor of an artisan. For it is much better and nobler to know about what someone else fashions than to execute that about which someone else knows; in fact, physical skill serves as a slave, while reason rules like a mistress...” An entire chapter is devoted to this very topic in Boethius, *Fundamentals of Music*, 50-51.


gave way to practicality and simplicity. Following the rediscovery of *De institutione musica* in the mid-ninth century, music theorists sought to describe contemporary chant phenomenon using the ancient Greek and Latin musico-theoretical precepts laid out by Boethius, and treatises began to focus on explaining the complexities of earlier music theory to the practicing musician, thus making the science of the *musicus* accessible to the cantor. The earliest surviving treatise to reflect this trend was Aurelian of Réôme’s *Musica disciplina* (c.850). Although Aurelian did not entirely break free from the earlier speculative tradition (as is evident, for instance, in chapters dealing with complex numerical relationships inherent in music and the Boethian division of music), he was the first to systematically provide an explanation of the musical modes through the use of numerous chant examples. In the dedication of *Musica disciplina*, Aurelian revealed that he was “asked by the brethren to write a detailed discourse about certain rules of melodies,” in order to produce more noble singers – a phrase that betrays the treatise’s more practical orientation.

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The *Musica* and *Scolica enchiriadis* (hereafter *ME* and *SE*),\(^\text{29}\) written in the late ninth century by an anonymous author (or authors),\(^\text{30}\) acted as further witnesses to this trend. *ME* explained the simplicity of learning music in terms of the “elementary and indivisible constituents of speech,”\(^\text{31}\) breaking the elements of song into tones, intervals, and sections. The treatise also employed several musical examples to demonstrate specific rules of plainchant, thus confirming its theories “both by ear and eye.”\(^\text{32}\) *SE* was even more practical in its presentation of theoretical material, using the form of a question-and-answer dialogue between teacher and student. Beginning with the most basic question of all – What is music? – *SE* sought to explain music theory to the singer of “ecclesiatical song.”\(^\text{33}\) The goal of *SE* – summed up by the student himself after a discussion on rhythm – was for the singer to take the presented theories and “put them into practice.”\(^\text{34}\) Nevertheless, both *ME* and *SE* still devoted a large portion of their texts to examining the complex precepts of ancient music theory, drawing authors as diverse as Censorius (*De die natali*), Calcidius (commentary and translation on Plato’s *Timaeus*), Augustine (*De musica*), Fulgentius (*Mitologiae*), Boethius (*De institutione musica* and *De


\(^{30}\) Palisca, *Musica enchiriadis and Scolica enchiriadis*, xxiv-xxx.


This musico-theoretical shift towards increasing practicality was also evident in *De harmonica institutione* (ca. 880),\(^{36}\) where Hucbald of St. Amand strove to explain the phenomena of musical intervals, notes, and modes to those “eager to be initiated into the art of music.”\(^{37}\) He proposed that music could be learned quickly by means of preliminary exercises drawn from liturgical plainchant, which he provided for the classification of pitches and intervals.\(^{38}\) Yet the practical orientation of *De harmonica* was perhaps best exemplified in Hucbald’s attempt to reconcile ancient music theory with contemporary music practice: the antiquated theoretical precepts of Boethius (a “most sagacious man”)\(^{39}\) and Martianus Capella\(^{40}\) were used throughout the treatise to explain contemporary plainchant phenomena.

Increasing emphasis on practical music theory at the expense of the earlier, speculative tradition

\(^{35}\) ibid., xx.

\(^{36}\) Claude V. Palisca, ed. *Hucbald, Guido, and John on Music: Three Medieval Treatises*, Music Theory Translation Series (New Haven: Yale University Press, 1978). The only readily available critical edition of the treatise is found in Martin Gerbert, *Scriptores ecclesiastici de musica sacra potissimum: ex variis Italie, Gallia & Germaniae codicibus manuscriptis collecti et nunc primum publica luce donati a Martino Gerberto monasterii et congreg. S. Blasii in Silva Nigra abbate*, vol. 1 (Typis San-Blasianis, 1784), 103-125. There is some debate as to whether *ME* and *SE* were written before or after *De harmonica institutione*. In music theory histories, one generally finds the *Enchiridias* treatises listed first, followed by Hucbald.

\(^{37}\) ibid., 13; “Ad Musicae initiamenta quolibet ingredientem...” Gerbert, *Scriptores ecclesiastici de musica*, 104.


\(^{39}\) ibid., 24; “...Viri disertissimi...” Gerbert, *Scriptores ecclesiastici de musica*, 110.

culminated in a school of music theory that came out of Italy in the early eleventh century; the anonymous *Dialogus de Musica* (c. 1000),

41 Guido of Arezzo’s *Micrologus* (c. 1025), *Regulæ rithmice* (c. 1030), *Prologus in antiphonarium* (c. 1030), and *Epistola ad Michahelem* (c. 1033),

42 and *Musicae artis disciplina* were the first texts to truly break free from the complex numerical philosophy that characterized earlier musical education. In spite of their various levels of interaction with early music theory, each text strove to explain the science of the *musicus* to the practitioner of the art, and it is precisely this practical orientation that provides preliminary grounds for situating *Musica* among its musico-theoretical contemporaries.

1. Making a *Musicus* of a Cantor

The abandonment of the speculative complexity of earlier theorists for the sake of simplicity and practicality is an attitude that shines through in *Musica*, where the author’s clearly-stated intent is to present the rules of music so that even the youngest boys should be able to understand them (edition, lines 16-19). To this end, *Musica* uses several tools to guide the singer through the science of the *musicus*. For instance, the treatise cites numerous musical examples drawn from liturgical plainchant to provide aural reinforcement of the musical theories presented in the text. The author also expounds upon each musical precept with exhaustive explanations that lack the

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complicated terminology and numeric complexity of earlier music theory. Furthermore, *Musica* provides several diagrams to further clarify how each rule can apply to a number of musical pitches. Through the instruction provided in *Musica*, the author hopes each and every reader will be able to arrive quickly at perfection in singing “without the labour of a teacher.”

*Musica’s* orientation falls perfectly in line with that of the *Dialogus* and the writings of Guido of Arezzo. In the form of a dialogue between a teacher and student, the *Dialogus* presents the rules of music as a foundation for learning how to sight-sing quickly and accurately. Consider the following claim made by the author in a discussion regarding the usefulness of the monochord and letter notation:

> When the boys mark some antiphon with these letters, they learn it better and more easily from the string than if they heard someone sing it; and they are able after a few months’ training to discard the string and sing by sight alone, without hesitation, music that they have never heard.

Like *Musica*, the *Dialogus* draws on the plainchant corpus to provide familiar, practical examples to explain musical theories on pitch, notation, intervals, and modes that are presented in the text. The text is concise and to the point, lacking the extensive explanations found in *Musica*, while simultaneously presenting each idea in a clear and efficient manner.

Guido of Arezzo’s treatises, spanning about a decade from 1025 to after 1033, provide a glimpse into the evolution of methods used to teach boys how to sight-sing. In the *Micrologus*, the first “unequivocal school text for singers,” Guido, like the *Dialogus* and *Musica*, presents

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43 “...absque magistri labore...” ll. 14-15


the monochord as tool for teaching boys how to sing “so securely at first sight chants they had not seen or heard.” This method is upheld in the *Regule* and *Prologus*, but in the *Epistola ad Michahelem*, Guido introduces solmization, a method whereby boys “could easily sing unknown chants before the third day, which by other methods could not happen for many weeks.” In spite of changes in approach, all of Guido’s treatises present a practical music education, using musical examples, diagrams, and simple terminology to explain some rather complex numerical concepts. Like *Musica* and the *Dialogus*, Guido steers clear of the speculative music tradition of the earlier Middle Ages, bringing the knowledge of the *musicus* down to the level of the cantor.

2. Dependence on Ancient Sources

Whereas the earlier practical treatises, such as *ME* and *SE*, were characterized by a dependence upon and use of ancient and early medieval music theory to explain contemporary chant practice, the Italian school of the early eleventh century largely did away with this custom. *Musica* is no exception: although paying homage to the speculative tradition with superficial references to Boethius, Ambrose, Isidore, and even Gregory the Great, *Musica* largely abandons the complexities of earlier medieval music theory in favour of a more hands-on approach to learning music. For instance, the author must have been familiar with the musical legend of Gregory the Great propagated by John the Deacon’s *Sancti Gregorii magni vita*, due to the fact that he makes reference to Pope Gregory and his divine composition of the antiphoner time and

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time again. He also refers to the talents of Isidore and Ambrose in composing and recognizing chants and singers of good merit, and even incorporates a song based on a metrum from Boethius’ Consolatio Philosophiae to illustrate melodies spanning a fifth. Yet Musica’s explanations of these authors and, to some extent, their ideas are extremely basic: when mention is made of St. Isidore, for instance, the discussion is limited to the saint’s perception of the ignorant cantor. The Boethian metrum, furthermore, is employed solely as a textual basis for a musical melody. Musica does not even allude to the legend of Pythagoras and the smithy in his discussions of musical ratios like so many treatises from the Middle Ages. It is thus evident that the author of Musica did not want to rehash the complexities of ancient music theory, but simply make his reader aware that he was familiar with the authorities of the liberal arts.

The anonymous author of the Dialogus takes this abandonment of the speculative tradition even further, making no attempt whatsoever to align himself with any facet of ancient music theory. Unlike Musica, this treatise does not even mention the early authors, let alone adopt their abstract approaches to music theory. With the exception of one reference made to St. Gregory in the prologue to the text, (which Huglo has already shown was likely not part of the original treatise, but a later addition by a different author), the Dialogus omits references to Boethius, Isidore, Augustine, or any of the ancient writers. Also absent is the complex number theory of

49 See ll. 262-68 and 300-14.
50 See ll. 273-75.
51 See ll. 269-70 and 310.
52 See ll. 135-36
53 “Sollicite quoque ac curiosissime investigantibus, an per omnes cantus nostra doctrina valeret, assumpto quodam fratre, qui ad comparationem aliorum cantorum videbatur perfectus, antiphonarium sancti Gregorii diligentissime cum eo investigavi in quo pene omnia regulariter stare inveni...” Huglo, “Der Prolog,” 139.
54 ibid.
the earlier tradition, which is replaced by the most basic rules necessary for performing plainchant.

Although Guido of Arezzo does not completely ignore the speculative writers, he does parse their ideas down to the simplest terms possible. In Micrologus, Guido claims to follow Boethius in the form of sounds: “For this reason we, like Boethius and the musicians of old, indicate all musical sounds by seven letters.” Yet perhaps he was not as familiar with Boethius’ text as he would have us believe: Boethius did not only use the seven letter notational system, but also employed a range of letters from A - P – all of which were used as hypothetical pitch representations, not concrete notation. Perhaps therein lies the root of Guido’s famous saying that Boethius’ “book is useful to philosophers only, not to singers.” The legend of Pythagoras and the smithy is allotted an entire chapter at the end of Micrologus, entitled “How the nature of music was discovered from the sound of hammers,” and Guido refers to Gregory the Great and his antiphoner in all four of his treatises, further promulgating Gregorian legend.

Therefore, it is evident that the Italian treatises of the early eleventh century feature various levels of interaction with ancient music theory. On one end of the spectrum, Guido of Arezzo attempts to adopt certain precepts of Boethius, yet his understanding of the theories in De institutione musica is incomplete. The Dialogus, on the other end, was written by an author who did not feel it was necessary to align himself with the ancient, authoritative tradition, where

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55 Palisca, Hucbald, Guido, and John, 62; “Hac nos de causa omnes sonos secundum Boetium et antiquos musicos septem litteris figuravimus...” van Waesberghe, Guido Areitus: Micrologus, 112.

56 “...Boetium in hoc sequens, cuius liber non cantoribus sed solis philosophis utilis est.” Pesce, Guido d’Arezzo, 530-31.

57 Palisca, Hucbald, Guido, and John, 82; “Quomodo musica ex malleorum sonitu sit inventa.” van Waesberghe, Guido Areitus: Micrologus, 228.

58 Pesce, Guido d’Arezzo, 348-49, 70-71, 82-83, 412-13, 516-17; and Palisca, Hucbald, Guido, and John, 79.
many of his ideas find their roots. Thus *Musica* occupies the middle ground between these two extremes, in that the references to ancient authors found in the text are very basic. Nevertheless, all of these authors bear witness to the fundamental rejection of the complex theories of the early Middle Ages, since not a single one does any more than dip their toes into the ocean that is the early medieval speculative tradition.

3. What’s in a Note?

Each of the Italian treatises presents a slightly unique way of notating music – a situation that ought to be expected, since notation was still in the process of being standardized. Yet they all introduce methods that would become, for all intents and purposes, the alphabetic system that is still used today. In a discussion dealing with the acceptable pitches for use in plainchant, *Musica* recommends a two-and-a-half-octave range, notated with the following letters:59

\[ \Gamma A B C D E F G a b \ \flat \ c d e f g \ \natural \ B \ \sharp \ e \ \Delta \]

Here, each pitch is reproduced with the same letter in the higher and lower octave, with the exception of the Greek letters gamma, alpha, epsilon, and delta, which have the same surrounding intervallic relationships as G, A, C, and D, respectively. In reference to these pitches, *Musica* calls the A the first note (“prima”), B the second note (“secunda”), and so on.

The *Dialogus* is similar to *Musica*, representing musical pitch with the following alphabetic notation:

\[ \Gamma A B C D E F G a b \ \flat \ c d e f g \ \natural \]

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59 As in chapter one, please note that \( \flat \) denotes b-natural, and b, b-flat. Furthermore, the system of upper and lower case letters used in medieval treatises will also be used here, in that \( \Gamma \) is an octave lower than G, two octaves lower than g.
Like *Musica*, *Dialogus*’ notation uses the same letter of the alphabet to denote a relationship between pitches one octave apart. The terminology used to describe these notes is also identical: both treatises refer to A as the first note, B as the second, and so on; even the b-flat and b-natural are referred to in both texts as the “prima nona” (first-ninth pitch) “secunda nona” (second-ninth pitch). Yet with the addition of B, E, and Δ, *Musica*’s gamut exceeds that of the *Dialogus* by a perfect fourth.

The classification of pitches and their notation in Guido’s *Micrologus* is the closest to that recommended by *Musica*. Having also adopted alphabetic notation, Guido proposes the following range of two and a half octaves:

\[
\Gamma \quad A \quad B \quad C \quad D \quad E \quad F \quad G \quad a \quad b \quad c \quad d \quad e \quad f \quad g
\]

With the exception of *Musica*’s use of Greek letters, the ranges and notation introduced in *Micrologus* and *Musica* are identical.

In the *Prologus*, *Regule*, and *Epistola*, Guido appears conservative, becoming more restrictive on the permissible range for chant:

*Prologus, Regule*: \(\Gamma \ A \ B \ C \ D \ E \ F \ G \ a \ b \ c \ d \ e \ f \ g \)

*Epistola*: \(\Gamma \ A \ B \ C \ D \ E \ F \ G \ a \ b \ c \ d \ e \ f \ g \)

The b-flat is also omitted from the gamut of these later treatises, a matter which receives thorough explanation in *Regule*:
There are those who add another [b] next to the first [letter a] in the high pitches, but this licence scarcely pleases Father Gregory; moreover the wise moderns do not even mention this. Accordingly, however much the little tone itself may be made among some, nevertheless, rightly it is called superfluous among many. But the other second [l] is always authentic. 60

In these instances, the alphabetic notation is most closely aligned with the Dialogus of Pseudo-Odo.

Yet one cannot examine the notation of Guido without also considering his invention of the staff as we still use it today. 61 In his Regule and Prologus, Guido suggested that neumes be placed on a line, so that “each sound, however often it may be repeated in a melody, is always found in its own row.” 62 These lines, furthermore, were to be placed close together, denoting intervals one third apart, so that “all the sounds on one line or in one space sound alike.” 63 This notational innovation was put into practice by Guido in an Antiphoner that is no longer extant, for which the Regule and Prologus were written. Guido’s staff notation was first adopted in Italy, and gradually spread all over Western Europe. 64

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60 “Sunt qui addunt in acutis iuxta primam alteram, sed Gregorio vix placet patri hec lascivia; at moderni sapientes hanc neque commemorant. Quamvis ergo apud quosdam ipsa fiat vocula, apud multos tamen iure dicitur superflua. Altera vero secunda semper est autentica.” Pesce, Guido d’Arezzo, 348-49.

61 This comment merits some discussion. Guido was not the inventor of the staff per se; both Musica enchiriadis and Hucbald’s De hamonica institutione presented diagrams in which musical notation was placed on lines representing pitches a second apart (See John Haines, “The Origins of the Musical Staff,” The Musical Quarterly 91 (2008): 327-78; Palisca, Musica and Scolica enchiriadis, 8-9; and Palisca, Hucbald, Guido, and John, 23.) Guido was, however, the first to use line notation to represent pitches that were a third apart, which is how the staff is used today. See Pesce, Guido d’Arezzo, 17, 374-77, 418-25.


64 Pesce, Guido d’Arezzo, 17-18.
4. Intervallic Theory

The number of permissible intervals to be found in plainchant is a topic examined in each treatise. Although, theoretically, this number could extend ad infinitum – within the confines of the human voice – each theorist had his own idea of what ought to be used. In *Musica*, the author proposes that pitches be joined to one another by six intervals: the semitone, tone (or epogdous), minor third, major third, diatessaron (perfect fourth), and diapente (perfect fifth). Of these intervals, only the diatessaron and diapente, along with the diapason (or octave) are termed "symphonia," or consonances. *Musica* does acknowledge the existence of the tritone in musical performance, occurring not by way of a combination of three consecutive tones in an attempt to make a diatessaron, but rather with the combination of two tones and two semitones in a (diminished) diapente:

> Ut autem tribus tonis inter se different, nec sonoritatis nec regulae auctoritate fulcitur. Cum superius monstratum sit, tres continuos tonos simul iungi non posse, ut est a sexta voce in nonam secundam, vel a nona prima in duodecimam. Jungitur praeterea vox ad quintam cum diapente ratione fulcitur, id est cum tribus tonis et semitonio ab illa separatur, nam ut duobus tonis et duobus semitoniis id fiat rarissime inventur [ll. 409-14]

Throughout this discussion of intervals, *Musica* provides numerous musical examples, drawn from the repertory of the "most blessed" Gregory, to illustrate the use of certain intervals and symphoniae (see especially ll. 370-73).

Once again, the *Dialogus* and Guido’s writings find similar ground with *Musica* in the number of intervals one can use while singing. In chapter five, “Of the Conjunction of Sounds,”*65* *Dialogus* notes that there are six intervals used in plainchant in both ascent and descent: the semitone, tone, minor and major third, diatessaron, and diapente. The author also asserts that the

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three consonances (that is, the “three divisions that govern the natural position of sounds”\textsuperscript{66}) are the diatessaron, diapente, and diapason. Meanwhile, Guido discusses intervallic content in both Micrologus and Epistola, explaining that an understanding of the same six intervals mentioned by the Dialogus allows one to sing skilfully, intelligently, and therefore easily.\textsuperscript{67} In the discussion of intervals and consonances, Musica, once again, shows itself to be firmly entrenched in the Italian theory tradition of the eleventh century.

5. The Division of the Monochord

Music treatises, whether speculative or practical, generally had one thing in common: the presentation of a method or methods for dividing the monochord. This element was crucial for uniting aspects of music and number for the reader, in order to show the agreement between the ear and numerical proportion.\textsuperscript{68} In Musica, the division is presented in a very basic manner:

1) after a string of any length is selected, the ratio for making a tone is explained as an 8/9 proportion (pitches A - B),

2) the fourth, from A to D, is then created by a 3/4 ratio,

3) C is found via a 9/8 ratio from D (thus creating the first tetrachord),

4) and the ratios for the fifth (2/3) and octave (1/2) are then given, which, combined with the 3/4 ratio of the fourth, become the basis from which all other pitches are found.

\textsuperscript{66} Strunk, Source Readings, 203; “Tres sunt praeter tonum divisiones, quae naturalem vocum, quam supra dixi, positionem custodiant.” Gerbert, Scriptores ecclesiastici de musica, 254.

\textsuperscript{67} Palisca, Hucbald, Guido, and John, 61. “Cumque tam paucis clausulis tota harmonia formetur, utilliimum est altae eas memoriae commendare, et donec plene in canendo sentiantur et cognoscantur, ab exercitio numquam cessare, ut his velut clavibus habitis canendi possis peritiam sagaciter ideoque facilius possidere.” van Waesberghe, Guido Aretinus: Micrologus, 105-06.

\textsuperscript{68} For an in-depth study of monochord divisions in the Middle Ages, see Meyer, Mensura monochordi.
Although *Musica*’s division is simple, at the same time, it is not very explicit; the various ratios only come about in the discussions of each interval, and reader must piece all of these together to come to a full understanding how to divide the monochord. To compensate for this, however, there is an extremely detailed diagram showing all of the pitches of *Musica*’s gamut, their intervallic relationships to one another, and what ratios produce these intervals:

<table>
<thead>
<tr>
<th>Littera monochordi per ordinem</th>
<th>Т Т С Т С Т Т С nihil</th>
<th>С Т Т С Т Т С nihil</th>
<th>С T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prima divisio priorum per novem, id est epogdous tonus</td>
<td>А B nihil</td>
<td>D E nihil</td>
<td>Ga b c d e f g α B ε Δ</td>
</tr>
<tr>
<td>Divisio priorum per quatuor, id est diatessaron</td>
<td>C D E F G a b c d nihil</td>
<td>e f g α B ε Δ</td>
<td></td>
</tr>
<tr>
<td>Divisio priorum per tres, id est diapente</td>
<td>D E nihil</td>
<td>G a b c d e f nihil</td>
<td>g α ε Δ</td>
</tr>
<tr>
<td>Divisio priorum per duo, id est diapason</td>
<td>G a b c d e f g α B ε Δ</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The *Dialogus* contains a much more explicit division, guiding the reader through methods for finding the pitches of the whole octave from Г to G, in the following manner:\(^{69}\)

1) Г to А (8/9)
2) А to Б (8/9)
3) Г to С (3/4)
4) А to D (3/4)
5) Б to Е (3/4)
6) С to F (3/4)
7) Г to г (1/2)

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8) F to b-flat (3/4)

After all of these pitches are established, it is easy for the reader to either recreate the same measurements one octave higher starting with g, or simply measure a 2/1 ratio from each pitch, thus finding its duplication at the octave. The method for dividing the monochord in the *Dialogus* is thus much simpler than *Musica*’s, ultimately leaving the reader with a much more concrete model for measuring a string.

Guido of Arezzo uses the monochord as a pedagogical tool in three of his four treatises, following, for the most part, the division set out by the *Dialogus*. In *Regule*, the measurements given for each pitch are exactly the same as those enumerated above.\(^\text{70}\) The *Micrologus*\(^\text{71}\) and *Epistola*,\(^\text{72}\) however, diverge from this division in one way: g is found by means of a 3/4 division from D to g rather than a 1/2 octave ratio from Γ. What is particularly interesting about Guido’s monochord teachings is the alternate division presented in *Micrologus*:

Here follows another method of dividing the monochord, which is harder to memorize, but by it the monochord is more quickly divided. You make nine steps, that is [equal] segments from Γ to the other end. The first step will end at A, the second will have no letter, the third will end at D, the fourth will be unlettered, the fifth will end at a, the sixth at d, the seventh at aa, and the others will be unlettered. Likewise, when you divide from A to the other end into nine parts, the first step will end at B, the second will be unlettered, the third will end at E, the fourth will be unlettered, the fifth will end at b, the sixth at e, the seventh at bb, and the rest will be unlettered. When you divide from Γ to the other end in quarters, the first step will end on C, the second on G, the third on g, the fourth at the end of the string. Of the four similar steps from C to the other end of the string, the first will end on F, the second on c, the third on cc, the fourth at the end of the string. Of the quarter steps from F, the first will end on b-flat, the second on f.\(^\text{73}\)

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\(^{70}\) Pesce, *Guido d’Arezzo*, 338-41.

\(^{71}\) Palisca, *Hucbald, Guido, and John*, 60.

\(^{72}\) Pesce, *Guido d’Arezzo*, 480-85.

This division is unique among the treatises considered, and it is represented, in terms of ratios, in a more complex manner:

1) from Γ, one finds A (8/9 ratio), D (6/9), a (4/9), d (3/9), and aa (2/9)
2) from A, one finds B (8/9 ratio), E (6/9), b (4/9), e (3/9), and bb (2/9)
3) again measuring from Γ, one finds C (3/4), G (2/4), and g (1/4)
4) from C, one finds F (3/4), c (2/4), and cc (1/4)
5) from F, one finds b (3/4), and f (2/4).

Although this alternate method of measuring the monochord is more difficult to memorize, Guido maintains that it is quicker in execution than the primary division presented in the Micrologus (see above), and thus, by default, also quicker than the divisions found in the Regule, Epistola, Dialogus, and Musica.

**Situating Musica among its Contemporaries**

Having taken into account Musica’s theories, orientation, and interaction with ancient music theory, there can be no doubt that the treatise was a product of the same musico-theoretical tradition that gave birth to the Dialogue and the four texts of Guido of Arezzo. All of these treatises emphasize practicality not only in their aim to make the science of music accessible to the singer, but also in their fundamental rejection of the complexities of the early medieval speculative tradition. Furthermore, Musica’s theories of notation, intervallic structures, and

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74 Meyer, Mensura monochordi, xliv-xlvi, 154-55, 265.
monochord division are firmly in line with these same topics covered in the *Dialogus* and Guido’s treatises. In fact, the only glaring difference between the texts is *Musica*’s omission of any kind modal theory – a topic that is covered extensively in the other treatises. Nevertheless, the question remains: where exactly does *Musica* fit among its Italian contemporaries?

The first author to seriously examine *Musica* and its place in medieval theoretical thought was R. P. L. Lambillotte in his 1855 *Esthétique, théorie et pratique du chant grégorien*. Under the heading “Second traité de Saint Oddon sur le chant grégorien,” Lambillotte attributed *Musica*, along with the *Dialogus*, to abbot Odo of Cluny (d. 942), noting that both treatises were written with “la même pensée, la même âme, et la même plume.” He maintained that *Musica* should be accepted and analyzed as abbot Odo’s second treatise – the “fruit naturel du génie et de l’expérience du célèbre abbé.” Lambillotte then provided a translation of select passages of *Musica*, examining the various theories presented in the text, and how they related to the *Dialogus* and the texts of Guido of Arezzo.

Nearly a century later, *Musica* was the subject of renewed consideration in Hans Oesch’s *Guido von Arezzo*. Like Lambillotte, Oesch contended that *Musica* and the *Dialogus* were written by one and the same author, but rather than accepting Odo of Cluny, Oesch proposed Odo of St. Maur des Fossés, a monk active in Cluny near the end of the tenth century, who became the

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75 Lambillotte, *Esthétique, théorie et pratique*, 146-61.

76 ibid., 146.

77 ibid.

78 Oesch, *Guido von Arezzo*, 100-04.
abbot of St. Maur-des-Fossés in 1006 until 1029. After an examination of topics covered in both the *Dialogus* and *Musica*, Oesch argued that “Die Musica erweist sich somit nicht nur in der Disposition als dem Dialogus sehr nahestehend, sondern muss auch in allen Einzelheiten als Vorstufe des kürzer gefassten Dialogus betrachtet werden,” thus reversing the chronology of the texts proposed by Lambillotte.

Oesch was the last musicologist to give serious consideration to *Musica*’s musico-theoretical placement; the few studies that have surfaced since then do not bring any new evidence to the table. For instance, in the article “L’auteur de ’Dialogue sur la musique’ attribué a Odon,” Huglo considers *Musica* both as a forerunner of and commentary upon the *Dialogus*, but does not take a firm stance on either option. *Musica* is also briefly examined in Gushee’s 1971 article “Questions of Genre in Medieval Treatises”; in discussing Oesch’s timeline for the *Dialogus* and *Musica*, Gushee notes that he does “not find proof for this decision on chronology.” Most recently in a 2010 article on the treatise, Snyder maintained that “the *Dialogus* refines material from *Musicae artis disciplina*, and [is] therefore later – although not necessarily much later,” thus adhering to Oesch’s chronology.

All of the studies that have surfaced thus far maintain that *Musica* and the *Dialogus* were both written around the turn of the first millennium, before the treatises of Guido of Arezzo, although which came first has been the topic of considerable debate. The reason for grouping these two

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80 Oesch, *Guido von Arezzo*, 104.


treatises together in the first place is largely due to their relative placements and attributions in
Gerbert’s 1784 Scriptores ecclesiastici de musica. The Dialogus is found on pages 251-264, and
at the beginning of the text, one finds “Incipit liber, qui & Dialogus dicitur, a Domno Oddone
compositus...” Also, in the heading on each page containing the treatise, one finds “D.
ODDONIS DIALOGUS DE MUSICA.” Gerbert then placed Musicae artis disciplina
immediately after the Dialogus, (pages 265-283), with the following introduction: “Quae
sequuntur, in codice San-Blasiano continenter posita[e] sunt opusculum seu dialogum ODDONIS
de Musica.” Although Gerbert notes that another manuscript, namely Leipzig 1492 (see Chapter
3), attributed Musica to Berno, he nevertheless designates the treatise as “D. ODDO DE
MUSICA” throughout Scriptores ecclesiastici de musica.

The fact that Gerbert attributed both Musica and the Dialogus to a master Odo has led to a
situation where, thus far, not one study has focused on a consideration of Musica as a text in
itself, as opposed to a forerunner or commentary of the Dialogus. As a result, its placement
within the Northern-Italian music theory tradition of the early eleventh century has been rather
restricted. Therefore, in contrast to the aforementioned studies, I contend that Musica was likely
written in Italy around the mid-eleventh century, after the Dialogus and the writings of Guido of
Arezzo. To begin with, a consideration of the relationship between the plainchant examples
cited in Musica and those of the Dialogus will show that our anonymous author likely had
access to the latter text. Furthermore, the theoretical and terminological similarities in Musica,
Micrologus, Prologus, and the Dialogus will provide further evidence for situating Musica not
only later than the Dialogus, but also later than the writings of Guido of Arezzo. Finally, an
examination of the earliest manuscript transmitting Musica – Florence, Biblioteca Nazionale

84 Gerbert, Scriptores ecclesiastici de musica, 1: 251.
Centrale, Conventi Sopressi F. III. 565 – and its relationship to even earlier sources will show that *Musica* was likely a later addition to this group of northern-Italian music treatises.

The author of *Musica* provides no less than twelve musical examples to illustrate various musico-theoretical concepts examined in the text. A full half of these are also cited in similar contexts in Gerbert and de Nardo’s editions of the *Dialogus*:

1) The chant “Angelus Domini” is used by both texts as an example of the major second.
2) “Iubilate/Exsultate Deo” is found in the *Dialogus* and *Musica* in reference to the minor second.
3) The minor third is illustrated by both texts with the chant “Iohannes autem cum.”
4) The chant representing the major third in *Musica* is “Quinque prudentes,” but in the *Dialogus* one finds “Ecce maria”; “Quinque prudentes,” however, is found later on in the *Dialogus* as a melody that is representative of the fifth mode.
5) “Secundum autem” is used by both texts as an example of the perfect fourth.
6) Finally, the *Dialogus* and *Musica* both use “Primum quaerite” to illustrate the perfect fifth.

It is certainly more than coincidental that both *Musica* and the *Dialogus* employ six common chants for illustrating their ideas, five of which are presented in the exact same context. Yet one cannot take this evidence at face value. Given the fact that there is no complete critical edition of the *Dialogus*, it is unclear whether the chant examples cited by Gerbert and de Nardo are

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85 De Nardo, *Il Dialogus*.

86 It is obvious from the identical melodies for “Iubilate Deo” and “Exsultate Deo” that these were likely one in the same chant.

87 The recent edition by De Nardo is based on four manuscripts (A, B, C, and D in this chapter) and Gerbert. Gerbert, in turn, based his edition on A.
representative of the entire manuscript tradition. One could argue that the similarity in chant examples is merely the result of a scribe or teacher employing familiar musical examples for multiple texts, as was often the case. Yet the presence of these chants in six different manuscripts of various origins that contain the *Dialogus*, as shown in the chart below, demonstrates that the chant examples remained fairly consistent from source to source:

<table>
<thead>
<tr>
<th>Chant</th>
<th>F1</th>
<th>P</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angelus Domini</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>x</td>
<td>(x)</td>
</tr>
<tr>
<td>Iubilatexultate Deo</td>
<td>X</td>
<td>(x)</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Joannes autem cum</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>(x)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quinque Prudentes</td>
<td>X</td>
<td></td>
<td>X</td>
<td>(x)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secundum autem</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>x</td>
<td></td>
<td>(x)</td>
</tr>
<tr>
<td>Primum quaerite</td>
<td>X</td>
<td>(x)</td>
<td>X</td>
<td>X</td>
<td>x</td>
<td>(x)</td>
</tr>
</tbody>
</table>

(x) = no musical notation

**Sigla:**

*F1*: I. Florence, Biblioteca Nazionale Centrale, Conventi Sopressi F. III. 565, c. 1100

*P*: Paris, Bibliothèque nationale de France, fonds latin 3713, s. xii

*A*: Paris, Bibliothèque Nationale de France, fonds latin 7211, s. xii

*B*: Rochester, Sibley Music Library, Eastman School of Music, University of Rochester, Ms. 92 1200 (*olim* Admont 494), s. xii

*C*: München, Bayerische Staatsbibliothek, Clm 14663, s. xii ex.

*D*: Wein, Österreichische Nationalbibliothek, Cod. 2503 (Univ. 643), s. xii ex.

**Figure 2.1 A comparison of plainchant citations: Dialogus and Musica**

It is also important to note that of these six sources, only one contains the complete *Musica* text with musical examples (*F1* - see chapter 3), thus preventing a transfer of chants from one text to another – a common occurrence in the Middle Ages. Furthermore, with the exception of “Quinque prudentes,” the aforementioned examples appear one right after the other in the

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Dialogus’ discussion of intervals, again increasing the likelihood that the author of Musica simply adopted the same musical illustrations. \(^{89}\) Therefore, given Musica’s use of several musical examples in similar contexts to those found in the Dialogus, it seems rather likely that our anonymous author had access to the latter text.

It is also worth mentioning that two of the common chant examples cited above – namely “Secundum autem” and “Primum quaerite” – are also found in Guido of Arezzo’s Epistola. \(^{90}\) Additionally, “Primum quaerite” is found in the Micrologus \(^{91}\) as a representative chant of mode one. Yet whether or not the appearance of these chants in Musica had anything to do with their inclusion in Guido’s texts is difficult to say; “Primum quaerite,” in particular, was often cited in texts both contemporaneous to and later than Musica to show the melodic proprietas of the first mode. \(^{92}\) Therefore, to assume that the Micrologus and Epistola had a direct influence on Musica’s inclusion of these two chants, even though Guido used them in a completely different context, is rather far-fetched.

Guido’s influence on Musica, therefore, does not come in the form of plainchant examples, but rather in the anonymous theorist’s use of terminology for explaining musico-theoretical principles. Musica adopts several turns of phrase from the Micrologus in particular, \(^{93}\) beginning with the following examples in which the Greek pitch gamma is called an added pitch, and the upper pitches of the gamut from α to Δ are referred to as superfluous:

\(^{89}\) De Nardo, Il Dialogus, 92, 94; Gerbert, Scriptores ecclesiastici de musica, 1: 255-56.

\(^{90}\) Pesce, Guido d’Arezzo, 498.

\(^{91}\) van Waesberghe, Guido Aretinus: Micrologus, 151.

\(^{92}\) See Pesce, Guido d’Arezzo, 25, 571.

\(^{93}\) Textual citations from Micrologus are taken from the print and online Thesaurus Musicarum Latinarum editions of van Waesberghe, Guido Aretinus: Micrologus. <http://www.chmft.indiana.edu/tml/9th-11th/GUIMICR_TEXT.html>
Furthermore, the explanation of the semitone as a half, rather than whole tone in *Musica* is likely taken directly from the *Micrologus*:

> *Musicae artis disciplina*  
> 224-25 “Tertius vero versus, quia superflus creditur, graecarum potius litterarum forma notatur…”

The same can be said of both authors’ proposed division of music into syllables, parts, and distinctions:

> *Musicae artis disciplina*  
> 54 "Vel semitonius ideo vocatur quod semis et non plenus sit tonus…”

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94 Here Guido notes that gamma – the first pitch – is called “added” by the moderns, implying that he was familiar with other theorists who also called the gamma “adiunctam.” This would seem to suggest that perhaps *Musica* was written before Guido’s treatises, and that Guido was in fact referring to *Musica*. Yet this is not the only reference to the “moderni” made by Guido; consider the following citation found in *Regule*: “There are those who add another [b] next to the first [letter a] in the high pitches, but this licence scarcely pleases Father Gregory; moreover the wise moderns do not even mention this. Accordingly, however much the little tone itself may be made among some, nevertheless, rightly it is called superfluous among many. But the other second [ ] is always authentic (See Pesce, *Guido d’Arezzo*, 348-49, and page 25 above). Here, presumably the same “moderni” as those mentioned in the citation above do not accept the use of b-flat at all, yet *Musica* proposes the use of b-flat in two octaves. Therefore, one would have to be extremely cautious to take this mention of the “moderni” to refer to *Musica*. 
Considering the preceding examples, it seems more than likely that *Musica* had access to the *Micrologus*, but can the same be said of Guido’s other treatises?

Guido’s only other treatise with which *Musica* shares a close relationship is the *Prologus*. Both texts lament the state of music pedagogy, as singers labour in vain to learn even the smallest antiphon, when they could have spent that time devoting their minds to higher intellectual pursuits, such as grammar or divine and secular scriptures:

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**Musicae artis disciplina**

12-15 "...tantum temporis antiphonarium discendo perdimus, in quo divinam auctoritatem et grammaticae regulam scire potuissent. Et quod deterior est, nullo unquam spatio temporis ad tantam perfectionem venimus, ut saltem minimam antiphonom absque magistris labore scire possimus..."

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**Micrologus**

p. 162 Ch. 15 "Igitur quemadmodum in metris sunt litterae et syllabae, partes et pedes ac versus, ita in harmonia sunt phthongi, id est soni, quorum unus, duo vel tres aptantur in syllabas; ipsaeque solae vel duplicatae neumam, id est partem constituint cantilenae; et pars una vel plures distinctionem faciunt, id est congruum respiratio locum."

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**Prologus**

p. 408 "Miserable autem cantores cantorumque discipuli, etiamsi per centum annos cotidie cantent, numquam per se sine magistro unam vel saltem parvulum cantabunt antiphonam, tantum tempus in cantando perdentes in quanto et divinam, et secularem scripturam potuissent plene cognoscere."

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While this sentiment is also found in the *Dialogus*, the notion regarding how singers could better

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Textual citations of *Prologus* are taken from Pesce, *Guido d’Arezzo.*
spend their time is unique to *Musica* and the *Prologus*.

As one would expect, *Musica* is also akin to the *Dialogus*\(^96\) in many respects. Consider, for instance, the following passages, in which similar terminology is used to describe how the rules presented in each treatise will (God willing) lead singers quickly towards a knowledge of singing:\(^97\)

*Musicae artis disciplina*

16-20 "In prae sentibus quippe regulis nihil invenies praeter ea sola quae et facile poteris, Deo illuminante, capere et per quae ad cantandi peritiam quam cito valeas pervenire. Talis enim ac tanta hu ius artis virtus probatur, de qua et parvuli possint capere unde ad cantandi peritiam pervenire poterunt..."

*Dialogus "Prologue"

p. 138 "Petistis obnixe, karissimi fratres, quatenus paucas vobis de Musica regulas traderem, atque eas tantummodo, quas et pueri vel simplices sufficiant capere, quibusque ad cantandi perfectam peritiam velociter, Deo adjuvante, valeant pervenire."

The same can be said of their discussions on the “most rare” instances in which extraneously large ranges are used in plainchant:

*Musicae artis disciplina*

169-70 "Quod cum fit, id est cum cantus ad octavam a fine consurgit, rarissime, et non nisi in prolixioribus cantibus, plus a secunda a fine descendat..."

*Dialogus "Prologue"

p. 139 "Rarissime tamen et in prolixioribus cantibus voces ad alium tonum pertinentes, id est superfluas elevationes vel depositiones contra regulam invenimus."

Furthermore, both *Musica* and the *Dialogus* recommend learning musical pitches in the same way that students are taught all letters on the *tabula*:

\(^{96}\) Textual citations for the *Dialogus* are taken from Gerbert, *Scriptores ecclesiastici de musica*, 1.

\(^{97}\) N.B. This and the next passages are taken from the Prologue to the *Dialogus*, which Huglo maintains was not part of the original treatise at all. Nevertheless, this prologue does appear hand-in-hand with the *Dialogus* in certain manuscripts – some dating from as early as the late 11\(^{th}\) century. Huglo dates this prologue to the first third of the eleventh century. See Huglo, "Der Prolog." 137-38, 144.
Perhaps the strongest link between the two texts resides in the terminology used by the authors to describe musical pitch. As mentioned earlier, both Musica and the Dialogus refer to A as the first pitch, B as the second, and so on, but the resemblance between the two is perhaps most apparent in their discussions of b-flat and b-natural:

Musicae artis disciplina
8-11 "Cum pueris volumus insinuare legere, prius eos abecedarium discere facimus in tabula, ut postquam cognoverint omnes litteras, facilius legere valeant quandocumque scribitur litteris. Simili modo, qui cantum volunt addiscere, prius oportet eos omnes voces tonorumque varietates in monochordo cognoscere..."

Dialogus
p. 252 Ch. 1 “Sicut magister omnes tibi litteras primum ostendit in tabula: ita et musicus omnes cantilenae voces in monochordo insinuat.”

Discussions of the surrounding intervallic relationships of b-flat and b-natural are also very similar in both texts:

Musicae artis disciplina
84-85 “Praeterea scindendum est quod pro una voce b et b accipi debent, id est nona quamvis divisa in nonam primam et nonam secundam...77-78 Quos autem ab octava chorda usque in decimam duos semitonios vides, numquam continuatim iungere debes...”

Dialogus
p. 253 Ch. 2 “Praeterea a voce sexta F. per quatuor divide, et retro b aliam b. rotundam pone: quae ambae pro una voce accipiuntur, et una dicitur nona secunda, et utraque in eodem cantu regulariter non invenietur.”

Finally, both the Dialogus and Musica call on the authority of David and his ten-stringed psaltery to justify rare instances in which chants span the range of a tenth:
These textual examples show a similarity between the *Dialogus* and *Musica* that is more than just symptomatic of the fact that both treatises were born of the same musico-theoretical school; it stands to reason, then, that our anonymous author must have had access to the *Dialogus*, the *Micrologus*, and the *Prologus*, before or during *Musica’s* composition.

Another reason to suggest that *Musica* was written later than the *Dialogus* and texts of Guido of Arezzo concerns the relationship between Florence, Biblioteca Nazionale Centrale, Conventi Soppressi F. III. 565 (*F1*) – the earliest manuscript transmitting *Musica* – and other medieval codices. In her 1994 facsimile edition, Alma Colk Santosuosso examines the relationship between *F1* and five other sources that share similar content, namely: a) Rome, Biblioteca Vallicelliana B 81, s. xi (*B 81*); b) Montecassino, Biblioteca Abbaziale Q 318, s. xi ex. (*Q 318*); c) Florence, Biblioteca Riccardiana 652 (*F2*) s. xiv; d) Florence, Biblioteca Medicea Laurenziana Ashburnham 1051 (*F3*) c. 1400; and e) Florence, Biblioteca Medicea Laurenziana Pluteus XXIX.48 (*F4*), s. xv ex. Of these sources, *B 81* and *Q 318* both originate from Italy and are earlier than *F1*.

Santosuosso relates *F1* to *B 81* and *Q 318* based on a common group of texts found in each manuscript, which includes none other than Guido’s *Micrologus*, *Prologus*, *Epistola*, and

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99 As noted by Oesch in *Guido von Arezzo*, one interesting trait found in Rome, Biblioteca Vallicelliana B 81, is that the *superactuae* (the highest range of pitches) in Guido’s *Micrologus* are notated using Greek letter forms, just like the uppermost octave in *Musica*. I have not had sufficient time to follow up on precisely which Greek letter forms are used, but this could provide further evidence to situate *Musica* among its Italian contemporaries.
Regule, and the Dialogus of Pseudo-Odo – in that order. These same texts are also found in F1, but with a new addition: the anonymous Musicae artis disciplina. The three codices that are related to, but post-date F1 (namely F2, F3, and F4) all contain Musica as part of this grouping of Italian music treatises. Therefore, this seems to imply that Musica was written after the Dialogus and Guido’s treatises, since its exclusion in manuscripts B 81 and Q 318 (which are closely related to F1) suggests that the treatise was a later addition to this train of music-theoretical thought.

Yet given the fact that the inclusion of certain texts in composite codices may have been entirely arbitrary, what further evidence can be used to support this chronology? Indeed, while it is certain that Guido drew on the Dialogus in his writings (see above), what is to say that he did not also draw on Musica, thus accounting for the numerous textual parallels shown above? Further evidence to support a later date for Musica comes by way of a consideration of the Dialogus and Guido’s treatises and their transmission in the Middle Ages. The Dialogus survives today in some sixty seven manuscripts, and of these, a full two thirds are found alongside writings by Guido of Arezzo.\(^\text{100}\) Musica, on the other hand, survives in only six complete sources, five of which are transmitted with the Dialogus. Given the large number of medieval codices that do survive, transmitting both the Dialogus and Guido’s texts, it seems more likely that our anonymous author would have had access to a manuscript pairing Guido and the Dialogus, rather than Guido having had access to both the Dialogus and Musica.

The present chapter has provided more information regarding Musica’s place in the history of music theory than has been presented in musicological scholarship thus far. Although the

\(^{100}\) See the list of manuscripts for the Dialogus in Lexicon musicum Latinum medii aevi, Bayerische Akademie der Wissenschaften, http://www.lml.badw.de/.
treatise, in its practical orientation, bereft of the ancient speculative tradition and complex musico-theoretical precepts, easily fits into the northern-Italian school of the *Dialogus* and Guido of Arezzo, it is the exact placement that is still the subject of debate. This chapter has therefore shown that *Musica* was likely written around the middle of the eleventh century – a time when the author would have had access to the *Dialogus* and the treatises of Guido of Arezzo (which had both begun to circulate together). This is evident through: a) the use of common musical examples in *Musica* and the *Dialogus*; b) *Musica*’s adoption of certain theoretical musings in the *Dialogus, Micrologus*, and *Prologus*, complete with similar terminology; c) the relationship of *Musica*’s oldest witness (*F1*) to earlier and later treatises (as well as their relative exclusion and inclusion of the treatise), and d) the abundance of early-medieval manuscripts grouping the *Dialogus* with the texts of Guido of Arezzo. Now that *Musica* has been better situated in the landscape of the medieval musico-theoretical tradition, let us turn our attention to a new critical edition of the treatise.
CHAPTER 3

Textual Witnesses

Despite *Musica’s* relationship to the widely circulated texts of Guido of Arezzo and the *Dialogus*, the treatise survives today in only six manuscripts. These range in date from c. 1100 to the late fifteenth century, and are housed in various libraries in Italy, France, and Germany:

- **F1**: Florence, Biblioteca Nazionale Centrale, Conventi Sopressi F. III. 565, c. 1100
- **F2**: Florence, Biblioteca Riccardiana, 652, s. xiv
- **F3**: Florence, Biblioteca Medicea Laurenziana, Ashburnham 1051, c. 1400
- **F4**: Florence, Biblioteca Medicea Laurenziana, Pluteus XXIX.48, s. xv ex.
- **L**: Leipzig, Universitätsbibliothek Leipzig, 1492, 1438
- **P**: Paris, Bibliothèque nationale de France, fonds latin 3713, s. xii

The present chapter will outline the state of research for these manuscripts, paying particular attention to discussions of date, origin, and provenance. Special consideration will also be given to the edition of *Musica* in the 1784 *Scriptores ecclesiastici de musica*, which Gerbert based on a twelfth-century manuscript from St. Blaise that is no longer extant. The manuscript contents will then be examined in an attempt to draw potential lines of relationship between the sources. Finally, I will consider *Musica’s* transmission in the Middle Ages and propose a *stemma textuum* based on the surviving textual evidence.
**F1: Florence, Biblioteca Nazionale Centrale, Conventi Soppressi F. III. 565**

Parchment, 114 + i folios, 200 x 130 mm, Tuscany, ca. 1100

Text: 1) Northern Italian medieval music treatises

2) A series of long and short excerpts by various medieval authors

3) An Italian tonary

4) A fourteenth-century fragment of a library catalogue from Santa Maria Novella

Latin codex

2º fol. Inc. *Adtollite portas principes vestras*

Siglum: *F1*

Bibliography:


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101 Now, as in later manuscript descriptions, this refers to the *Dialogus* of Pseudo-Odo, all or some combination of Guido D’Arezzo’s *Micrologus, Prologus in Antiphonarium, Regule Rithmice, and Epistola ad Michahelem*, and the *Musicae artis disciplina*. 
*F1* comprises 114 numbered parchment folios, with one parchment flyleaf added to the back of the codex. The inner folios measure 200 x 130mm, with a consistent writing space of 150 x 90mm. The majority of the codex is written in a single-column format, yet this layout is subject to change beginning on folio 102v, where the writing surface is enlarged to accommodate two or three columns.

Each folio is numbered on the top right corner in ink using modern Arabic numerals. The current collation is as follows: i + 1-38 + 47 + 5-158 + 162 + i; the first numbered folio forms no part of the original manuscript and is actually a flyleaf that was added to *F1* probably in the fourteenth century (see below). With the exception of the sixteenth gathering – also a later addition – *F1* is a collection of quaternions with an incomplete fourth gathering. The beginning of each gathering is numbered using Arabic numerals in the lower right margin of the first folio, with the first flyleaf labeled gathering one, the first quaternion gathering two, and so forth.

*F1*’s current binding is later than the manuscript itself, likely dating from the fifteenth or sixteenth century.\(^{102}\) The outer binding consists of wooden front and back covers surrounded by brown leather that is embossed with floral patterns. It has been reinforced along the spine with newer leather as the older leather is rather thin and worn. There are four round metal studs on the outer corners of both the front and back covers, and two metal clasps connect via a leather band to hold the codex shut.

On the inner front cover, there are three visible layers of pastedowns: the bottom two appear to be paper, while the top layer is a sheet of parchment, complete with worm holes. There are several annotations on the pastedown of the inner front cover, including *F1*’s shelf mark for the

\(^{102}\) Santosuosso, ed., *F.III.565*, xiii.
Biblioteca Nazionale ("565 F.3") and conjectures as to the dating of the manuscript (the text "Sec. XIII" is crossed out, and underneath "Sec. XII" is written). A brief description of the manuscript content is written in ink – "Guidoni Aretini Micrologus" – and there is a long paragraph noting the incorrect rebinding of the fourth gathering. The inner back cover has two pastedowns and there is a lone annotation in pencil showing the number of folios in the codex and the prevalence of quaternions. None of the pastedowns on the front or back inner covers connect with the manuscript flyleaves.

Evidence of manuscript rebinding is found throughout the codex. Particularly telling are: a) the separate holes from previous bindings that are still visible under the strings of the current binding, b) the cropping of folios to fit the current binding, as seen, for example, in partially cropped marginal notations and a lone catchword that survives on the bottom of the last folio of the eighth gathering, c) the worn, dirty state of folios 2 and 112v, which must have long acted as the original covers of the codex, and d) the incorrect ordering of the fourth gathering.

*F1* likely went through several stages of rebinding. If folios 2 and 112v were the original outer covers, then the first visible stage of rebinding can be said to have occurred sometime in the fourteenth century at the library of Santa Maria Novella. It was likely at this point that the first flyleaf (numbered folio 1) was added to the first gathering of the manuscript; its stub is found in between folios 9v and 10:

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103 On the paper pastedown of the inner front cover, the following note is written in ink by a modern hand: "In hujus codicis compactione non parva subrepsit confusio in folios 26 ad 33...ita vir peritus ordinat 26 29 28 27 32 31 30 33." See ibid., xiv, clxxvi.

104 " ec. 114 + 1 e. membr. in fine 8."
Figure 3.1 First gathering and flyleaf of F1

On the verso of this flyleaf, a fourteenth-century hand notes that F1 belongs to the order of the Dominicans at Santa Maria Novella (see provenance below), and that the manuscript contains the writings of Guido of Arezzo (“Musica magistri Guidonis Aretini. sicut patet carta. 33. infra. Qui floruit anno domini MXXV”). The last gathering, a simple binion containing a partial library catalogue from the cloister, was likely added at the same time, perhaps along with the blank, unnumbered parchment flyleaf at the back of the codex. The current fifteenth- to sixteenth- century binding has evidently been modified on several occasions, as shown by the numerous pastedowns on the inner covers and the reinforcement of the spine discussed earlier. The text of F1 is written in brown ink in a neat Caroline miniscule. There is some debate as to how many scribes were used to copy the codex, but it is agreed that they were all writing contemporaneously. The text is written on dry point lines that are ruled according to prickings still found on the outer margins. There is very little by way of decoration in F1. Besides the brown ink, larger initials and diagrams are sometimes highlighted using red or yellow ink, and there are a few illustrations at the front of the codex. Musical notation is also present in F1, varying from neumatic to letter notation (both the A to G and A to P systems), and Daeseian

105 See Santosuosso, F.III.565, lxi-lxii.
$F1$ is the earliest manuscript to transmit *Musica*. Dating from around 1100, the codex provides a *terminus ante quem* for the treatise.\(^{107}\) The full text of *Musica*, complete with diagrams and musical examples, is found on folios 44v-58 and is ascribed to Guido of Arezzo.

From the medieval scriptorium to its current home, $F1$ followed a rather straightforward path. While the exact details surrounding its production remain unknown, Huglo was the first to propose that $F1$ was written in a Tuscan monastery.\(^{108}\) He based his hypothesis largely on: a) the central-Italian paleographical features of the text and neumatic notation, b) $F1$’s visual similarity to Latin codex 77 at the Biblioteca Bodmeriana in Geneva – another twelfth century source also written in Tuscany,\(^{109}\) and c) the presence of Beneventan neumes (alongside the central-Italian neumes) to notate the antiphon “Adtollite portas” on folio 2. To date, no alternate place of origin has been suggested,\(^{110}\) and given the manuscript provenance, this central Italian location is perfectly logical.

\(^{107}\) Although Fage suggested that $F1$ was written in the late twelfth to early thirteenth century – a claim which he based on the musical notation used in $F1$ and the manuscript’s textual abbreviations – scholars since Fage have been unanimous in assigning the manuscript to the early twelfth/late eleventh century. See Adrien de la Fage, *Essais de diphthérographie musicale* (Paris: O. Legouix, 1864; repr., 1964), 273-81.


Before residing at the Biblioteca Nazionale, *F1* was housed at the Dominican convent of Santa Maria Novella in Florence. Traces of the convent library are found throughout *F1*, beginning with folio 1v, where a fourteenth-century hand notes that “Iste liber est fratrum praedicatorum conventus Sanctae-Mariae-Novellae de Florentia.” There is also an ex-libris for the convent library found on folio 3. Finally, a fourteenth-century catalogue of the library’s holdings is written on folios 113-114v.

The inscription on folio 1v suggests that *F1* must have come to the convent library at least by the fourteenth century. Past scholarship has argued that it may even have resided there as early as the twelfth century, although there is no concrete evidence to support this. The most likely scenario, as proposed by Santosuosso in her 1994 study of *F1*, is that the manuscript was the personal property of a monk of Santa Maria Novella – perhaps one charged with musical duties at the cloister. When the Black Death took its human toll in the fourteenth century, the manuscript was then bequeathed to the convent library, where it resided until the late

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111 See Santosuosso, *F.III.565*, 1v. There has been some debate as to the date of this hand. Fage suggests that it could have been contemporaneous with the manuscript itself, thus in the late twelfth to early thirteenth century (by which he seems to suggest that the manuscript originated at this convent): Fage, *Essais de diphthérophraphie*, 273. Scholars since then (with the exception of those who merely cite Fage) have agreed that this hand is later, probably from the fourteenth century. See Pesce, *Guido d’Arezzo*, 66; Santosuosso, *F.III.565*, xv; Alma Colk Santosuosso, *Letter Notations in the Middle Ages* (Ottawa: Institute of Mediæval Music, 1989), 182; and Merkley, *Italian Tonaries*, 136.

112 See ibid., 3.

113 See ibid., 113-114v.


115 After the death of 80 monks from the bubonic plague (1348), many private codices became part of the library collection at Santa Maria Novella. See Stefano Orlandi, Isnardo P. Grossi, and Roberto Lunardi, *Santa Maria Novella and its Monumental Cloisters: Historical and Artistic Presentation* (Florence: S. Becocci, 2004), 81, 83; and Santosuosso, *F.III.565*, xx.
nineteenth century,\textsuperscript{116} when \textit{F1} became the property of the Biblioteca Nazionale – along with eleven other manuscripts from Santa Maria Novella – due to the suppression of the monastery.\textsuperscript{117}

The most thorough study of \textit{F1}, detailing the manuscript’s date, origin, provenance, contents, and codicological features, is Santosuosso’s introduction to her 1994 facsimile edition \textit{Firenze, Biblioteca Nazionale Centrale, Conventi Soppressi, F.III.565}. \textit{F1} has also received attention in numerous academic studies largely due to a) the tonary found on folios 87v-90v,\textsuperscript{118} and b) the presence of Guido of Arezzo’s treatises and the \textit{Dialogus}.\textsuperscript{119} While the importance of the early tonary in \textit{F1} requires no explanation, the scholarly emphasis on the Italian musico-theoretical treatises does merit comment. As shown in the previous chapter, \textit{Musica} has much in common with the \textit{Dialogus} and Guido’s treatises – the most important being its practical aim to teach young boys the science of music quickly – yet it is often overlooked or cast aside after a quick mention. In a similar manner, those who approach \textit{F1} have been attracted to the manuscript’s inclusion of Italian music theory, but have neglected to count \textit{Musica} among the most important treatises from this school.

\textsuperscript{116} Santosuosso, \textit{F.III.565}, xxii.

\textsuperscript{117} The suppression of the monasteries in Italy took place in the late 18\textsuperscript{th} century, in 1810, and in 1867. \textit{F1} came to the Biblioteca Nazionale in 1866. See Colin Steele, \textit{Major Libraries of the World: A Selective Guide} (London: Bowker, 1976), 226; Allan Whatley, ed. \textit{Libraries in Northern Italy} (Wales: International and Comparative Librarianship Group, 1973), 9; and Bianca Becherini, \textit{Catalogo dei manoscritti musicali della Biblioteca nazionale di Firenze} (Kassel: Bärenreiter, 1959), viii.


It should come as no surprise, however, that Guido of Arezzo has figured prominently in past studies of *F1*. His association with the manuscript is suggested almost immediately upon opening the manuscript: on folio 3v there is a drawing of the medieval theorist praying to Christ, who is drawn on the facing page:

![Figure 3.2 Drawing of Guido of Arezzo in *F1*, 3v](image)

Illustration by author based on *F1*

Furthermore, ever since Fage’s nineteenth-century study of the manuscript, *F1* has been renowned for containing the “älteste Abbildung von Guido, die einige Jahrzehnte nach dessen Tode entstanden ist.” The drawing is surrounded by text taken, almost verbatim, from Guido’s *Epistola ad Michahelem*:

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Domine doleo de nostris cantoribus quia si centum annis in canendi studio perserverent numquam per se minimam valent proferre antiphonam. Domine te rogo dona michi musyce donum ut que recte dicho discant pueri cito.
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Yet Guido’s prominence in the codex does not excuse the fact that *Musica* has continually been

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neglected both in musicological scholarship and studies pertaining to \textit{F1}.

\textbf{F2: Florence, Biblioteca Riccardiana, 652}

Paper, ii + 113 + i folios, 210 x 140mm, Italy, 14\textsuperscript{th} century.

Text: 1) Northern Italian medieval music treatises

2) A series of long and short excerpts by various medieval authors

3) An Italian tonary

Latin codex

2° fol. Inc. \textit{Hec terret flentes ut discant mira clientes}

Siglum: \textit{F2}

Bibliography:


Manuscript 652 comprises 113 numbered paper folios, with two unnumbered flyleaves – one paper and one parchment – at the front of the manuscript, and one paper flyleaf at the back.

Each folio has been numbered with modern Arabic numerals using a stamp and ink. This
foliation coincides with an earlier handwritten attempt to paginate the codex which ends at number 89 on folio 45r.\textsuperscript{121} \textit{F2} measures 210 x 140mm and features a consistent, single-columned writing space of 140 x 100mm.

The current collation is as follows: i(paper)i(parchment) + 1-2\textsuperscript{10} + 3-5\textsuperscript{9} + 6\textsuperscript{10} + 7\textsuperscript{9} + 8-10\textsuperscript{10} + 11\textsuperscript{9} + 12\textsuperscript{8} + i(paper). The gatherings are comprised primarily of quinions, or quinions missing the first or last folio. While the incomplete fourth gathering discussed earlier in \textit{F1} did not interrupt the textual content of the manuscript, the same cannot be said for some of the missing folios in \textit{F2}; there is large portion of text omitted from \textit{Musica} due to an incomplete seventh gathering (line 384 beginning “Illud modo licet” to line 415 in the critical edition).

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{f2a}
\caption{Incomplete seventh gathering in \textit{F2}}
\end{figure}

The gatherings are kept in proper sequence by means of catchwords written vertically in the lower right-hand margin on the verso of the last folio.

The binding is very simple: pasteboard is surrounded by parchment with paper pastedowns on the inner and outer front and back covers. The parchment, shown in grey here, is visible on the

\textsuperscript{121} That the handwritten pagination was there prior to the stamp-and-ink foliation is suggested on the back flyleaf of \textit{F2} where “Carte 113 nuov. num.” – 113 pages according to the new number – is written.
corners and spine of the outer covers:

![Diagram of Outer Binding](image)

**Figure 3.4 Outer binding of F2**

This binding certainly postdates the origins of the codex, as is evident in the centre folio of each gathering, where separate sets of holes from the original binding can be seen under the existing strings. An examination of the inner folios and front flyleaves of F2 also attests to this rebinding; the wormholes that extend through the first few folios of the codex are also found on the second parchment flyleaf (which was almost certainly the original front cover), but they are missing on the first paper flyleaf that must have been added along with the new binding later in the manuscript’s history. The most likely scenario is that F2 was rebound in the early eighteenth century, around the time that the Biblioteca Riccardiana was established (see below).

With the exception of the manuscript shelf mark, the back and front inner and outer covers are blank. The paper flyleaves at the front and back of F2 are similarly bare, except for the note regarding the number of folios in the codex on the back flyleaf (see note above). Both the recto and verso of the parchment flyleaf at the front of the codex, however, contain a table of contents written in ink, likely by Adrian de la Fage in 1870:

```
[recto of flyleaf] Guido De Arte Musica
In hoc volumine continentur
1. Dialogus de Musica quem terminat spurea Musicae imago.
2. Rhythmus in quo Musica encomiatur et cantus Philomillee.
3. Guidonis Aretini Micrologus, id est Brevis sermo De Musica.
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4. Rhythmus eiusdem Guidonis.
5. Eiusdem carmina de Modis &c. Fragmenta de instrumentis et Modis musice.
6. Odonis Dialogus de Musica, cui praemissi sunt carmina Guidonis. In sequitur
   Fragmentum de numero chordarum &c.
9. Eiusdem Epistola ad Michallem, monachum pomposianum
   [verso of flyleaf]
10. De Musica, in Boetii operibus.
11. Quis sit Musica et de nomine ejus, en libro Ethymologiarum
12. Anonymi Tractatus de Tonis.
14. De consonantia Musice, scriptoris anonymi exercitatio.
15. Notkeri Balbuli Epistola et Liber cujus de Musica.

Brevissimum hunc Riccardiani Codicis iudiam ad lectorum commoditatem conci[...]bat Justus

The codex is ruled with dry-point lines on the recto of each folio that extend through to the
verso. The most likely classification for the script is semitextualis libraria currens, featuring one-
compartment a’s combined with textualis traits. Early humanistic tendencies are also visible
in the predominance of the half-uncial d, the two-lobe g, the use of Roman rather than Gothic
capitals, and a lack of biting:

Figure 3.5 Script of F2, f. 61v
© Biblioteca Riccardiana, reproduced with permission


123 ibid., 176-79.
The writing itself, described by La Fage as “très mauvaise,” is just that – it is sloppy and was obviously written in a hasty manner. When the scribe made a mistake, he simply crossed it out rather than bothering to erase it.

The only decoration in F2 comes in the form of red initials at the beginning of some treatises and paragraphs, red highlighting of musical notation, and red ink found in select illustrations. Yet this is not consistent throughout; there are several instances where the rubricator did not fill in missing initials, and occasionally the scribal cues are still visible, such as the “t” for “toni” below:

![Figure 3.6 Scribal decoration cue, f. 59v](image)

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Furthermore, red ink is missing entirely from folios 74 to 86v and in the last two gatherings.

Overall, the codex is in fair shape. Damage from mold is evident throughout, particularly on the outer margins of each folio, and there are worm holes that extend through several folios (seventy-six in one case). Manuscript 652 was not meant to be a deluxe codex, and was obviously not preserved as one.

Like F1, F2 also resides in Florence – at the Biblioteca Riccardiana a few kilometres away. These manuscripts, however, have more in common than just their current location: F2 happens

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to be a fourteenth-century copy of F1, and is the second oldest manuscript to transmit Musica. The text of F2 is reliable and consistent: with the exception of a few omissions and differences in the order of the texts, F2 remains faithful to F1 in many respects. Even the tonary is recopied “très exactement,” as are the illustrations and figures. The only liberties taken by the scribe of F2 are found in expanded abbreviations, the incorporation of F1’s marginalia into the main text, and increased detail given in the rubrics. In this source, the full text of Musica, ascribed to Guido of Arezzo, is found on folios 48v through 62v (item 7 in Fage’s table of contents above).

There can be no doubt that this fourteenth-century source is an apograph of F1; F2 copies several features of F1 to the smallest degree of (albeit sloppy) detail. Consider, for instance, the similarity found in the drawing of a medieval cantor at the monochord on folio 58 of F1 and folio 62v of F2:

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125 In her analysis of the text of Guido of Arezzo’s Regule, Pesce asserts that F2 was not copied directly from F1, but from the same source as F1 (see Pesce, Guido d’Arezzo, 229, 66, 87). Although she finds no evidence for this in the text of Prologus or Epistola, she nevertheless adds hypothetical manuscripts into her stemmata for these texts as well. To back up this assertion, she cites a note from Huglo, stating that although F2 has long been considered a direct copy of F1, “il faut remarquer qu’il comporte quelques coupures à divergences d’ordre” – see Huglo, Les tonaires, 188. Yet this in no way backs up Pesce’s assertion, as Huglo is merely trying to point out that F2 is not a carbon copy of F1, since in some cases the scribe of F2 slightly modified the order of texts found in F1 or omitted some texts altogether. As noted by Santosuosso, the only significant textual omission in F2 is found in the missing folio of the seventh gathering, and there are two other minor omissions – both of which are only seven lines each, and the second is an error in F1 – see Santosuosso, F.III.565, xxxix-xlii.

126 For a list of how F2’s contents correspond with F1, see Pesce, Guido d’Arezzo, 83-86; and Santosuosso, F.III.565, xxxix-xlii.

127 Huglo, Les tonaires, 188.

Figure 3.7 Comparison of illustrations (folio 58r F1, folio 62v F2)

Left: Illustration by author based on F1
Right: ©Biblioteca Riccardiana, reproduced with permission

In both F1 and F2, the drawings are labeled “Simphoniacus. id est. cantor musicus.”129 This text appears twice in F2, with the CANCTOR MUSICVS surrounding the cantor’s head, and the “simphoniacus” written underneath the desk. The scribe of F2 imitates the drawing of F1 to such an extent that a crude version of a moustache appears above the cantor’s mouth, and his robe appears to be wrapped around him in such a way so as to produce diagonal folds of cloth. The desks in both images seem to be constructed of small stones or bricks, on the bottom of which the cantor places his out-turned feet. This illustration appears in the same location in both manuscripts.

Yet where exactly was this scribe writing, and in what context? While all studies pertaining to

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129 See ibid., 58.
F2 seem to agree on a northern Italian origin for the manuscript, none provide any clue as to where it was written, and what path it followed to end up at the Biblioteca Riccardiana. Perhaps a glimpse into the library’s history along with some evidence in the manuscript itself can give us an idea about the provenance of F2.

The collection at the Biblioteca Riccardiana was originally comprised of the private library of Riccardo Romolo Riccardi (1558-1612). Riccardi was interested in collecting “the history and literature of Florence,” and after his death, the library was maintained and eventually opened to the public in 1715. Even today, the aim of Riccardiana is to provide a place for studying local and regional history – so what can this tell us about F2?

One thing we do know is that F1 was at the library of Santa Maria Novella at least by the fourteenth century, which is around the same time that F2 was copied. Going a little further back into the history of the convent, we learn that when the Dominicans came to reside there in 1221, they established a studium, or school, for both monks and laymen. As part of their activities, they sought to gather as many manuscripts as possible for study and had their scribes copying several more. Therefore, it is entirely plausible to propose that F2 may have been copied at Santa Maria Novella for the personal possession of someone studying at the studium – perhaps a member of the local clergy, since it is obvious that whoever copied F2 was not a professional scribe. From this point on, it may have resided in a cathedral library, or perhaps

\[130\] Pesce, Guido d’Arezzo, 83; Meyer, “La tradition du Micrologus,” 24; and Meyer, Mensura Monochordi, lxxxiv.

\[131\] Whatley, Libraries in Northern Italy, 21.

\[132\] ibid.

\[133\] Santosuosso, F.III.565, xx.

\[134\] Orlandi, Grossi, and Lunardi, Santa Maria Novella, 84; and Santosuosso, F.III.565, xx.
even been part of a personal collection.

Based on manuscript evidence, one thing that is certain is that in the late sixteenth to early seventeenth century, the manuscript was acquired by Riccardi – an avid collector of documents pertaining to Florentine history – who must have recognized the prominence of Northern Italian music theory in the manuscript. *F2* attests to this in two ways. First of all, below the current library shelf mark for the manuscript, which is written on the spine and the first flyleaf of *F2*, one finds “L.II.4” – the call number previously used for *F2* when it was part of the private collection of the Riccardi family. Secondly, at the beginning of each gathering there is a coat of arms stamped in black that was used for codices belonging to the private collection of the Riccardi family.\(^\text{135}\)

These two items show that *F2* found its way to the Biblioteca Riccardiana via the personal collection of Riccardi, and that the codex has likely remained in Florence since its creation – or at least since before 1715, when the Biblioteca Riccardiana was established.

In contrast to *F1*, minimal research has been done on *F2* due to the fact that scholars in the past have simply dismissed it as a copy of *F1*. Only Santosuosso has given *F2* any kind of detailed consideration – and even this is in the context of explaining the relationship between *F1* and

\(^{135}\) The fact that there is a stamp at the beginning of each gathering suggests that the codex was rebound after coming into the Riccardi collection, likely when the Biblioteca Riccardiana took control of the collection.
other manuscripts. While some studies have catalogued the contents of $F_2$ – albeit working mainly from the contents for $F_1$ – this examination is the first complete codicological analysis of the manuscript.

**F3: Florence, Biblioteca Medicea Laurenziana, Ashburnham 1051**

Parchment, iii + 171 + ii, 265mm x 190mm, Italy, c. 1400

Text:  
1) Northern Italian medieval music treatises (with the exception of *Dialogus de Musica*)
2) A series of long and short excerpts by various medieval authors
3) Augustine, *De Musica*
4) John of Afflighem (or Cotton), *Musica*
5) Macrobius, Commentary on *In somnium scipionis*
6) *Musica* and *Scolica enchiriadis*

Latin codex, with one instance of Greek marginalia

2° fol. Inc. *Incipit liber primus Aurelij Augusti*

Siglum: F3

Bibliography:


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*F3* comprises 171 numbered parchment folios, with three paper flyleaves at the front of the codex and two at the back. Arabic numerals are written in ink by a nineteenth-century hand (see below) on the top right-hand corner of each folio; these only go up to 170, as the number 125 was written on folios 125 and 126, disturbing the proper numeric sequence. The codex measures 265 x 190mm and features a double-columned writing space of 185 x 130mm, with each column measuring 185 x 60mm.

*F3*’s current collation is iii^(paper) + i^(parchment) + 1-8^8 + 9^7 + 10-11^8 + 12^7 + 13-17^8 + 18^7 + 19-21^8 + 22^1 + 23^1 + 24^2 + 25^1 + ii. The parchment flyleaf at the front of the codex forms no part of the original manuscript even though it is marked folio 1; when the codex was rebound in the nineteenth century, the foliation was changed to include this flyleaf. In some instances, the original numbers are still visible on the lower right-hand corner of each folio: folio 5, for example, still has the number 4 written in the lower margin. There are also gathering numbers that have not been cropped which show that the current second folio was originally the first: folios 2through 5 verso are marked in lower right-hand margin with a1, a2, a3, and a4.

The gatherings are comprised primarily of quaternions or quaternions missing one folio. Since the text of *Musica* falls in the incomplete ninth gathering, the very end of the treatise is absent
(edition, lines 485 - 494). The majority of the gatherings are marked to show the order of folios, as mentioned above, but these are inconsistent. Thus while the second gathering is marked b1, b2, b3, and b4, the sixteenth has eI, eII, eIII, and eIV, the nineteenth simply has 1, 2, 3, and 4, and some gatherings simply do not have any recorded sequence, alphanumeric or otherwise. Catchwords are written horizontally in the lower right-hand margin on the verso of the last folio of each gathering to ensure proper sequence.

The current binding dates from the nineteenth century (see below) and is composed of pressboard surrounded by black velvet which is adorned with floral imprints on the front and back outside covers. The only distinguishing feature on the outer cover of F3 is a small, worn, red sticker that has the manuscript’s current call number, 1051. There are no metal studs or protective clasps with the current binding.

While the inner back cover and flyleaves are both blank, the inner front cover and flyleaves feature several notes and pastedowns, some of which document F3’s extensive provenance (see below). The inner front cover contains a pastedown of an ex libris from the library of the Duke of Sussex, under which an old call or sale number, “VI.B.d.3,” is written. Across the top of the paste-down is a record pertaining to the sale of the Duke’s library: “Duke of Sussex sale, lot 496.” The verso of the first flyleaf has a note likely written by the Duke himself regarding the origin and provenance of F3 (see below). The manuscript call number along with a stamp from the Biblioteca Medicea is found on the recto of the second flyleaf. On the recto of the third flyleaf, there is a watermark and a stamp of the date 1812 – likely when the manuscript was rebound – and on the verso there is a note about the contents of the codex: “Fratre Guidone Aretino.” The most interesting, however, is the fourth flyleaf: mimicking a part of the original medieval codex, an index of the manuscript contents is written in a pseudo-medi eval script,
surrounded by foliage (see image below). This folio also contains a note implying that F3 was at the library of the Escorial in Spain:

![Image of the Escorial inscription](image)

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**Figure 3.9 F3’s faulty ascription, f. 1**
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This faulty ascription and its purpose are discussed more fully below.

In contrast to F2, F3 is a deluxe codex written in a beautiful gothic Italian rotunda with black ink. Each folio is ruled lightly with ink and the prickings have been cropped off. The beginning of each treatise is decorated with illuminated initials and, in some cases, miniatures, such as the following picture depicting Augustine teaching a disciple the art of music:

![Image of Augustine and disciple](image)

[© Biblioteca Medicea Laurenziana, reproduced with permission]

**Figure 3.10 Decoration in F3, f. 2**
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Each chapter or paragraph is further highlighted using blue and red initials. Various colours are featured in *F3*, including red, blue, green, brown, white, yellow, pink, and even gold. It is the most visually stunning of all the sources transmitting *Musica*.

When considering each manuscript in this study and its journey from medieval to present locations, by far the most interesting story is that of *F3*. Like *F1* and *F2*, *F3* also resides in Florence, but at the Biblioteca Medicea Laurenziana. This manuscript is part of a group of several codices that were acquired from the library of Lord Bertram Ashburnham from England. Although originally believed to have been written in the twelfth or thirteenth century, *F3* was most likely written in the late fourteenth to early fifteenth century. It contains the vast majority of the *Musica* text – ascribed once again to Guido of Arezzo. Although *F3* is written in

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an Italian gothic miniscule hand (gotica rotunda), this does not necessarily mean that this manuscript was written in Italy. In fact, like the date, the origin of F3 is also contested: both Belgium and Italy have been proposed, although most studies have steered clear of even proposing an origin for the manuscript. Yet given that fact that the Italian rotunda script was used mainly in Italy, Southern France, and Spain, and that F3’s “ornementation [se rapportent] à l’école italienne,” Italy seems to be a more likely place of origin for the manuscript than Belgium.

The provenance of F3 is remarkable, especially in the sense that modern scholars – Welkenhuysen and Cochin in particular – have been able to piece together F3’s journey quite accurately based on a lot of conflicting evidence. The confusion stems from an ascription on folio 1 of the manuscript (see image above), where one reads “E monasterio de san Lorenzo del Escorial.” This has led some to propose that the manuscript must have resided in Spain at the Library of the Escorial monastery at some point in F3’s history. Yet as Cochin and Welkenhuysen have shown, this ascription was actually added to the manuscript in the early nineteenth century, and F3 never did reside at the Escorial. So what route did F3 travel before


140 See Bernhard Bischoff, Latin Palæography: Antiquity and the Middle Ages (Cambridge: Cambridge University Press, 1990), 131.


142 Information regarding the provenance of F3 has been taken largely from the following studies: Welkenhuysen, "Louis Sanctus de Beringen," 394-412; and Cochin, "Sur le Socrate de Pétrarque," 28-31.

143 It is interesting to note that the majority of musicological studies shy away from discussing the provenance for F3. In fact, the only source to fully take into account research done by Cochin and Welkenhuysen is Meyer, Mensura Monochordi, lxxxiii.

144 See Pesce, Guido d’Arezzo, 74; Brockett, Anonymi de modorum formuli, 29; and Fischer, The Theory of Music, 43.
arriving at its current location at the Biblioteca Medicea?

Part of the answer lies in a 1749 catalogue from the Biblioteca Vallicelliana in Rome. Under manuscript number B. 49, we find the following description: “Codex membranaceus in folio XIV saeculi. Folia sunt numero 170. De Musica Tractatus Varii cum figuris auctorum.” This is followed by a list of authors represented in the manuscript, including Guido of Arezzo, Augustine, and John of Afflighem (or Cotton). The Biblioteca Vallicelliana was established in Rome in 1575 by the Italian Filippo Neri. Through several donations, the library steadily grew to include numerous manuscripts and printed works. This number depleted, however, in the late eighteenth century during the French occupation of Rome, when the library was subjected to extensive looting. In 1810, following this tumultuous period in the library’s history, an inventory of the Biblioteca Vallicelliana’s holdings was taken to account for the loss of several items. Not surprisingly, the following entry appears in a list of missing manuscripts: “B. 49: cod. in fol. del XIV sec. Miscellanea.”

We now know that manuscript B. 49 from the Vallicelliana library is, in fact, none other than our very own F3. After having gone missing from its home in Rome, the manuscript reappeared in the early nineteenth century on the black market, complete with the new binding, the new foliation, and the new first folio (the recto of which bore the false ascription). As noted by Welkenhuysen, the parchment used for this new folio is coarser when compared to the rest of


146 The most concise history of the Biblioteca Vallicelliana is found on the library’s website at <http://www.vallicelliana.it/index.php?it/100/la-storia>. Also see Welkenhuysen, "Louis Sanctus de Beringen," 395-96.

147 ibid., 395.
the manuscript, and does not have any place in the first quaternion gathering of $F^3$.\footnote{ibid., 396.}

Furthermore, the table of contents written on the recto of this added folio, while obviously intending to appear medieval and part of the original codex, is a crude imitation of the beautiful gothic rotunda found through the rest of $F^3$:

![Figure 3.11 Pseudo-medieval table of contents in $F^3$, f. 1](image)

© Biblioteca Medicea Laurenziana, reproduced with permission

Since its appearance on the black market, the provenance of $F^3$ can be traced with some
certainty. The first clue comes in the form of an ex-libris on the inner front cover from the library of the Duke of Sussex, prince August Frederick (1773-1843). August Frederick was a renowned book collector who obviously recognized the faulty Escorial note, writing on the verso of the first flyleaf of the manuscript:

From the library of the Escurial – The velvet binding of this volume is exactly like that in which I found the Evangels and Bible in Latin, which Woodburn assured me were in fact from the Vatican. But the note respecting the Escurial was introduced in order to facilitate their exportation from Rome.149

Where the Duke of Sussex obtained the manuscript is unclear, yet he most certainly bought it in England, as shown in the following seller’s description (in English), which appears on the third flyleaf of F3:

Tractatus varii de Musica. An Antient Manuscript upon Vellum, written in very fair and distinct characters, with illuminated capitals, bound in velvet.

It is unclear, however, how early the Duke obtained F3 after it was rebound around 1812.

With the Duke’s death in 1843, his manuscript library was sold off publicly in separate lots. The records of these sales indicate that F3 was bought on 3 August 1844 at the sale of lot 496 for the price of eleven pounds and three shillings. The codex was sold to a buyer called “Payne” – a false name for the notorious Guillaume Libri (1803-69), a man who had a remarkable talent for recovering “lost” manuscripts.150 F3 remained in Libri’s library until 1847, by which point Libri had amassed quite a collection of manuscripts and rare books. Deciding to cash in on his good fortune, Libri sold his entire library – a total of 1923 manuscripts –151 to Lord Bertram Ashburnham of England for the sum of 8000 pounds.

149 ibid.

150 ibid., 397; Cochin, “Sur le Socrate de Pétrarque,” 28-31. For a discussion of Libri’s less-than-savoury business practices in relation to manuscripts, see L. Delisle, ”The Manuscripts of the Earl of Ashburnham: Report to the Minister of Public Instruction and Fine Arts,” (Bibliothèque nationale, 1883), 4-12.

The collection arrived at Ashburnham palace on 23 April 1847, and shortly thereafter a
catalogue was published which assigned \( F^3 \) the number 1051 – a number that it retains to this
very day. When Ashburnham himself died in 1878, his library of around four thousand valuable
manuscripts and printed works was sold off in several lots. On 21 July 1884, the government of
Italy bought 1,823 of the manuscripts that Ashburnham had obtained from Libri, for the sum of
23,000 pounds. Finally, on 4 December 1884, the Ashburnham collection was transferred to the
Biblioteca Medicea in Florence, where it remains to this day. Thus, since 1749 when the
Biblioteca Vallicelliana catalogue was published, \( F^3 \) has taken the following path to end up at
its current location in Florence: Rome – European black market – Duke of Sussex – Guillaume
Libri – Lord Ashburnham – Biblioteca Medicea.

But the question remains, what can we say about \( F^3 \)’s whereabouts before 1749? Although we
have no firm evidence, Welkenhuysen suggests that \( F^3 \) was acquired by the Biblioteca
Vallicelliana in 1581 as part of a group of manuscripts donated to the library by Portuguese
humanist Aquiles Estaço.\(^{152}\) In the surviving record of donation, there is a manuscript listed as:
“Idem [i.e. S. Augustinus], Guido, Jo, Papa et alii de Musica.”\(^{153}\) While this may indeed refer to
\( F^3 \), collections of musico-theoretical texts in the Middle Ages were far from uncommon;
composite codices represented the main method of transmission for these works.\(^{154}\)

\( F^3 \) has received a lot of attention in scholarly studies due to the presence of: a) again, writings

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\(^{152}\) Welkenhuysen, "Louis Sanctus de Beringen," 398.

\(^{153}\) ibid.

\(^{154}\) See Huglo, "Der Prolog," 134-35.
by Guido of Arezzo,\textsuperscript{155} and b) the treatise and tonary of John of Afflighem (or Cotton), an author whose identity remains unknown.\textsuperscript{156} The most detailed examination of the manuscript, however, is Welkenhuysen’s article on the \textit{Sentencia subjecti in musica sonora} of Louis Sanctus – an author whose connections with Petrarch have solidified his place in scholarly discourse. Welkenhuysen devotes a large part of his study to outlining the contents of \textit{F3} and also provides a brief paleographical and codicological analysis for the manuscript. That being said, given the number of conflicting opinions on the manuscript’s origin, date, and provenance, students and scholars alike would benefit from a facsimile edition of \textit{F3} – much in the vein of Santosuosso’s study of \textit{F1} – to synthesize the research that has been done thus far.

\textbf{\textit{F4}: Florence, Biblioteca Medicea Laurenziana, Pluteus XXIX. 48}\textsuperscript{157}

Paper, iii + 120 + iii, 225mm x 160mm, Italy, late fifteenth century

Contents:

1) Northern Italian music theory treatises
2) A series of long and short excerpts by various medieval authors
3) Anonymous treatises on counterpoint
4) Anonymous treatises on mensural music


\textsuperscript{157} The Biblioteca Medicea has digitized much of the Plutei collection. Images of \textit{F4} in its entirety can be found online at <http://www.bml.firenze.sbn.it/ing/collections.htm> by clicking on the link “Plutei online” and using the search term “Musica.”
5) Johannes Hothby, *De proportionibus*

6) Johannes Tinctoris, *Proportionale musices*

7) Aurelian, *Musica disciplina*

Latin codex

2° fol. Inc. *habet unam vocem scilicet g et tria nomina*

Siglum: *F4*

Bibliography:


Pluteus XXIX.48 comprises 120 paper folios with three paper flyleaves at the front of the codex and an additional three at the back. Each folio is numbered with black ink on the upper right corner in Arabic numerals. *F4* features a consistent, single-columned writing space of 150mm x 115mm, on folios measuring 225mm x 160mm.

The current collation appears to be iii + 1-7\(^{10}\) + 8\(^{12}\) + 9-11\(^{10}\) + 12\(^{8}\) + iii. When *F4* was rebound,
it was sewn very tightly and the top and bottom of the inner spine was reinforced with red and yellow string; as a result, it is difficult to be certain where one gathering ends and another begins – yet alone whether or not there are any folios missing from a gathering that have been replaced or omitted altogether. It is certain, however, that the majority of the gatherings are quinions with no visible catchwords.

The current binding is common to all the Plutei manuscripts at the Biblioteca Medicea and dates from the 1570s when the library was first opened to the public. It is composed of wood wrapped in maroon leather that is embossed with floral decorations, and there is a metal Medici coat of arms in the centre. The manuscript title on the front cover – “Guidonis Aretini musica, et alii autores musici” – is, of course, unique to F4. The manuscript call number, “48 P. 29,” is painted in large, white characters on the front cover. There are metal studs on the outer corners of the front and back covers, and there is still a metal chain attached to the lower back cover of F4 – a relic of the days when all of the Plutei manuscripts at the Biblioteca Medicea were arranged on the desks of the library for public perusal. Two leather clasps survive that would have held the codex shut, but the bottom clasp has since broken.

The inner covers have paper pastedowns that are largely blank, with the exception of a stamp on the inner back cover from the “Legatoria Bruscoli Firenze” – likely the company that rebound F4 in the sixteenth century.

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The three flyleaves at the front of the codex represent different stages of rebinding: the first flyleaf is the most recent, originating with the rebinding of the codex in the sixteenth century, as it forms a bifolium with the pastedown on the inner front cover. The second flyleaf is older and contains some wormholes that extend through to the third flyleaf and the first couple folios of the manuscript proper, yet it is likely not original. The third flyleaf, however, must have acted as the original manuscript cover, since: a) all of the worm holes that are found on the first few folios of $F4$ are also found on this third flyleaf, and b) the ink from the writing on folio 1 bled onto the verso of the third flyleaf.

The flyleaves at the back of the manuscript have been left blank, and the only markings on the first two flyleaves at the front of $F4$ are the call numbers “48 P.29” and “Laur. – Plut. 29,48.” On the recto of the third flyleaf, Angelo Bandini, an eighteenth-century librarian, has recorded the manuscript table of contents:\footnote{“Contuli Ego. Ang. Mat. Bandinius Biblioth. Regius Praefectus XIII. Kal. Iun. MDCCCLX”}
The verso of the third flyleaf again bears the manuscript call number “Pl. 48 Cod. 48.” On the first folio of the manuscript, the following enigmatic inscription is found alongside a red stamp for the Biblioteca Medicea: “Franc de Corti N° CL” (see below).\textsuperscript{160}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{image1.png}
\caption{An enigmatic inscription on f. 1}
\label{fig:enigmatic}
\end{figure}

Overall, *F4* is a very plain manuscript with minimal decoration or ornamentation. Each folio is ruled using pencil for the borders of the text, and ink for each line of text. The black ink used for the majority of the text has now faded, but the red ink used to highlight the beginnings of treatises and chapters is still bold. In some instances, large spaces have been left at the beginning of treatises for the insertion of larger initials, but these remain blank. The handwriting is a neat humanistic miniscule, and there is scant marginalia in a gothic cursive hand, suggesting that the manuscript may have been lightly used. *F4* is completely legible throughout and remains in excellent condition.

Dating from the late fifteenth century, *F4* is the latest manuscript to transmit *Musica*. The date of the manuscript remains uncontested, as does its Italian origin. The complete text of *Musica* is found on folios 38v-45v and is attributed to Guido of Arezzo.\(^\text{161}\)

In contrast to *F3*, the known provenance of *F4* is relatively straightforward, and entirely Northern Italian. The codex belongs to the Plutei collection – a group of some 3,000 manuscripts amassed by several generations of the Medici family, upon which the Biblioteca Medicea was founded in 1517. The Medici were known for their patronage of the liberal arts, and from the time of Cosimo de’ Medici (1389-1464), were active in acquiring and commissioning innumerable manuscripts, to the extent that Lorenzo de’ Medici (1449-1492) ordered the copying of all the texts that were lacking in the family collection.\(^\text{162}\) By the time the Biblioteca Medicea opened, the Plutei collection had also come to include various humanistic

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\(^\text{161}\) In the table of contents, the *Micrologus* is listed as “Micrologus Guidonis.” *Musica* is found a few entries later as “eiusdem formule tonorum.”

\(^\text{162}\) See Laurenziana, "Main Collections: Plutei Principali".
libraries and manuscripts from the library of the Dominican convent of San Marco.\textsuperscript{163}

It is certain that $F4$ has remained at the Biblioteca Medicea throughout the library’s history. A detailed entry for $F4$ is found in a catalogue published in 1641, where the item “Guidonis Aretini Musica, et alii Autores Musici” – the title of the manuscript found on the front cover – appears under the heading “Pluteo XXIX Lib. Lat.”\textsuperscript{164} In the 1775 catalogue that followed, codex no. 48 of Pluteus XXIX is given the exact same description, with minor spelling variants: “Guidonis Arretini musica, et alii auctores musici.”\textsuperscript{165} It is thus certain that $F4$ has resided at the Biblioteca Medicea since the early 1500s, yet there is no concrete evidence to show just how it came to be counted among the Plutei manuscripts.

In his 1775 catalogue, Bandini notes the ascription of a previous owner on the first folio – “in...prima pagina nomen possessoris adscribitur, Franc. de Corti.”\textsuperscript{166} Yet this Franc. de Corti was likely as enigmatic a figure to Bandini as he is to scholars today. Franc. de Corti is a name that has, thus far, been associated with this manuscript only. Therefore, all that can be said about $F4$’s provenance is that it may have once belonged to a man named Franc. de Corti, but by the early sixteenth century, had come to reside at the Biblioteca Medicea, where it remains to this day.\textsuperscript{167}

\textsuperscript{163} ibid.

\textsuperscript{164} Henrico Ernstio, ed. 	extit{Catalogus librorum refertissimae Bibliothecae Mediceae quae asservatur Florentiae in coenobio D. Laurentii} (Amstelodami: Apud. Joannem Janssonium, 1641), 39.

\textsuperscript{165} Angelo Bandini, 	extit{Catalogus codicum Latinorum Bibliothecae Mediceae Laurentianae}, vol. 2 (Florence: Typis Regii, 1775), col. 64.

\textsuperscript{166} ibid., col. 66.

\textsuperscript{167} Given the fact that Lorenzio de’ Medici ordered the copying of all texts that were not included in the family library, perhaps Franc. de Corti is the name of the scribe that copied the manuscript, and $N^\circ$ CL (or likely $N^{\circ}$ CL) represents the 150\textsuperscript{th} manuscript copied for the library. This is, however, pure speculation.
Like the other Florentine manuscripts containing *Musica*, *F4* has received considerable attention in studies pertaining to Guido of Arezzo and the *Dialogus*. Since the manuscript is much later and contains writings on counterpoint by the likes of Johannes de Muris and treatises on mensural notation and proportionality by Johannes Hothby, *F4* has featured more prominently in studies on the later rhythmic music theory and contrapuntal tracts. The most thorough description of the contents and codicological aspects of the manuscript is found in Balensuela’s 1994 edition of the *Ars cantus mensurabilis*.

\textit{L: Leipzig, Universitätsbibliothek Leipzig, 1492}

Parchment, i + 118 + i, 295mm x 215mm, Germany, 1438

Contents:

1) Boethius, \textit{De Institutione Musica}

2) Hucbald, \textit{De harmonica institutione}

3) Berno of Reichenau’s \textit{Prologus in tonarium}

\footnote{168 See Pesce, \textit{Guido d’Arezzo}, 77-83; Meyer, ”La tradition du Micrologus,” 24; Huglo, ”L’auteur de Dialogue,” 124; and van Waesberge, \textit{Guidonis Aretini Micrologus}, 17-19.}


\footnote{170 Balensuela, \textit{Ars cantus mensurabilis}, 97-102.}
4) Tonary

5) Musicae artis disciplina

6) Dialogus

Latin codex

2° fol. Inc. *inter utramque intencionem remissionemque numerus inveniret*

Siglum: L

Bibliography:


Heinrich Sowa, *Quellen zur Transformation der Antiphonen* (Kassel: Bärenreiter, 1935), 1-5.

*L* comprises 118 parchment folios with one parchment flyleaf at the front of the codex and one at the back. The foliation postdates the current binding (see below) and is written with Arabic numerals in pencil on the top, right-hand corner of each folio. *L* features a predominantly single-columned writing space of 210mm x 150mm on folios 1 through 42v, and 220mm x 150mm from folio 43 onwards. The tonary (folios 60v to 98) is written in two columns, each measuring 210mm x 65mm.

*L*’s current binding consists of wooden front and back covers enclosed by tooled, brown leather. There are wide, rectangular pastedowns on the front and back covers that are embossed with fleur-de-lis and griffins, and covered with worm holes. These pastedowns are likely what
survive from an older binding for \textit{L}. On the spine of \textit{L}, there is a small pastedown with the manuscript call number – “MS 1492” – written in ink. White parchment is pasted onto the inner front and back covers, on which \textit{L}’s call number is recorded once again. The two flyleaves are largely blank, containing little information about the provenance of \textit{L}. There is, however, a stamp from the University of Leipzig. It is certain that the current binding is not original (see below).

\textit{L} is unique among the manuscripts examined in this study in that it really ought to be viewed as three distinct booklets bound together. The first section (hereafter section A) extends from folio 1 to 42v and contains the Boethius text. There is even a colophon at the end of the section naming the scribe and place of composition (see below). Section B – folios 43 through 116v – contains the remaining treatises and musico-theoretical excerpts, along with a tonary. Finally, section C consists of two loose folios containing liturgical offices that are undecipherable for the most part, as the majority of the ink has been rubbed off. On folio 118v, however, the text “Incipit passio sancti marcelli” is still legible.

It is near impossible to ascertain a precise collation for \textit{L}, primarily due to the chaotic state of section A; at some point in \textit{L}’s history when the codex was rebound, the first booklet was reassembled without any consideration for the proper order of folios, and three extraneous folios were added. Therefore, Boethius’ \textit{De insitutione musica}, which consists of five books, is incomplete and completely out of order:

1) Book 3 (folios 1-9) – folio 3 contains glossing and diagrams for the Boethius text written in a different hand, and forms no part of the original gathering. Also, a note in the top
margin of folio 1 states that the beginning of book 3 can be found on folio 22v.\footnote{\textit{Beotius Cap. I. Libri III. Vide fol. 22b.}}

2) Book 4 (folios 9v-11v)

3) Book 2 (folios 12-22) - folio 20 contains glossing and diagrams for the Boethius text written in a different hand, and forms no part of the original gathering.

4) Book 3 (folio 22v)

5) Gloss written on a smaller parchment folio in a different hand (folio 23)

6) Book 4 (folios 24-36)

7) Book 5, which is incomplete (folio 36v-42v)

The fact that the folios are currently numbered in sequence makes it clear that whoever wrote in the numbers did so after the manuscript was rebound in its current state. In fact, older medieval numbers are still visible in places where the folios have not been completely cropped. For example, the number 49 is written in red on the bottom, right-hand side of the current folio 24.

The collation of section B is a little more straightforward as this section was rebound sequentially. Here the majority of the gatherings are quinions, which are numbered in order from primus (folio 43) to octavus (folio 113). Since the manuscript ends at folio 116v, the eighth gathering is incomplete. Section C simply consists of two separate flyleaves. Bearing all of this in mind, a rough collation of \textit{L}, taking into account each of the three sections, could be summarized as $i + 1^{10+1} + 2^2 + 3^{8+1} + 4^1 + 5^{10} + 6^9 + 7^{13}^{10} + 14^4 + 15^1 + 16^1 + i$.

The text of \textit{L} is, not surprisingly, written by three different hands. Sections A and B are written legibly with black ink in a distinctively German gothic miniscule by two different scribes (see colophon below), while the handwriting in section C is more generically gothic. In addition to
these three hands, there are annotations in pencil in the upper margins as to the textual content of certain folios; for example, in the case of the *Musica* text, “G. S. I 265: Oddo” is written – an obvious reference to the location of the text in Gerbert’s *Scriptores ecclesiastici de musica*. This hand thus dates from the late eighteenth century at the earliest, since Gerbert’s edition was not published until 1784.

Overall, *L* remains in fairly good shape. It is certainly not a deluxe codex, but there are some decorative aspects that lend a quasi-professional feel to the manuscript, such as *litterae duplices*, and the use of red, yellow, and blue ink throughout. The pencil ruling is still visible on each folio, as are the prickings on the outer margins. Noticeably lacking, however, are the vast majority of the theoretical diagrams and musical notation in section B.

*L* is the only manuscript containing a near-complete text of *Musica* that is known to have been written outside of Italy. Here the treatise is ascribed to Berno of Reichenau and is found on folios 100-107. Like *F2* and *F3* the treatise is incomplete, missing lines 260-317 in the critical edition. Since it is found in section B of the manuscript, the figures used to illustrate the different theories outlined in *Musica* are missing, even though enough space has been left blank where they ought to have been written.

Unlike the Italian manuscripts, we know the complete date, origin, and provenance of sections A and B of the codex, largely due to two helpful scribal colophons in the middle and near the end of the manuscript. The first is found on folio 42v after Boethius’ *Institutione musica*: “Finit musica Boecii per fratrem N. Theychman de Kant professum monasterii Veteris Celle Sancte Marie qui ibidem succentor existit.” This not only reveals that the manuscript was written at the Cistercian Altzelle monastery in Germany, but also that the first portion of *L* was written by a
succentor named Theychman. The second colophon, written on folio 116v (the last page of section B), reads:

[Explicit musica Bernonis. Scriptum per manus fratris theoderici henczoldi cantoris et professi huius monasterii. S. Celle Sancte marie Anno domini M’ CCCC XXX VIII’.]

Figure 3.15 Medieval colophon in L, f. 116v
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Thus, it would appear that the second half of the manuscript was written by one Theodericus Henczoldus, also of the Altzelle monastery, who finished his work in 1438.

These colophons – a rare find with medieval sources – make the origin and date of the first two sections in L patently clear. The provenance of L is similarly well-documented. The monastery of Altzelle, where the manuscript was written likely in the 1430s, disbanded in 1540, at which point the library was given to the University of Leipzig.¹⁷² A catalogue of the Altzelle library was made in 1541 to document the transition of manuscripts to the University’s library, and L, the “Musica Boecii/Musica Bernonis,”¹⁷³ was assigned number 22. Upon arrival at the University library, the manuscript was given a new call number: Latin 1492. In a catalogue of 1686, L is listed as one of the “Manuscripta Philosophica” with the following description:


¹⁷² This monastery was already associated with the University, having offered courses there since 1427. See Heinrich Sowa, Quellen zur Transformation der Antiphonen (Kassel: Bärenreiter, 1935), 1.

¹⁷³ ibid.
Musica.”

$L$ is housed at the Universitätsbibliothek Leipzig to this day.

One thing that is uncertain, however, is the origin and provenance of section C. As mentioned earlier, the handwriting in these last two manuscript folios is Gothic, but is not as distinctly German as that of sections A and B. The folios are in such bad shape that the text is, for the most part, illegible, so if there ever was any evidence as to their origin or provenance, it has long since been destroyed. Finally, it is impossible to tell when these final folios were bound with the first two sections. $L$ has certainly been rebound at least once, and section C may well have been added to the rest of the texts late in the manuscript’s history – perhaps even after coming to the University library. Therefore, while the origin and provenance of the first two sections in the manuscripts is remarkably clear, in a truly medieval fashion, section C poses more questions than answers.

$L$ has not been examined nearly as much as the manuscripts from Florence, yet its inclusion of an eleventh-century tonary from Reichenau has aroused significant scholarly interest. Both Huglo and Chartier assert that $L$ was actually copied from an ancient model from Reichenau, in which a tonary was recorded with the intervallic notation of Hermannus Contractus. This tonary, “composé vers 1075,” is conserved by $L$ alone, with Berno of Reichenau’s *Prologus in tonarium* (written after 1021) attached to it as an introduction. Chartier provides a rather detailed description of $L$, especially as it relates to his study of Hucbald, yet the most

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177 Chartier, *L’oeuvre musicale d’Hucbald*, 105-07.
thorough analyses of the contents, and the codicological and paleographical features of the manuscript are found in Sowa’s early study on antiphons.\textsuperscript{178} Otherwise, \textit{L} has been the subject of few academic discussions.

\textbf{P: Paris, Bibliothèque nationale de France, fonds latin 3713}

Fourth gathering: Parchment, 15, 145mm x 100mm, south-western France, twelfth century

Contents:

1) \textit{Dialogus de musica} with prologue

2) \textit{Musica} excerpt

3) A series of short excerpts by various medieval authors

Latin booklet

2º fol. Inc. \textit{paucorum mensuri tempus exercitati ablata corda}

Siglum: \textit{P}

Bibliography:


\textit{P} is unique among our roster of manuscripts for two reasons. First of all, rather than being a

\textsuperscript{178} Sowa, \textit{Quellen zur Transformation}, 1 ff.
single complete manuscript containing a multitude of texts like the Florentine and Leipzig manuscripts, in its current state $P$ is a collection of eleven separate manuscript booklets or fragments, dating from the eleventh to early-thirteenth centuries. Secondly, $P$ is the only known source to contain only a fragment of *Musica*, which is found in the fourth booklet, dating from the late eleventh to early twelfth century. This excerpt of *Musica* is, like in $F1$ through $F4$, attributed to Guido of Arezzo.

The script in the fourth booklet, which is a later Caroline miniscule, has led scholars to propose that this section of $P$ originated in south-western France. Quite early on, this booklet came to reside at the abbey of St. Martial in Limoges; Bernard Itier (1163-1225), the famous abbey librarian, was the one who assembled the eleven manuscript fragments to create $P$ as it survives today. $P$ remained in Limoges for quite some time: P. Bonaventure de Saint-Amable (1610-1691), the author of the three-volume *Histoire de saint Martial*, drew up a catalogue of the abbey library in late seventeenth century, in which $P$ is listed as St. Martial number 140.

In the early eighteenth century, Louis XV bought two hundred manuscripts from the abbey of St. Martial to be included in the Bibliothèque de Roy, which he inherited after the death of Louis XIV in 1715. $P$ must have been included in this manuscript acquisition, as it is listed in

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183 Louis XV is well known for having expanded the royal library to include innumerable acquisitions. Overall, he is thought to have collected about 230,000 volumes of printed works and manuscripts. See Cornelia Serrurier, *Bibliothèques de France: description de leurs fonds et historique de leur formation* (La Haye: Martinus Nijhoff, 1946), 172.
the 1739 catalogue of the royal library as a “codex membranaceus, olim Sancti Martialis Lemovicensis.” The catalogue describes the fourth gathering, in which *Musica* is found, as: “Dialogus de musica: illius author dicitur *Guido*, piisimus musicus & venerabilis Monachus.” It also assigns a new number to *P* – “IIIM DCCXIII” – which is used to this day. In 1789, the royal library became the property of the state as the Bibliothèque nationale, and *P* is still counted among its manuscript collection.

In relation to the *Musica* text, the excerpt found in *P* is very small – lines 8 through 16 in the critical edition. As a result, it is impossible to tell where *P* fits among our current roster of manuscripts; there are no significant conjunctive errors to align this textual fragment with the other texts of this study. As a result, this manuscript has been removed from consideration in both the *stemma textuum* and the critical edition, and has received very brief treatment here.


Siglum: *Ger*

The only published edition of *Musica* is Martin Gerbert’s 1784 *Scriptores ecclesiastici de musica*. Although publications are normally not included among the textual witnesses in any critical edition, *Ger* is a special case: Gerbert “transcribed” his edition of *Musica* from a twelfth-

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185 ibid.
186 ibid.
century manuscript that is no longer extant, as it was burned in a fire in 1768.\textsuperscript{188} He also had access to \textit{L} and recorded any significant variants found therein (see below – \textit{stemma textuum}). Although this edition will be considered as a textual witness, it is important to keep in mind that Gerbert was known to have normalized Latin spellings and corrected the scribe’s grammar.\textsuperscript{189}

Like \textit{L}, Gerbert has a unique ascription for \textit{Musica}; the treatise, along with the \textit{Dialogus de Musica}, is attributed to an “Oddo.” Although none of the surviving manuscripts of \textit{Musica} contain this ascription, the name has stuck since scholars now refer to both treatises as being by Pseudo-Odo – even though they are not one and the same.\textsuperscript{190} \textit{Ger} is also unique in that we do not know anything about the origin or provenance of the twelfth-century manuscript from which Gerbert made his edition.

\textbf{Affiliations of the Manuscripts}

For the purposes of the present study, rather than presenting a \textit{stemma codicum} for the manuscripts examined in this chapter, I will propose a \textit{stemma textuum} for \textit{Musica} that will be informed by the surviving textual evidence. As with many medieval texts, \textit{stemmata codicum} are very difficult to establish and are often inaccurate, as several manuscripts are composite codices – a collage of several different sources. Indeed, one need only look at the contents of the manuscripts considered in this chapter to see the wide variation in texts from one source to

\textsuperscript{188} Gerbert, \textit{Scriptores ecclesiastici de musica}, Praefatio. Although Gerbert’s edition was not published until 1784, it took him several years to compile the musico-theoretical texts contained therein, and luckily, \textit{Musica} was copied before the 1768 fire that ravaged the library of St. Blaise in Germany. See Huglo, "L’auteur de Dialogue," 127.

\textsuperscript{189} Merkley, \textit{Italian Tonaries}, 22.

\textsuperscript{190} In fact, when looking for \textit{Musica} in the \textit{New Grove}, it is found in the entry on Pseudo-Odo rather than that dealing with Anonymous theoretical treatises.
another. Before moving on to the *stemma textuum*, however, it is still worthwhile examining possible lines of the affiliation between *F1, F2, F3, F4, and L*, by considering texts that are both common and unique to each source.\textsuperscript{191}

The only treatise that is shared by all six manuscripts is *Musicae artis disciplina*. Furthermore, with the exception of *F1* and *F2*, each manuscript contains both common and unique texts. This is understandable since later sources, such as *F4*, sought to include both the authoritative, established texts of the past, and current writings that were more relevant to the music of their time. Therefore, although each manuscript is different (again, with the exception of *F1* and *F2*), certain relationships present themselves upon examination of manuscript contents.

To begin with, there is certainly a clear distinction between the Florentine manuscripts and that of Leipzig. The following six texts are found in all of the Florentine manuscripts, yet omitted in *L*:

*Musica disciplina*, Aurelian of Réôme, end of the ninth century

*Epistola ad Michahelem*, Guido of Arezzo, c. 1028

*Micrologus*, Guido of Arezzo, c. 1025

*Regule rithmice*, Guido of Arezzo, c. 1025-26

Musical excerpt from *Etymologiarum libri XX*, Isidore of Seville, c. 627-36

"In primis divide totum spatium," Anonymous

Moreover, there are several instances in which three out of the four Florentine manuscripts contain items that are also excluded by *L*:

Therefore, there are a total of thirteen items in the Florentine sources that are omitted altogether from L. Moreover, there are only seven items found in L that agree with any of the Florentine manuscripts, and, with the exception of Musica, there is not a single text in L that is found in all of the Florentine sources. L is also the only source that does not transmit Musica with any of the four writings of Guido of Arezzo. Therefore, it seems evident that L was part of a different manuscript tradition – one that did not originate in Italy, but, as Huglo and Chartier have suggested, one that stemmed from Reichenau in the late eleventh century.

Not to be ignored is the fact that each of Musica’s manuscripts also contains unique items: F1 and F2 have four singular texts, while F3 has ten, F4 nine, and L has eight. With the F1/F2 manuscript combination containing the fewest singular texts, it seems reasonable to propose that F1 was used a basis, in one way or another, for many items in the Florentine manuscripts. Therefore, the question that must now be considered is what bearing these manuscript affiliations had on Musica’s transmission in the Middle Ages.
The **Stemma Textuum**

The closest that modern scholarship can ever come to understanding *Musica*’s path from one witness to another is through collation and textual criticism. Based on textual evidence, the treatise’s six surviving sources can be broken down into two families, entitled, for the present study, the $\alpha$ branch ($F1$, $F2$, and $F3$), and the $\beta$ branch ($F4$, $L$, $Ger$). These, in turn, derive from one common archetype labelled $\omega$, which is no longer extant. This archetype is significant as its existence ensures that there is no possible way of accurately reconstructing the authorial text, $\Omega$, although we may come close through conjecture and emendation. The following investigation examines the common and separative errors in each witness, and how these inform the resulting *stemma textuum*.

1. Proof of $\omega$

The remaining sources transmitting the text for *Musica* all attest to the presence of a common archetype, $\omega$. The number of generations separating the oldest surviving manuscript ($F1$) from $\omega$ is unknown, yet given the fact that $F1$ dates from 1100, and the treatise itself likely dates from around 1050, the temporal gap cannot have been too substantial.\(^{192}\) Although $\omega$ is no longer extant, its text for *Musica* can be reconstructed using the textual evidence found in the $\alpha$ and $\beta$ branches of witnesses (see below); the readings for $\omega$ survive when the manuscripts in both branches agree, but when there is a discrepancy, either or neither branch could carry the true reading of $\omega$.

The following significant errors attest to the presence of $\omega$:  

\(^{192}\) The same can likely be said for $\omega$’s relationship to the authorial text, $\Omega$. 
6 quanto] quantum $\omega$ (-L)
7 excelsius] excelsior $\omega$ (-Ger)
38 post cum verbum sexta habet $\omega$ (-Ger)
40 post erunt verbum enim habet $\omega$ (-Ger)
66-67 post reperies verba Hoc idem in secundo et tertio et quarto ordine aeque continget habet $\omega$
73 repetitiones Ger: repetitio F1 : repeti F4 : repetiti L
90 iunctus] iunctu F1 : iunctum $\beta$
137 una] uno $\omega$
150 signata] signatis a $\omega$
160 quam quod F4 : unusquamque F1 : unus quam quod L : unus quam Ger
223 qualibus] qualibet $\omega$ (-Ger)
252 sollicitius] sollicitus $\omega$ (-Ger)
391 semote] se motis F1 : semoti F4 : semotim L Ger

Figura 2

Figura 10

Figura 11\(^{193}\)

2. The $\alpha$ branch ($F1\ F2\ F3$)

The $\alpha$ family of manuscripts consists of the three Florentine sources $F1$, $F2$, and $F3$. Of these, $F1$ is the oldest witness, dating from around 1100, and the text for *Musica* in $F2$ and $F3$

ultimately derives from $F1$. This shown by the following significant errors that are found in $F1$

and replicated in $F2$ and $F3$, but are absent in the $\beta$ branch:

\(^{193}\) See *Varia figura* section at the end of the critical edition.
5 terris] nostris *F1*
30 prima] primam *F1*
36 sequentis] -tius *F1*
56 quae secundum] quem secundus *F1*
116 Secundum] Secundus *F1*
133 tonum] tono *F1*
146-147 a prima…diapente *om. F1*
217 incipi] incipit *F1*
241 figura] figuram *F1*
291 iungunt] iungitur *F1*
340 continet] continent *F1*
341 gravior bis] gravioribus *F1*
359 usui] sui *F1*
387 ut alia] utilia *F1*
387 similitudine] similitudinem *F1*

*Figura 3*
*Figura 8*
*Figura 9*
*Figura 14*
*Figura 21 om.*

*F1* also has some odd spellings that go beyond mere orthographic variation, one of which is reproduced in both *F2* and *F3*:
15 possimus] poscimus *F1*

That *F2* was copied directly from *F1* is obvious from its duplication of the following errors/spelling variants that are not found in *F3*, and which, in some instances, betray mindless copying:

67 nihilominus] nichil hominus *F1* *F2*

68 diapente] diapenta *F1* *F2*

128 ablationem] oblationem *F1* *F2*

214 post eisdem modis *verba* eisdem modis *habent* *F1* *F2*

347 superiorum] superior *F1* *F2*

463-64 frustra te] frustate *F1* *F2*

476 post ac *verbum* in *habet* *F1* *F2* a.c.

Although *F3*’s text for *Musica* also ultimately derives from *F1*, there was likely an intermediary, designated γ for the present study. This is obvious upon closer inspection of *F3*: there are several instances where blank spaces have been left to accommodate text that was never filled in.

![Textual omissions *F3*](image)

*Figure 3.16a Textual omissions *F3***

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Figure 3.16b Textual omissions, F3
© Biblioteca Medicea Laurenziana, reproduced with permission

Figure 3.16c Textual omissions F3
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Figure 3.16d Textual omissions F3
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This is all the more curious, since this text is plainly visible in \( F1 \).\(^{194}\) The only logical explanation for these omissions is that \( F3 \) must have been copied from a slightly worn or damaged manuscript. If the words in the examples shown above were simply missing in his exemplar, the scribe for \( F3 \) would not have left blank spaces, as there would have been no reason to suspect that any other text existed. Also noteworthy is the fact that the blank spaces correspond exactly to the amount of missing text.

The presence of \( \gamma \), however, calls into question \( F3 \)'s relationship to \( F1 \) in the *stemma textuum*: how do we know that the text in \( F3 \) derived from a copy of \( F1 \), and not the archetype for \( F1 \), namely \( \alpha \)? First, it is important to note that there are errors in \( F1 \) that are not replicated in \( F3 \), but these are largely insignificant, in that any scribe would have had no problem inferring the proper text, as shown in the following examples:

44 toni \( F3 \) : tonum \( F1 \)

67 nichilominus \( F3 \) : nichil hominus \( F1 \)

191 primam \( F3 \) : prima \( F1 \)

238 Quaternaria \( F3 \) : Quaternarium \( F1 \)

239 dupla \( F3 \) : duplam \( F1 \)

242 versi \( F3 \) : versus \( F1 \)

347 superior \( F3 \) : superiorem \( F1 \)

349 unam \( F3 \) : una \( F1 \)

377 unius \( F3 \) : unus \( F1 \)

425 a \( F3 \) : ad \( F1 \)

463-64 frustra te \( F3 \) : frustate \( F1 \)

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The strongest argument for \( F1 \) being the basis for \( F3 \)'s archetype \( \gamma \), is that the scribe of \( \gamma \) skipped over the seventh complete line of text on folio 47v in \( F1 \), beginning with “mutatis.”\textsuperscript{195} Instead of reading “ut ter / mutatis in hac trina divisione lateribus valde hanc / mirabilem...” (with dashes representing line division in \( F1 \)), \( F3 \) reads “ut ter mirabilem...”:

![F3 f. 62](image)

\textbf{Figure 3.17 Textual omission \( F3 \)}
© Biblioteca Medicea Laurenziana, reproduced with permission

It is easy to imagine how this happened: since both lines of text in \( F1 \) begin with “m,” the scribe for \( \gamma \) unwittingly skipped down to the line beginning with the word “mirabilem,” omitting the text of the preceding line altogether. Thus, the text in \( F3 \) proceeds directly from “ut ter” to “mirabilem.” While this textual omission could have occurred in a different context, it is less likely to have resulted from simple \textit{homoeoteleuton}, since the words “mutatis” and “mirabilem” have very little in common visually, with the exception of the “m,” and the number of minims required to write “mu” and “mir.” Furthermore, one’s eye is more apt to skip an entire line of text than jump from one area of the text to another.

The blank spaces discussed above also make it unlikely that \( F3 \) was copied from the archetype for \( F1 \). If the text of \( F3 \)’s exemplar was illegible in certain spots, then how would \( F1 \) have
ended up with a complete text for *Musica* – one that agrees with all the other witnesses? If this were the case, the only explanation would be that the condition of the archetype had deteriorated by the time *F3* was copied. Therefore, with the omission of one complete line and the presence of blank spaces, it is unlikely that *F3* was copied from *F1*’s archetype; *F3* must have ultimately inherited the *Musica* text from *F1*.

3. The β branch (*F4 L Ger*)

*F4 L* and *Ger* contain the following conjunctive errors that separate them from the α manuscripts, and suggest the presence of hypearchetype β:

58 post novem verbum et habet β

90 iunctus conieci : iunctum β

Perhaps the most significant variant of the β sources is the omission of the sixth diagram, which is present in all of the α manuscripts. Even *L* which is missing all of the diagrams (see above) does not leave a blank space for this illustration to be written in later. It is impossible to say whether *Figura 6* was found in *ω* or not; it may simply have been a creation of α or *F1*. It is interesting to note, however, that the text of *Musica* makes reference to the majority of the illustrations with phrases such as “*in hac figura notatur*” or “*haec figura per ordinem signat,*” and the sixth diagram happens to be one of the few that is passed over without mention. Nevertheless, *Figura 6* is characteristic of *Musica*’s illustrations in content, purpose, and layout.

The majority of the errors in this branch occur in two out of the three manuscripts, thus providing the reading of β:

β (-*F4*)
Unlike $F_2$ and $F_3$ which ultimately derive from $F_1$, $F_4$, $L$ and $Ger$ were all independently copied from $\beta$ or one of its ancestors. There are a large number of separative errors in each source to attest to this, some of which are shown below.

Separative errors $F_4$

The majority of $F_4$’s erroneous text comes down to issues of spelling, yet there are also several instances where the text and illustrations simply do not make sense, including:

13 umquam spatio] numquam $F_4$
23 per suprascriptas] perscriptas $F_4$
44 huius] Primus $F_4$
48-49 in numeris aeque fit] inaeque fit in numeris $F_4$
Like F4, spelling mistakes account for several of the separative errors in L; these have been omitted here. L also contains a host of errors in content, omission, and grammar, including:

58 super] si per L
71 post iungantur verba ut est verbi gratia tonus tonus tonus tonus et semitonius habet L
108 undecimam] decimam L | g] f L
171 tantum] cantum L
174 bis om. L
187 sed…depingimus om. L
As mentioned earlier, Gerbert was known to have “corrected” the manuscripts from which he was working for his edition. Perhaps as a result of this, Gerbert’s edition features several errors of its own, including:

23 modulum] modum Ger

31 secundae] primae Ger

31 post apponis verba Item ibi incipiens, si per novem divis eris usque ad finem chordae, ubi secunda nona pars terminaverit, ibi signum secundae vocis apponis habet Ger

54-55 vel semitonius…similia om. Ger

59 semitonii] toni Ger

71 tres continui] inconcinni Ger

84 una] prima Ger
4. Contamination

In addition to the filial relationships among the $\alpha$ and $\beta$ witnesses, the present *stemma textuum* features two lines of contamination, one from *Ger* to *L*, and the other from *F4* to $\alpha$. That *Ger*
had access to *Musica* in *L* is certain from the following comments found at the beginning of the treatise in his edition:

*Quae sequuntur, in codice San Blasiano continent posita[e] sunt post opusculum seu dialogum ODDONIS de Musica, scilicet post haec verba, quae in aliis Msc. desiderantur: D. Age ergo obsecro, & de modis, quae sequuntur, edicito. Unde & nos hic immediate illa subitizus, collata cum Msc Lipsiens, in quo habetur sub nomine BERNONIS.*

As if to remove any doubt that this Leipzig manuscript is indeed our *L*, Gerbert then notes the manuscript’s complete lack of illustrations with the comment: “*Haec et sequentes tabulae in Lips. Msc. desunt, spatio tamen vacuo relictuo.*” He also refers to the lacuna of lines 260-317 in *L* (see above), enclosing the corresponding text in his edition with square brackets.

The results of Gerbert having “collated” his St. Blaise manuscript with *L* are found throughout his edition in the form of notes at the bottom of the page:

| a) | *Lips.* secundus. |
| b) | Uncinias inclusa defunt in *Lips.* Msc. |
| c) | *Lips.* cum sexta. |
| d) | *Lips.* deduxeris; crunt enim ab &c. |
| e) | *Lips.* habebit melius. |
| f) | i. e. in hac antiphona, *Lips.* secundus tonus. |
| g) | *Lips.* super octo, id est super octonarium. |

**Figure 3.18 Gerbert’s “critical apparatus”**

These notes, however, are by no means exhaustive, as numerous variants found in *L* are passed over without mention.

There is also evidence to suggest that *F4* had access to an *α* witness, in spite of being a *β* manuscript. This is shown in the following errors that were adopted by *F4*:

15 memoria] memoriam *F1 F4*

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196 Gerbert, *Scriptores ecclesiastici de musica*, 1, 265.

197 ibid.

198 ibid., 275-76.
Additionally, it is noteworthy that F4’s text features the following incipits from F1 that are not found in any of the β witnesses:

1 ante Musicae verba In nomine Domini. Incipiunt formule tonorum satus humiliter pueris
explanare habet F1 : -explanare. E primo, quid prosit et quibus conveniat Musica habet F4
8 ante Cum verba Quo ordine pueri admittantur ad cantum habent F1 F4
21 ante Nunc verba De signis et mensuris vocum et figura monochordi habet F1 : -monochordi.
Nota infrascripta habet F4
260 ante Sunt verba nota mira laus musicae habet F1 : verba mira laus musicae habet F4

As with any case of contamination, the fact that Ger had access to L, and that F4 likely had an α-branch manuscript available, presents a host of problems for the stemma textuum. For instance, Gerbert could have adopted readings from L without acknowledgement, and all the while, his exemplar could have belonged to the α branch, or could have even antedated ω – there is simply no way to be certain. Moreover, since F4 took on select textual traits of the α branch, there is always the possibility that F4 was instead copied from an α source, and that it simply adopted a number of readings from a β manuscript. This is all to say that the present
stemma textuum should be considered merely as an approximation of Musica’s transmission in the Middle Ages, and is not intended to be concrete in any way; it is simply a representation of the textual evidence available in Musica’s remaining witnesses.

5. Stemma textuum

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**Figure 3.19 The stemma textuum**

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199 In the stemma textuum, [X] represents the medieval manuscript from which Gerbert drew his text, which is no longer extant.
CHAPTER 4

Editorial Principles

The aim of the present critical edition is to create a sound text for *Musica* that comes as close as possible to the author’s original intent. An exact reconstruction of the textual archetype for the treatise is out of reach, since the *stemma textuum*, introduced in chapter three, is bipartite with contamination among certain witnesses. This is further complicated by the fact that our oldest source (*F1*) is likely separated from the original text by at least a few generations. For this study, then, the *stemma textuum* serves mainly to a) show probable textual affiliations, and b) provide a framework for showing variant readings in the *apparatus criticus*.

The *apparatus criticus*

Although a textual tradition featuring contamination would tend to call for a positive critical apparatus, since the text of the present edition is largely based upon the readings of only four witnesses (namely *F1, F4, L*, and *Ger*), the critical apparatus is negative. For the most part, standard variants in orthography and minor scribal errors are not reported unless they help to reinforce the *stemma textuum*. The relative position of each witness within the *stemma textuum* also dictates the inclusion or exclusion of variants, as outlined below:

1. The *α* family of manuscripts

Variant readings found in *F1* are always reported in the critical apparatus. These include (among other things) unusual spellings of certain terms that go beyond mere orthographic variation, word transposition and duplication, and supra-linear glosses. Significant variants found in *F2*
and F3 – both of which have been shown to derive from F1 in one way or another – are only recorded in the critical apparatus when they present sound readings.

2. The β family of manuscripts

Since β does not survive, significant variants found in L, F4, and Ger are all noted in the apparatus, especially when two of the three manuscripts are in agreement, thus providing the reading of β. Instances where all three β witnesses have a different reading are also recorded, as are any lectiones singulares, and occasions where F1 and any one of the β sources contain a common error or variant.

When α and β diverge, one can only make an educated guess as to which recension carries the true reading of the archetype. In such instances, preference is given to neither α nor β, but rather to the best possible text.

Apparatus fontium et similium

Like other musico-theoretical texts from the Middle Ages, Musica draws upon the firmly-entrenched musical authority of St. Ambrose, Boethius, Isidore, and Gregory the Great. Though the present edition makes every effort to identify the principal sources for such references, often the musical legend had become so much greater than the musical work upon which it was based (or lack thereof) that no definite source can be cited. This is especially true of Gregory the Great and St. Ambrose. When possible, references to source texts and their authors are noted according to the principles outlined in the Novum glossarium mediae latinitatis\textsuperscript{200} and the

\textsuperscript{200} International Union of Academies, Index scriptorum novus mediae Latinitatis: Supplementum (Genève: Droz, 2005); International Union of Academies, Novum glossarium mediae latinitatis, ab anno DCCC usque ad
It should come as no surprise that the author of *Musica* also drew on verses from the Bible. These appear in the source apparatus in the following format: *Book. Chapter number: Verse number* – or *Ps. 103:15* to cite an example from the edition. All biblical citations are based on the current standard edition of the Latin Vulgate.

**Presentation of the text**

Since orthography varies from witness to witness, the present edition normalizes the spelling according to classical Latin conventions. As such, the text features a clear distinction between the vowel “u” and the consonant “v.” Also, the letter “j” has been omitted. The medieval tendency to write “e” instead of “ae” and “cio” instead of “tio” has likewise been suppressed. For consistency’s sake, proper names, such as “Gregorius” or “Deus,” have been normalized and capitalized in keeping with modern conventions.

With the exception of *Ger*, each witness features texts that have been abbreviated according to their respective time periods and regions. These abbreviations have been expanded silently for this edition, and in instances where there was some doubt as to the correct expansion, I have inferred the proper meaning by a) considering the use of the abbreviation elsewhere in that same

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manuscript, and b) consulting the same text in other witnesses.\(^{203}\)

Punctuation varies from witness to witness as well, and in many cases, it is largely inconsistent. Therefore, the present edition uses modern punctuation according to the syntax of the text.

Pointed brackets (\(<\>)\) are used in instances where the editor has supplied words or letters to the text that were not present in any of the sources, and square brackets ([ ]\) are used for words or phrases that ought to be omitted, but are found in all of Musica’s witnesses.

Chapter headings are noticeably absent from the text of this edition for the following reasons: a) there are no headings common to all the textual witnesses, and b) when headings are present in any given source, they are inconsistent. For example, at the beginning of the text in \(F3\), there is a list of rubrics outlining the main topics of the treatise – almost like a table of contents – but only a handful of these headings actually appear throughout the text; in some instances, the wording of the heading even varies from what was presented in the outline. The division of the text into paragraphs likewise varies from source to source, so the layout of the present edition follows the sense of the text.

The **Varia figura**

The treatise contains twenty-four illustrations used to expand upon various musico-theoretical precepts discussed in the text. These have been collated, and were taken into account for the creation of the *stemma textuum.* Any variants from witness to witness are noted in the section

\(^{203}\) Throughout the edition, the words “enim” and “autem” are often confused, with \(F1\) preferring the causal conjunction “enim,” and \(\beta\) preferring the adversative “autem.” This may simply be a matter of confusion of the tironian note for “autem” \(\text{ḥ}\) and the \(\text{ḥ}\) abbreviation sometimes used for “enim,” although I do not know if there is a precedent for this. There are also times when “autem” is confused with “hoc” or “huius” or “hec.” Generally speaking, \(\text{Ger}\) will carry “autem,” and \(F1\) will carry “hoc” (or “huius” or “hec”), and \(F4\) and \(L\) will switch back and forth. This confusion is much more common, and it is likely that \(\omega\) used the tironian abbreviation for “autem.”
immediately following the edition, entitled *Varia figura*. Here, in the manner of a positive apparatus, the correct version of each illustration is provided first, with special note made of the witnesses transmitting this reading. This is followed by the illustration(s) showing the variant reading(s) found in other witnesses, with the incorrect portions highlighted in grey to allow for ease of examination.

As mentioned in the previous chapter, *L* does not contain the majority of the illustrations found in *Musica* simply because the manuscript is incomplete: areas of parchment are left blank where the figures were to be written. Curiously, the one illustration that *is* present in *L* (*Figura 10* in the edition) is completely different than that found in the other witnesses, and does not even come close to the diagram’s true theoretical complexity.

The method of presentation for the illustrations in *Ger* merits special consideration. Gerbert was not particularly concerned about consistency in his edition of *Musica*, and as such, the symbols he used to denote pitch vary. For example, b-natural was either written in its square-b form (\(\flat\)), or simply as natural sign (\(\natural\)). Similarly, the highest b-flat in the gamut of *Musica* (see below) was written as B, as in the manuscripts, or as b\(_b\), in the manner of the anonymous *Dialogus*. There are other such discrepancies in *Ger*, but for the purposes of this edition and the *Varia figura*, these have been normalized according to the pitch chart provided below.

**Musical Pitch**

The theories in *Musica* make constant reference to musical pitch using the following letter notation:
Figure 4.1 The alphabetic notation of *Musicae artis disciplina*

While this edition does not make any claim firmly to relate these pitches to the modern scale or notation, it is helpful to note that A, for example, retains the same surrounding intervallic content in *Musica* as it does in the music theory of today, albeit according to Pythagorean rather than equal-tempered tuning. This is also true for the remaining letters. There are, however, some unfamiliar symbols whose musical properties can be roughly defined as follows:

![Figure 4.2 Modern pitch representations](image)

1. Musical Examples

There are thirteen musical examples in *Musica*. With the exception of “Bella bis quinis” and “Christus vincit,” the treatise presents incipits only. These examples are presented in the edition with alphabetic notation – just as they are found in the manuscripts and in *Ger*. Musical variations are likewise noted in the *apparatus criticus*, but note that in doing so, I do not presume to imply that any one reading is more correct than another. For the most part, the notation is consistent from witness to witness, but in cases where there is variation, the reading
of $\omega$ is preserved.

**Terminology**

*Musica* features some terminology that can be confusing to the modern reader. Therefore, here is a small list of definitions that will hopefully alleviate some frustration:

- **diatessaron, diapente, and diapason**: These terms were adopted throughout the Middle Ages to denote a perfect fourth, fifth, and octave, respectively. Traditionally, these are all feminine nouns, yet they are often the subject of gender confusion in *Musica’s* sources.

- **depositio**: A feminine noun that is best translated as descent.

- **elevatio**: A feminine noun denoting ascent.

- **posterior**: An adjective that is sometimes used by the author to denote the higher pitch.

- **prior**: An adjective that is sometimes used by the author to denote the lower pitch.

- **semitonius**: This term deserves special mention, since the semitone is usually found as a neuter noun (semitonium), yet in the sources containing *Musica*, it is predominantly masculine, and has been presented as such in this edition.

- **vox**: A feminine noun denoting pitch.

**Consectus siglorum**

$\omega = \text{consensus omnium codicum}$
$F1$

$\beta = \text{consensus codicum } F4 L \text{ Ger}$

$F2 F3 = \text{qui raro cicantur}$

**Abbreviationes et signa**

*a.c. ante correctionem*

*add. addidit*

*cett. ceteri codices*

*i.e. id est*

*om. omisit*

*s.l. supra lineam*
PART TWO

Critical Edition: Musicae artis disciplina
Musicae artis disciplina summo studio appetenda est, et maxime his qui communi conversatione Deo serviant. Nam sicut per psalmistam dicitur, quia panis confirmat et vinum laetificat cor hominis, ita et frequens lectio animum nostrum ad virtutes roborat, cantus vero mentem in Dei servitio exhilarat. Accidit praeterea ut, cum suavitatem melodiae quae in terris agitur congaudentes miramur, ad illam harmoniam caelestis patriae audiendam ardentius festinemus, quae tanto est ista suavior, quanto caelum terra miratur excelsius.

Cum pueris volumus insinuare legere, prius eos abecedarium discere facimus in tabula, ut postquam cognoverint omnes litteras, facilius legere valeant quidquid scribitur litteris. Simili modo, qui cantum volunt addiscere, prius oportet eos omnes voces tonorumque varietates in monochordo cognoscere, quia enim hac disciplina non utimur,

\[ \omega = F_1 + \beta (F_4, L, Ger) \]

**Fontes et similia:**

2-3 quia panis…hominis *Ps. 103:15*  8-11 Cum...cognoscere *Ps. Odo dial. 1 p. 252*

**Varia lectio:**

1 *ante* Musicae verba In nomine Domini. Incipiunt formule tonorum satis humiliter pueris explanare habet F1 : -explanare. E primo, quid prosit et quibus conveniat Musica habet F4  2 per om. F1  4 in Dei servitio mentem Ger  5 terris] nostris F1 | congaudentes] cum gaudentes F4  6 quanto L : quantum cett.  7 miratur] -mur Ger | excelsius Ger : excelsior cett.  8 *ante* Cum verba Quo ordine pueri admittantur ad cantum habent F1 F4 | Cum] Dum L | abecedarium| abedarium F4  9 postquam] posquam L
tantum temporis antiphonarium discendo perdimus, in quanto divinam auctoritatem et grammaticae regulam scire potuissemus. Et quod deterius est, nullo umquam spatio temporis ad tantam perfectionem venimus, ut saltem minimam antiphonam absque

15 magistri labore scire possimus – quam si oblivisci contigerit, nullatenus memoria reformare valemus. Sed non terreat lectorem huius artis duritia. In praesentibus quippe regulis nihil invenies praeter ea sola quae et facile poteris, Deo illuminante, capere et per quae ad cantandi peritiam quam cito valeas pervenire. Talis enim ac tanta huius artis virtus probatur, de qua et parvuli possint capere unde ad cantandi peritiam pervenire

20 poterunt, et forte sensus suos per multa valeant ac mirabilia exercere.

Nunc primum ante oculos monochordum ponimus ut, quidquid postea de vocum natura dixerimus, si lectione minus panditur, oculis digito demonstretur.

\[ \omega = F1 + \beta (F4, L, Ger) \]

Fontes et similia:

12-15 tantum...possimus GUIDO ARET. prol antiph. 9-14 p. 408 16-20 In...poterunt PS. ODO dial. prol. p. 138

Varia lectio:

Cum igitur subducendo modulum per suprascriptas chordae litteras ipsam chordam curtaveris vel elongaveris, omnes voces quibus omnis cantus efficitur, et quantum unaquaeque vox altera sit gravior subtiliorve, numero recognosces. Qua in re divinam sapientiam admirans glorificare poteris, quia sicut omnia reliqua, ita etiam voces hominum ut se laudarent in numero et mensura constituit. Cum primum igitur in monochordo conspexeris, cognosce unamquamque vocem ab altera tono vel semitonio distare. Omnes autem toni novenaria divisione fiunt, ut cum a capite monochordi ubi chorda incipit, usque ad finem ubi chorda finitur per novem diviseris, ubi prima nona pars terminaverit, ibi signum secundae vocis apponis. Et illa descensio vel ascensio – hoc est ipsum intervallum quod est a prima voce ubi inscribitur A usque ad secundam ubi

\[ \omega = F1 + \beta (F4, L, \text{Ger}) \]

Varia lectio:

inscribitur B – tônus est primus; prima enim vox est tota chorda antequam dividatur. Unde in capite chordae scribitur A, littera prima, in secundo vero loco B, littera secunda.

Tonus ergo dicitur quotiens spatium unius vocis usque ad alteram usque ad finem chordae novies ducitur. Unde fit ut quantum fuerit octaua pars sequentis, tanto maior esse prior ab illa videatur. Et rursus quantum fuerit nona pars prioris, tanto sequens minorata cognoscatur, quod facile probes probataque cognoscere, si cum [sexta] mensuraveris ab A usque ad B, et illud spatium quale fuerit usque ad finem chordae quasi pedibus incedendo duxeris, erunt [enim] ab A ad finem huiusmodi spatia novem, a B vero usque ad finem octo. Erunt praeterea de illis vocibus quas in monochordo vides huiusmodi toni decem, quorum per ordinem ista descriptio est:

<table>
<thead>
<tr>
<th>tônus epogdous i</th>
<th>tônus epogdous ii</th>
<th>tônus epogdous iii</th>
<th>tônus epogdous iv</th>
<th>tônus epogdous v</th>
<th>tônus epogdous vi</th>
<th>tônus epogdous vii</th>
<th>tônus epogdous viii</th>
<th>tônus epogdous ix</th>
<th>tônus epogdous x</th>
</tr>
</thead>
<tbody>
<tr>
<td>novem</td>
<td>octo</td>
<td>novem</td>
<td>octo</td>
<td>novem</td>
<td>octo</td>
<td>novem</td>
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</tr>
</tbody>
</table>

ω = F1 + β (F4, L, Ger)

Varia lectio:

In un quoque enim tono, qualia novem spatia prior habuerit, similia vel eadem octo

\[ \omega = F1 + \beta (F4, L, \text{Ger}) \]

DC E F GF D DC

habebit posterior. Huius toni exemplum hoc est: An-ge-lus Do-mi-ni. Ubicunque enim videris duas ex illis litteris, sicut in figura geminatae sunt, sive in isto sive in alio

DC E
cantu, tonus est sicut hic: An-ge. [Secundus] tonus est epogdous, quia hunc tonum musici epogdoum vocant (id est superoctonarium) quotiens maior vox comparata ad minorem habet eam totam in se et, eo amplius, octavam partem illius minoris; quod etiam in numeris aeque fit cum novem comparamus ad octo, vel decem et octo ad sedecim,

50 nominatur autem iste epogdous tonus, cuius descriptio superius facta est.

Semitonii autem in eisdem vocibus quinque numerantur. Dicitur autem semitonius quasi medius tonus, est enim medius inter duos tonos, illud spatium quod positis ex utraque parte tonis in medio remanet, ita quidem ut utriusque lateris toni ut dictum est

---

Fontes et similia:

49-50 cum...facta est CHALC. comm. 43

Varia lectio:

43 enim om. F4 44 habebit] habuerit Ger | Huius] Primus F4 | toni] -um F1 | voces vacant \( \beta \) (-F4) 46 Ange] An \( \beta \) (-F4) | voces vacant Ger | \( \omega \) (-Ger) seclusi : om. Ger | hunc om. Ger 47 id est] vel F1 | post est verba super octo id est habet L 48-49 in numeris aeque fit| inaeque fit in numeris F4 49 aeque] etque L | fit] sit F1 | decem et octo, i.e. duodeviginti 50 tonus om. L 51 Semitonii] -ia \( \beta \) (-F4) | semitonius] -ium Ger 52 tonos om. F1 F4 53 post medio verba scilicet semitonius s.l. habet F1 | quidem om. Ger
novenario fiant. Vel semitonius ideo vocatur quod semis et non plenus sit tonus, unde
dicere solemus, “Non plenus est sciphus,” et cetera similia. Itaque si primo tono
terminato quartam vocem, quae secundum tonum terminat et a prima voce quaternaria
totius monochordi partitione monstratur, per octo ad finem usque deduxeris, et ipsam
octavam partem super quartam vocem adiunxeris, ut sint partes novem, ipsius secundi
toni principium et finem primi semitonii te invenisse miraberis. Sunt autem quinque
ubique prioris toni a parte ultima, posterioris vero prima parte circumdati, sicut eos haec
figura per ordinem signat:

\[ \omega = F_1 + \beta (F_4, L, \text{Ger}) \]

---

Fontes et similia:

54 Vel...tonus GUIDO ARET. Microl. 4 p. 103

Varia lectio:

54 semis et] semiis vel \textit{F4 54-55} vel semitonius...similia om. \textit{Ger 55} cetera] cum his \textit{L 56 quae secundum} quem secundus \textit{F1} tonum] -us \textit{F1: -i L a om. L 57 monochordi om. L partitione} portione \textit{Ger} post monstatur verba si ab ipsa vero \textit{D habet F1} deduxeris] duxeris \textit{F1 58 super} si per \textit{L novem} novenae \textit{Ger} post novem verbum et habet \textit{\beta} secundi \textit{om. L 59 post toni verbum ultima habet \textit{Ger} semitonii} toni \textit{Ger} post quinque verba scilicet semitonii \textit{s.l. habet F1 60 ubique] vibique L post ultima vocem A s.l. habet F1 posterioris] -um F1 post posterioris vocem a s.l. habet F1 post prima vocem g s.l. habet F1 eos om. L}
In hac figura, omnium tonorum et semitoniorum numeros per ordinem et alia utilia prudens lector inveniet, nam si primam et ultimam uniuscuiusque ordinis inter se compares, diatessaron quae duos tonos mediumque semitonium habere videtur invenies.

65 Item si prioris ordinis primam secundae et secundam tertiae descendendo ad inferiorem compares, diatessaron duo reperies. [Hoc idem in secundo et terto et quarto ordine aequo continget.] Itidem a quarto in quintum nihilominus sapies. Si vero a terto in quintum

\[ \omega = F1 + \beta (F4, L, Ger) \]

Varia lectio:

consideres, per singula diapente invenies. Unde si de monochordi mensura quaeviseris et plura taedet legere, haec tibi figura quantum sufficit indicabit.

70 Illud autem de tono et semitonio notandum est, quod semitonius numquam patitur ut tres continui toni absque eius medietate iungantur. Excepto semitonio primo, qui sub se non habet nisi primum tonum, ubique post duos tonos semitonius vocis moderator occurrit, ne vel nimiae repetitiones toni fastidium generent vel plures hiatus et extensiones vocum dissonantiam praestent. Semitonii quoque, id est geminati, numquam inveniuntur, quia ad moderandum et condivendum cantum excogitati sunt; dum plusquam congruit indiscrete ponuntur, in morem superflu salis amaritudinem faciant. Quos autem ab octava chorda usque in decimam duos semitonios vides, numquam continuatim iungere debes, quorum signa haec sunt: octavum a, nonum b, decimum b, undecimum vero c. Quibus ita utendum est, ut quando a et b semitonium iungunt, ab b ad c intelligas tonum, et quando b cum c semitonium velit, ab a usque ad b tonum

\[ \omega = F1 + \beta (F4, L, Ger) \]

Varia lectio:

68 diapenta F1  70 tonis et semitonii \( \beta \) (-F4) | patitur] paratur L  71 tres continui] inconcinni Ger | eius om. F4 | post iunguntur verba ut est verbi gratia tonus tonus tonus et semitonius habet F1 : -tonus tonus tonus tonus et semitonius habet L | post primo verba id est B habet F4 | qui] quod Ger | sub] super L  72 post tonum verba id est A habet F4 | semitonius] -ium F4 73 nimium F1 F4 : in unum L | repetitio F1 : repeti F4 : repetiti L | toni om. Ger | generent] generet F4  74 Semitonii| Seminii F1 | quoque id est] quoque idem F4 : vero L  75 ante quia verbum ne habent \( \beta \) (-F4)  76 indiscrete] indiscere F4  77 post octava vocem a habent F1 F4 | post decimam vocem c habent F1 F4  80 tonum] -us F1
esse non dubites, quorum primus ideo positus est, ne a sexta voce F usque ad nonam tres continui toni invenirentur. Eadem ratione secundus formatur, ne duobus post se sequentibus tonis et tertius adhaereret, sicut in hac figura conspicies:

<figura 4>

Praeterea scierendum est quia pro una voce b et accipi debent, id est nona quamvis divisa in nonam primam et nonam secundam, ne plurimum errorem videantur inferre, ut est illud quod diatessaron ab octava chorda in undecimam quinque voces habere videretur, quod penitus absurdim est. Exemplum autem huius semitonii est huius

E F G F G

antiphonae prima elevatio: Vigilate animo.

$\omega = F_1 + \beta (F_4, L, \text{Ger})$

Fontes et similia:

79-81 ut...dubites Ps. Odo dial. 3 p. 254 84-85 Preaterea...secundam Ps. Odo dial. 2 p. 253

Varia lectio:

81 post primus vocem b habet F4 82 post secundus vocem b habet F4 83 tonis] -i F1 84 una] prima Ger | voce] voe F4 | et om. F4 85 errorem] errere F4 | videatur Ger 88 voces vacant $\beta$ (-F4)
Notandum autem de semitono quod solus nullum utilem sonum valeat implere,

sed iunctus tono prolixum eius spatium moderatur. Tonus vero invenitur utroque suo
termino soni dulcedinem praestans – ut cum dicitur Oremus, ubi non invenitur nisi unus
tonus, qui a sexta in septimam vocem suis terminis definitur, hanc euphoniam sua
depositione ac elevatione perficiens.

Duo quoque toni aliquam consonantiam reddunt quae cantus non dicitur, quia

cantus non minus quatuor vocum spatio adimpletur, cuius genus symphoniae diatessaron
vocatur (id est de quatuor), continens in se duos tonos, semitonium vero unum – hoc est
intervalla tria et voces quatuor. Haec autem symphonia divina dispositione adeo
quadratura congaudet, ut et quatuor in suo spatio voces contineat, et quaternaria divisione
fiat; nam si a prima voce per quatuor totum diviseris, primae partis spatium diatessaron
nominabis, cuius ratio haec est, quod prima vox A comparata ad quartam D habet eam

\[ \omega = F1 + \beta (F4, L, Ger) \]

Fontes et similia:

96-97 continens...quatuor Ps. Odo dial. 4 p. 254

Varia lectio:

89 solum Ger | sonum] tonum Ger | valat F1 | 90 iunctus conieci : -u F1 : -um \( \beta \) 91 voces vacant \( \beta \) (-F4)
93 elevatione\( ] \) elatione F4 94 quoque\] namque L | toni om. Ger | quae\] quod F1 L 96
in se om. Ger 98 sua spatio F1 F4 | contineat\] continuat F1 99 post diviseris verba scilicet
monochordum s.l. habet F1 | spatium\] satium F1 100 quod\] si Ger | A om. F1 Ger | D om. F1 |

eam\] etiam F1
totam in se, et, eo amplius, quantum est quarta pars ipsius primae sive tertia pars quartae. 

Haec eadem diatessaron, ad ampliandam sui nominis dignitatem, a prima A vel secunda B voce procedens, ac deinde se de semetipsa constituens, ad finem usque bis quatuor sibi met loca vendicavit. Nam a prima A in quartam D una diatessaron est, a quarta D ipsa in septimam G altera, a qua in decimam c tertia, a decima vero c in tertiam decimam f quarta, ubique praeter in ultimam in medio duorum tonorum semitonium portans. At vero e contrario cum a secunda voce B in quintam E, a quinta E in octavam a, ab octava a in undecimam d, et ab undecima d in quartam decimam g quae est ultima, quasi quattuor passibus currit, in sola ultima parte medium semitonium continet, quem in aliis ponit in capite. Cum vero a tertia voce C in sextam F, a sexta in primam nonam b progreditur, neque in primo neque in medio sed in fine semitonium signat [a b], ut ter mutatis in hac trina divisione lateribus valde hanc mirabilem duo toni semitoniusque

\[ \omega = F1 + \beta (F4, L, Ger) \]

\[ \text{Varia lectio:} \]

conficiant, quomodocumque enim duos tonos semitoniumque coniunxeris, diatessaron nominabis. Praeterea est alia diatessaron a secunda nona usque in duodecimam e, ut nulla vox suavissima eius participatione privetur, sicut in hac figura notatur:

<table>
<thead>
<tr>
<th></th>
<th>diatessaron</th>
<th>diatessaron</th>
<th>diatessaron</th>
<th>diatessaron</th>
</tr>
</thead>
<tbody>
<tr>
<td>a prima</td>
<td>A</td>
<td>D</td>
<td>G</td>
<td>c</td>
</tr>
<tr>
<td>a secunda</td>
<td>B</td>
<td>E</td>
<td>a</td>
<td>d</td>
</tr>
<tr>
<td>a tertia</td>
<td>C</td>
<td>F</td>
<td>b</td>
<td>□</td>
</tr>
</tbody>
</table>

<figura 5>

DA C D E D a G a a a G a a a G
Huius exemplum est Secundum autem, et item Christus vincit, Christus regnat, Christus imperat, Rex noster. In hac enim harmonia maior et minor vox, id est quinta E et octava a, diatessaron duobus tonis ac semitonio, ut dictum est, implent.

Si ad hanc unum tantum tonum qui est a quarta in quintam adieceris, diapente

\[ \omega = F_1 + \beta (F_4, L, Ger) \]

Varia lectio:

113 coniunxerimus F4 114 om. F1 | e om. F1 116 Secundus F1 | voces D E D super autem habet F4 116-117 voces vacant \( \beta \) (F4) 118 duobus tonis | duos tonos F1 : duos tonis F4 119 ante Si verbum Quae habet L | qui Ger : quod F1 F4 L | est om. F4 | post quarta vocem D et post quintam vocem e habent \( \beta \) (F4)
symphoniam nihilominus mirabilem pervidebis. Diapente autem dicitur, id est de quinque, eo quod quinque habeat voces et a prima terminetur in quintam. Definitur autem totius ab aliqua voce ad quam comparatur divisione ternaria, ut cum quinta vox comparatur ad primam. Definitur ipsa quinta totius chordae a prima divisione ternaria, quae diapente dicitur, et ubicumque ante vel post diatessaron tonus occurrit, adiunctus ei de diatessaron diapente facit. Constat autem vocibus quinque – tonis tribus et semitonio uno – intervallis videlicet quatuor. In definitis vero vocibus, loca continet novem:

<table>
<thead>
<tr>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>VIII</th>
<th>IX</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td>E</td>
<td>G</td>
<td>a</td>
<td>b</td>
<td>c</td>
<td>d</td>
<td>e</td>
<td>f</td>
<td>g</td>
</tr>
</tbody>
</table>

In hac vero definitis vocibus incipiunt diapente novem

<figura 6>

De quibus in septem cum in primo et ultimo tonum habeat, quicumque ablatus fuerit, post ablationem diatessaron remanebit, sicut diapente, quae est a prima in quintam, in primo

$\omega = F1 + \beta (F4, L, Ger)$

Fontes et similia:

125-26 Constat...quatuor Ps. Odo dial. 4 p. 254

Varia lectio:

121 habet $F4$ | post prima vocem a et post quintam vocem e habent $\beta$ (-F4) 122 post quinta vocem E habent $\beta$ (-Ger) 122-123 vox ipsa quintam om. L 123 post primam vocem A habet $F4$ | post Definitur verbum autem habet Ger | post prima vocem A habent $\beta$ (-Ger) | post quae verbum divisio habet Ger 124 tonus om. Ger | de om. $\beta$ (-F4) 125 uno om. Ger 126 videlicet om. L 127 tono $F4$ 128 oblationem $F1$ | quae conieci : quod $\omega$ | post prima vocem A et post quintam vocem E habent $\beta$ (-F4)
et ultimo habet tonum. Si igitur tonum qui primus est separaveris, a secunda B in quintam
E diatessaron remanebit; si vero ultimum tollas, a prima A in quartam D aeque
diatessaron remanebit. Huiusmodi autem diapente in hac figura notabis:

\[
\begin{array}{|c|c|c|c|c|}
\hline
\text{Diapente} & \text{A tonus} & \text{B} & \text{C} & \text{D tonus} & \text{E} \\
\hline
\text{primum} & & & & & \\
\hline
\text{Secundum} & C & D & E & F & g \\
\hline
\text{Tertium} & G & a & b & c & d \\
\hline
\text{Quartum} & D & E & f & g & a \\
\hline
\text{Quintum} & a & b & c & d & e \\
\hline
\text{Sextum} & c & d & e & f & g \\
\hline
\text{Septimum} & F & G & a & b & c \\
\hline
\end{array}
\]

<figura 7>

Excepto uno a quinta E in nonam secundam b, qui in primo semitonium habet, reliqui
in primo et ultimo tonum habeant (et alterum a nona prima b in tertiam decimam, ubi e
contrario semitonius invenitur in ultimo).

\[
\omega = F1 + \beta \ (F4, L, Ger)
\]

Varia lectio:

129 habeat L | tonum² L Ger : tonus F4 : om. F1 | B om. F1 | quinta F4 130 E om. F1 | si] sin F1 | A om. F1 | D om. F1 132 E om. F1 : C F4 133 tonum] -o F1 | altera Ger | b om. F1 134 semitonio F1 : -ium Ger
Huius autem diapente multa exempla reperies, de quibus est illud carmen Boetii:

DED C D D D CD E F ED C ED C D D D D DE F GGFC C F F E D C Bel - la bis qui-nis operatus an - nis ul - tor Atrides Phrygiae ru-i-nis fratris amissos

D D E F E D thalamos piavit, in qua melodia gravior vox tertia C, acutior vero septima G est, quae una diapente iunguntur. Diapente hoc est cuius gravior vox tanta mensura superat acutiorem et posteriorem vocem quanta est tertia pars ipsius gravior vel media posterioris, quia cum prior habeat tria spatia ad finem, posterior vero duobus horum spa\(\omega = F1 + \beta (F4, L, Ger)\)

Varia lectio:

136-137 voces vacant L | amissos thalamos piavit] condam ferus interempto \(F1\) | ruinis in qua melodia fratris amissos thalamos piavit \(F4\) 137 una conieci : uno \(\omega\) 138 vox om. L 140 post spatiis verbum constricta s.l. habet \(F1\) 141 duobus] duo \(-F3\) \(F4\) | post nominatur verba diapason ex octo vocibus constat habet \(L\) 143 determinat] terminat Ger | post prima vocem A habet \(L\) | octava \(F1\) | post octavam vocem a habent \(\beta (-F4)\) 144 duobus \(F1 F4\) 145 copulantis \(F4\) 146 pervidebis] pernotabis et videbis L | post quartam vocem D habent \(\beta (-F4)\) 146-147 a prima…diapente om. \(F1\) 147 post quarta vocem D habet \(L\) | post octavam'] vocem a et post prima vocem A et post octavam vocem a habent \(\beta (-F4)\) | octavam'] -a \(F1\) | post primae vocem A habent \(\beta (-F4)\)
necessario reperitur. Illud autem est notandum, quod ea vox D quae ad primam A est diatessaron, ad octavam a comparata diapente facit, et quae ad primam A est diapente, ad octavam fit diatessaron. Et illud spatium quod fit signata prima diatessaron et diapente tonus est in medio consistens, quo ablato et supra et infra diatessaron notatur in tota diapason, sicut in hac figura liquido pernotatur:

![Diagram of diapason and diatessaron](image)

Sunt autem huiusmodi formulae sex, in quibus omnibus, sicut in prima, praedicta regula fixa manet. Restat praeterea una diapason a secunda in nonam secundam, a prioribus discrepans, quia a secunda diapente non invenitur.

\[ \omega = F_1 + \beta (F_4, L, Ger) \]

Varia lectio:

148 D om. F1 | ad primam \( \beta \) a prima F2 F3 : a primam F1 | A om. F1
149 a om. F1 | post et vocem E habent \( \beta \) (-F4) | ad primam \( \beta \) a prima F2 F3 : a primam F1 | A om. F1
150 signata conieci : signatis a \( \omega \) | tonus -um F1
151 hac| haec F1 | pernotatur| notatur L
152 om. L | in\( \bar{\omega} \) om. L
153 una conieci : unum \( \omega \) | post secunda vocem B habent \( \beta \) (-F4) | post nonam vocem \( \bar{\omega} \) habent \( \beta \) (-F4) | secundam] -a L
154 a om. L
Est autem in hac symphonia divinum, quod prima vox eius et ultima tam mirabili
suavitate concordant, ut eandem vocem una atque altera sonare videantur, licet prima
virilis et ultima sit puerilis. Ita enim concordant, ac si vir cum puero eandem melodiam
similis quantum diversa natura permissit voce pronuntient, unde fit ut quando cantorem
alter praecedit alterque sub sequitur, nihil aliud sonet quam quod ab altero diapason,
id est octava vox, numeratur. Ideoque factum est quod in monochordo unaqueque vox ab
octava sua, quam medio dividit, eodem charactere quamvis dissimili figuretur. Unde illa
vox, quam primam nonam b dicimus, nulli priorum similis cernitur, quia nulla priorum
sibimet diapason caritate famulatur, sed quia semitonium cum octava faciebat, semitonii
nomine decoratur.

De diapason autem symphonia illud etiam vulgaris musica, fistula videlicet et
cithara sive vitula probat, quod satis commodus cantus est, qui una diapason, id est
octo vocibus, continetur. Ecclesiastica autem consuetudo tradidit ut a fine suo nullus

\[ \omega = F1 + \beta (F4, L, Ger) \]

Fontes et similia:

166-167 De...est Mus. Ench. 10: 26

Varia lectio:

156 quod | quae F4 159 similis | simul L | diversa om. L | voce om. L | fit | sit F1 | cantorem om. L 160 alterque | alter F1 L | quam quod F4 : unusquamque F1 : unus quam quod L : unus quam Ger | alter quae Ger 162 figure L | illa | alia F4 163 b om. F4 | quia | qui L 166 autem om. F1 | etiam | et F1 166-167 et cithara om. L 167 vitula | fidula β (-F4) | probat coniici : proboant ω | qui L : quia cett. 168 autem β : enim F1 | tradit L
cantus plusquam ad octavam surgat. Quod cum fit, id est cum cantus ad octavam a fine consurgit, rarissime, et non nisi in prolixioribus cantibus, plus a secunda a fine descendat, quae si defuerit, unam tantam diapason ille cantus habebit. Cum vero et dicta ascensio et descensio adhaerit, bis diapente ille cantus habebit. Ipsa vero descensio a fine esse non debet, nisi a fine ad ipsam secundam, in quam deponitur, epogdous inveniatur tonus; si vero semitonius fuerit, inutilis erit. Epogdous vero tonus ad diapason iunctus ubique bis diapente constituit, id est voces novem. Invenimus autem raro et in prolixioribus cantibus decem voces, quod Davidici psalterii auctoritate defenditur, in quibus tamen plusquam ab octava a fine non ascendi debet, sed potius ante finem illa augmentatio notabitur. Neque enim hoc absque numeri ratione et auctoritate agitur, cum decem chordae tribus diatessaron continuis decorantur, excepto cum diatessaron a tertia voce fiunt, in quibus tertia diatessaron regulariter non invenitur, unde huiusmodi decachordum tam superfluitate quam irrationabilitate iudicatur incongruum.

$$\omega = F1 + \beta (F4, L, Ger)$$

Fontes et similia:

169-170 Quod...descendat Ps. Odo dial. prol. p. 139 176 decem voces...defenditur Ps. 32:2, Ps 91:4, Ps. 143:9; Ps.Odo dial. 7 p. 257

Varia lectio:

Raro, amantissime lector, secundum antiqua praeecepta, multorumque magistrorum instituta, et secundum communem usum, plures his quas designavimus voces necessarias postulabis. Quamvis haec raro inveniantur non tamen penitus ignorandae sunt, unde in monochordo ante primam unam vocem ponendam esse censuimus, quam propter rarum usum et praedictam rationem non primam, sed magis adiunctam vocamus. Neque eam per primam litteram designamus, sed per graecum gamma Γ depingimus, eo quod septima latinorum littera, quae octava ab ipsa in monochordo cognoscitur, similem virtutem, sicut gamma apud graecos, apud nos habere videatur. Sed cum gamma in capite chordae posueris, novenaria divisione locum primae vocis, quam diximus, adnotabis. Eritque a gamma ad primam tonus, ad tertiam vero diatessaron, ad quartam diapente, ad septimam diapason, ad ultimam vero, quae a septima alteram diapason facit, ipsa gamma bis diapason dici poterit.

$$\omega = F1 + \beta (F4, L, \text{Ger})$$

**Fontes et similia:**

**186-87** sed magis...depingimus *GUIDO ARET. Microl. 2 p. 93*

**Varia lectio:**

Praeterea aliquando vitiosa et maxime lasciviens et nimium delicata harmonia

plures quam diximus semitonios quaerit, et quos nos posuimus renuit, quod magis corrigi
quam imitari oportet. Cavendum est autem, ne per musici hoc incuriam fiat, cum cantum
aliter quam compositus est incipiat atque perficiat. Ipsa enim dissonantia, sicut magistri
probant, repugnat. Neque post duo tonos alius quam semitonium, neque post semitonium
alius quam duos tonos debere poni. Nos autem, quia evitari non potest vitium nisi fuerit
cognitum, quinque huiusmodi semitonios sed extra praefixam regulam in monochordo
ponimus – unum quidem post primam, a quo ad finem medius ille post octavam stat
semitonius, quem nos quoque recepimus, uterque tamen semitonii charactere sed
dissimili formatur. Alter quoque qui ab ipso qui est post octavam medius simili, sed
graeco charactere pingitur. Item post quartam alius notatur, qui ab eo qui est post primam
quaternaria divisione colligitur, a quo alius post undecimam medius inventur. Sed ambo
hi aspirationis littera, sed dissimili, fiunt, quia graeci per eam litteram hemitonium
dicunt et scribunt, de quibus eum, qui est post octavam, vel medium eius recepimus, alios
potius cavendos quam recipiendos monemus.

\[ \omega = F1 + \beta (F4, L, Ger) \]

Varia lectio:

195 plures conieci: plura \( \omega \) | semitonios conieci: semitonia \( \omega \) | quos conieci: quae \( \omega \)
196 hoc | b F1 197 compositus \( \beta (-F4) \) | postium F1: compositum F4 | magistri | magis L 199
poni] deponi F1 | quia vitium non potest vitari L | fuerit om. L 200 semitonios conieci:
semitonia \( \omega \) | extra] extrema F4 201 unum] unde F4 202 semitonius] -ium L 203 qui ab ipso
est F4 206 littera] -am F1 | dissimilis F1 | hemitontum Ger 207 post om. L
Addimus praeterea quatuor voces post ultimam, sive propter superfluos cantus,

quos tamen aut vix aut numquam reperies ad eas ascendere, sive propterea ut quando

cantorem praecedere voce altiori volumus. Quaecumque necessariae ad hoc opus sunt

voces habeamus, quas si ab octava chorda ad undecimam omnes voces medio dividimus,
facile invenimus. Et quibuscumque modis voces ab octava ad undecimam ad suas priores
comparantur, eisdem modis et istae suam positionem custodiunt. Non solum hoc istae

sed et quaecumque vox sit easdem proportiones ad sibi proximas voces habebit, quas

habet et ipsa a qua diapason congratulatione decoratur. Unde fit ut omnis cantus, si ab una
bene incipit quamvis altiori voce, et ab alia quae diapason cum illa facit, aeque incipi ac
progredi si vocum permiserit quantitas possit. Unde non immerito eisdem litteris prima
et ultima diapason vox designatur. Propterea eadem litterae quae sunt a prima in

septimam, eadem fiunt a septima in ultimam, et ipsae litterae quae sunt ab octava in
undecimam sequuntur post ultimam, ut sint tres ordinis similium litterarum. Primus
autem versus maioribus notatur litteris, quales in principio sententiarum ponere solemus.

\[ \omega = F_1 + \beta (F_4, L, \text{Ger}) \]

**Varia lectio:**

210 tamen] cum L 211 volumus L : -emus F1 F4 : -imus Ger 211-212 ad hoc opus sunt

voces] sunt voces ad opus Ger 212 habemus F4 | ab] ad F1 | ad undecimam…medio om. \( \beta \) (-

F4) | post dividimus verba omnes voces ad undecimam medio dico dividius habet L 214 post

modis verba eisdem modis habet F1 | hoc] autem Ger 215 et om. F4 | proportiones]

propositiones \( \beta \) (-L) 216 si ab] sub L 217 incipi] incipit F1 218 progredere F1 F4 | permanserit

L 220 sunt] fiunt \( \beta \) (-F4) 221 ultimam] unam id est ultimam F4 222 autem om. L : enim Ger
Secundus vero versus minoribus litteris et alia figura formatis, qualibus per totam libri seriem utimur, describitur. Tertius vero versus, quia superfluus creditur, graecarum potius litterarum forma notatur, habens voces quinque, de quibus duo, ad earum similitudinem diapason divisione fiunt, pro una accipiuntur quamvis divisa, cuius sententiae haec figura est:

\[
\begin{array}{cccccccc}
\Gamma & A & B & C & D & E & F & G \\
G & a & b & c & d & e & f & g \\
g & \alpha & B & \varepsilon & \Delta & & & \\
\end{array}
\]

<figura 9>

Satis quantum his convenit, qui aut pueri sunt aut qui liberalium artium scientiam non acceperunt de monochordi, formatione dictum est. Sed dum occurrit memoriae quia stultissimus grammaticorum est sapientissimus rusticorum, unam formulam satis intelligibilem ad monochordi mensuram adiungimus, ne et invidiae arguamur aut

\[\omega = F1 + \beta (F4, L, Ger)\]

Fontes et similia:

221-24 Primus...describitur GUIDO ARET. Microl. 2 p. 93-94 224-25 Tertius...notatur GUIDO ARET. Microl. 2 p. 94 230 stultissimus...rusticorum SEDUL. Donat. mai. 78:145; REMIG. Donat. mai. 233:153

Varia lectio:

rusticum nostra caritate privemus. Haec est huiusmodi: in primo quidem versu, omnes monochordi litteras per ordinem ponimus; in secondo vero versu, quaecumque ab aliqua earum quae sunt in primo versus novenaria divisione fiat, proxima subnotatur, quam partitionem epogdoum tonum diximus nominari; in tertio versus quaecumque ab aliqua prioris versus per quatuor dividitur, ut inveniatur inferius, a priore in directum descendendo cognoscitur; itidem in quarto ternaria divisio a prioribus invenitur; in quinto vero duorum vel dupla vel medietatis a prioribus accipitur. Quaternariam vero divisionem diatessaron diximus, terniam vero diapente, duplam quoque diapason nominavimus.

\[ \omega = F1 + \beta (F4, L, \text{Ger}) \]

Varia lectio:

In hac figura hoc modo uniuscuiusque vocis ad alteram mensuram invenimus, ut si de quarta voce cui quarta littera inscribitur D quaeris, vide in figura ipsam litteram in capite quarti versus, cui ternarius ab utroque latere adhaeret numerus. Dumque ab ipsa littera sursum in directum ad primum versus ascendis, gammam litteram recognoscis. Igitur si a gamma usque ad finem monochordi per tria divisoris, ubi prima tertia pars finem fecerit, ibi signum supradictae quartae vocis collocabis. Item vides eandem litteram in tertio versus in quo est quaternarius numerus. Dumque super ipsum respicis ad primum versum, A litteram primam reperies, a qua si totum monochordum quaternis divisers, eundem ipsum locum quem diximus te invenire miraberis. Similiter et de omnibus reliquis faciens, mirabiles ac diversas vocum mensuras multipliciter invenire poteris, nam qualem numerum habuerit in suo versus aliqua littera, per ipsum numerum eius mensura ad suprapositarum primi versus litteram invenitur. Et si ea quae dicta sunt sollicitius assidueque mente revolvis, ad alia quam plura et altiora numerorum mysteria sensum protendere poteris. Quae nos ideo praetermissimus ne tenerum

\[ \omega = F_1 + \beta (F_4, L, \text{Ger}) \]

Varia lectio:

lectorem magis suffocare superfluis cibis quam lacte nutrire videremur. Huiusmodi enim
dum ea, quae capere non possunt, nimis avidi perscrutantur plerumque, nec ea quae
leviora sunt, invenire merentur, qualibus dicit Apostolus: non plus sapere quam oportet
sapere, sed sapere ad sobrietatem. Si enim sobrius quis esse optaverit, neque superflus
praesentes regulas iudicabit, neque amplius unde ad cantandi notitiam perveniat
necssarium exoptabit.

Sunt praeterea et alia musicorum genera aliis mensuris aptata, sed hoc genus
musicae quod nos exposuimus peritissimorum musicorum sanctissimorumque virorum
ratione suaviori ac veracieri et naturali modulatione constat perfectum. Sanctissimus
namque Gregorius, cuius praecepta in omnibus studiosissime sancta observat ecclesia,
hoc genere compositum mirabiliter antiphonarium ecclesiae tradidit, suisque discipulis
proprio labore insinuavit, cum numquam legatur eum secundum carnalem scientiam
huius artis studium percepisse, quem certissime constat omnem plenitudinem sapientiae
divinitus habuisse. Unde constat quod hoc genus musicae, dum sancto Gregorio divinitus

\[254-259 \omega = F1 + \beta (F4, L, Ger)\]
\[260-267 \omega = F1 + \beta (F4, Ger)\]

Fontes et similia:

253-54 ne...videremur Heb 5:12-14, 1 Cor 3:2 256-57 non...sobrietatem Rom. 12:3

Varia lectio:

256 sunt om. L 258 regulas om. L 260 ante Sunt verba nota mira laus musicae habet F4 : verba
mira laus musicae habet F4 262 modulatione] modulamine F1 266 sapientiae] scientiae Ger
267 habuisse] percepisse Ger
datur, non solum humana sed etiam divina auctoritate fulcitur.

Sancti quoque Ambrosii, prudentissimi in hac arte, symphonia nequaquam ab hac discordat regula, nisi in quibus eam nimium delicatarum vocum pervertit lascivia.

Experimento namque didicimus quod plurimi dissoluti mente huiusmodi voces habentes, nullum paene cantum secundum veritatis regulam, sed magis secundum propriam voluntatem pronuntiant, maxime inanis gloriae cupidi. De qualibus dicitur quia ignorata musica de cantore ioculatorem facit, pro quo sanctus Isidorus exponit quia talibus vocibus stimulatur Deus. Pro quo etiam et nos alia musicorum genera tractare contempsimus, et hoc solum quod ipsi philosophi primum et naturale affirmant recepimus. Quia et ipsi philosophorum prudentissimi mirabilem huius artis fuisse virtutem quae etiam qualitates hominum mutare potuisset affirmaverunt, atque hoc tamdiu permansisse, quamdiu simpliciter tractaretur. Dum vero diverse tractari cepit, pristinam virtutem amisit et a puerorum schola procul fugit; nec maioribus etiam ad plenum amplius familiaritate pristina sociata est. Nos autem prout divina gratia donare

\[ \omega = F1 + \beta (F4, \text{Ger}) \]

Fontes et similia:

262-268 Sanctissimus...fulcitur JOH. DIAC. ROM. Greg. 75:90 277-78 Quia...affirmaverunt BOETH. mus. 1:1

Varia lectio:

268 datur] -um Ger 275 stimulatur Deus] fortasse non famulatur Deo Ger 277 Quia] quod Ger 278 affirmarunt Ger 279 diversi F4 280 ammisit F1 | fugit \( \beta \) (-L) 281 est Ger : om. cett.
dignabitur, quae sequuntur reliqua persequamur.

Ad cantandi scientiam nosse quibus modis ad se invicem voces iungantur summa utilitas est. Nam sicut duae plerumque litterae aut tres et quatuor unam faciunt syllabam, sive sola littera pro syllaba accipitur, ut est a-mo tem-plum, ita quoque et in musica plerumque sola vox per se pronuntiatur, plerumque duae aut tres vel quatuor cohaerentes unam consonantiam reddunt, quam iuxta aliquem modum musicam syllabam nominare possimus. Item sicut sola syllaba aut duae vel tres vel etiam plures unam partem locutionis faciunt quae aliquid significat, ut est mors, vita, gloria, benignitas, beatitudo, ita quoque et una vel duae vel plures musicae syllabae tonum, diatessaron vel diapente iungunt, quarum dum et melodiam sentimus et mensuras intelligentes miramur, musicae partes quae aliquid significant non incongrue nominamus.

Distinctio vero in musica est quantum de quolibet cantu continuatim usque ubi vox requieverit pronuntiatur. Item sicut una pars locutionis aut duae vel plures sensum perficiunt et sententiam integrum comprehendunt, ut cum dico ‘quid facis’, respondes ‘lego’ sive ‘lectionem firmo’ sive ‘aliaquam sententiam quero,’ ita una, duae, vel plures

\[ \omega = F1 + \beta (F4, \text{Ger}) \]

Fontes et similia:

284-94 Nam...pronuntiatur GUIDO ARET. Microl. 15 p. 162

Varia lectio:

ex his musicae partibus versiculum, antiphonam, vel responsorium perficiunt, nec tamen
suorum numerorum significationem amittunt. Et sicut multae et diversae sententiae ad
volumen usque concrescunt, ita multae et diversae cantilenae antiphonarium cumulatae
perficiunt. Ex quo probatur quod sanctissimus papa Gregorius plus omnibus per divinam
gratiam huius artis industriam sit adeptus. Nam si perpendas valde mirabile est, quod in
nocturnis responsoriis somnolentorum more graviter et dissolute ad vigilandum nos
exhortare videtur; in antiphonis vero plane et suaviter sonat; in introitis vero quasi voce
praecedia ad divinum clamat officium; in alleluia suaviter gaudet; in tractu vero et
300
gradualibus plane et protense humiliataque voce incedere videtur; in offerendis vero et
earum versibus, maximeque in communionibus, quantum in hac arte valuerit patefecit. Est
enim in eis omnimoda huius artis elevatio, depositio, duplicatio, dulcedo cognoscentibus,
labor discentibus, valdeque ab aliis cantibus discrepans mira dispositio, et non tantum
secundum musicam facti quam musicae auctoritatem et argumenta praestantes.

305
Sanctus vero Ambrosius in sola dulcedine mirabiliter laboravit. Alii quoque,
quam plurimi, prout a Domino acceperunt, divisa munera eius gazophylatio contulerunt.

\[ \omega = F1 + \beta (F4, Ger) \]

Varia lectio:

301 in om. F1  304 alleluia] aliis F4  305 i.e. gradualibus | offendis F1  308 dispositio] depositio
Ger  310 aliqquo] aliique Ger  311 acceperunt] receperunt F4
Ille autem maxime auctoritati ecclesiasticae contradicit, qui propter aliorum cantus
divinum beati Gregorii donum penitus praetermittit, nam cum alia sint accipienda, tanti
tamen patris auctoritas summopere est veneranda. Nos enim non in carnali scientia, sed in
eo spiritu quo iste imbutus est confidentes, quaeque ad huius artis celerem proveniant
notitiam, sicut cepimus exequamur, et quia de musicae alphabeto satis dictum est, de
syllabis videamus.

Musica syllaba quae una fieri voce creditur multa expositione non indigit, quia
quod unum est satis patet. Hoc tamen in ea intueri potest, quod plerumque sola,
plerumque duplicata vel triplicata vox syllabam facere creditur, de qualibus etiam
syllabis, quandoque duae vel tres aut quatuor sola unius vocis repetitione simul positae
inveniuntur. Sed, ut in plurimis negotiis constat, si rarum hoc fuerit amplectetur, saepius
autem repetitum fastidium generabit. Non solum huius haec sed et omnis musicae
consonantia discrete replicata diligitur, at vero omne nocet nimium, prodest satis omne
modestum.

\[ \omega = F_1 + \beta \ (F_4, \text{Ger}) \] \[ \omega = F_1 + \beta \ (F_4, L, \text{Ger}) \]

**Varia lectio:**

312 post ille verba scilicet homo habet F4 | autem \( \beta \) : enim F1 | post maxime verba scilicet homo s.l. habet F1 | ecclesiae Ger 313 donum] domum F4 | tanta F4 314 enim] autem \( \beta \) (-L) | in\(^1\) om. Ger 315 eo om. F4 | quaeque quae quod F4 | celerem] celestem F4 316 quia] quod Ger 318 non] si L 319 tamen] autem \( \beta \) (-Ger) | in ea om. L 320 etiam] iam F4 323 autem] enim Ger : hoc F1 324 post prodest verbum autem habet L
Duabus praeterea vocibus quatuor modis fit musica syllaba, omnis enim vox aut ad proximam, id est secundam a se, aut ad tertiam aut ad quartam sive ad quintam iuncta consonantiam reddit. Hoc autem aeque fit in depositione vel elevatione. Sed ad secundam duobus modis fit elevatio et depositio, id est semitonio et tono. Et semitonius quidem contractior est, neque enim medietatem unius toni in suo spatio, quo depositionem et elevationem facit, habere videtur, neque etiam aequis numerorum passibus suam positionem tueri valet. Unde et imperfectus est et eius elevatio vel depositio sicut in chorda fit, ita in voce parumper protendi debet, sicut huius antiphonae prima elevatio:

E F G F D F
monstrat: Iubilate De-o. Nam cum a quinta voce in sextam progrederis, huiusmodi elevationem semitonio fieri recognoscis. Depositionem vero eius reciprocatis eisdem EDE vocibus pernotabis, ut in hac antiphona: Laus Deo Patri.

Fit praeterea semitonii syllaba tum simplex tum composita, et simplex quidem est in qua semel utraque chorda sonat sive in arsin sive in thesin, hoc est elevationem et

\[ \omega = F_1 + \beta (F_4, L, \text{Ger}) \]

**Varia lectio:**


FFE DE CD D

Ger | post eisdem verba neumis vel habet L 336 Laus Deo Patri] Ecce ascendimus F4 | voces vacant \( \beta \) (-F4) 337 praeterea] propterea F1 338 arsin] arthin F4
depositionem, habens tantum duas voces et duos motus. Composita vero est quae, licet
duas tantum voces habeat, in eisdem tamen tres continet motus, cum una earum bis sonat
atque alia semel. Fit autem modis sex, nam cum gravior bis et posterior semel in
elevatione sonant, vel si hoc in depositione fiat – ut posterior semel ac deinde quae
gravior est bis prosequatur – modi sunt duo; si huius posterior bis sonet et ad priorem una
percussionem descendat, sive prior semel ad secundam quae bis percutiatur ascendant,
rursus modi sunt alii duo; deinde si simpliciter ad secundum ascendant moxque ad
semetipsam redeat prima, sive descendens secunda ad primam mox ad se ipsam recurrat,
modi fiunt alii duo. Cum autem in unoquoque superiorum modorum eandem ubi finitur
repercutias, sive ad alteram redeas, quaternis motibus et duabus vocibus notabitur syllaba.
Quibus ita positis, si unam vel aliam repercutias, quinque etiam pervidebis motus, atque
hoc ad plurima protendetur. Nobis autem melius placet ut omnes hi motus disponantur in
syllabas, quatenus ipsae syllabae sive uno, sive duobus, sive ternis contineantur motibus,
quod et rationi commodius et discentibus probatur utilius. Et quotiens huiusmodi

\[ \omega = F_1 + \beta (F_4, L, \text{Ger}) \]

Varia lectio:

339 licet\] -eat L 340 tamen\] tantum F4 \[ continent F1 341 autem\] enim F1 \: aut L \[ gravior bis\] gravioribus F1 341-342 in…semel om. Ger 342 depositione F4 \: -em F1 L 343 Si huius\] simili L : si autem Ger 344 sive…ascendant om. Ger 346 redat F4 \| descendens\] descendos F4 \| primam\] prima F1 \| se ipsam\] semetipsam Ger 347 autem om. F1 \| superior F1 348 reddas F4 348-349 sive… repercutias om. L 349 ita\] itaque F4 \| unam\] una F1 350 protenderetur L \| autem Ger : huius F1 F4 \: hoc L 352 commodis F1 F4
continuationes inveniuntur, multiplicationes potius dicenda sunt syllabarum, quia saepe contingit eandem syllabam duplicari et triplicari, et diversas duarum vocum syllabas multipliciter poni.

Quod cum sit, id est cum paucis vocibus et pluribus motibus multiplicatio fit syllabarum quae tamen continuatim profertur, partem musicam nominamus. Quae pars in syllabas unum vel duos aut tres habentes motus resolvatur. Qualiter autem ipsi motus dispertiantur in syllabas cantorum iudicio et usui praetermitto, ut cum huiusmodi pars fuerit in qua bis utraque chorda sonet, ne cum hoc saepe fastidium generet, aliquando primum motum pro syllaba una et sequentes tres pro alia, aliquando autem duos in una et duos in altera motus ponimus, aliquando vero priores tres motus pro una et solum quartam pro alia syllaba accipimus, atque ad hunc modum reliquis partibus iudicabis. Tanta enim dissimilitudo hoc argumento fieri potest ut eundem cantum paene alium reddere videatur, et si difficilis sit cantus et minus delectans, si eius syllabas et partes ac distinctiones similes feceris, difficultatem tolli et dulcedinem augeri videbis,

\[ \omega = F1 + \beta (F4, L, Ger) \]

**Varia lectio:**

quod maxime pueris convenit. Si vero nimis delicatus cantus fuerit et facilis, faciendo
dissimilitudinem in syllabis et partibus, et gravitatem appones et difficiliorem reddes et,
quod plurima repetitione fiebat, fastidium auferes.

370 Sed ne quis invidus nostra hoc inventione praesumptum putet, antiphonarium
beatissimi Gregorii ei noster amicus apponat, in quo quaecumque dicimus, probare
multipliciter possimus. Omnimos hoc observandum est, ut his regulis ita utamur
quatenus euphoniam nullatenus offendamus, cum huius artis omnis intentio illi servire
videatur. Euphonia enim graece latine bona sonoritas interpretatur, id est, consonantia,
et omnis musica consonantia tractat.

Toni autem ut diximus protensior atque perfectior elevatio et depositio est. Et, ut
ita dicam, semitonius est imperfectus, tonus vero superfluus. Sed dum unius imperfectio
alterius superfluatatem, sive alterius superfluitas alterius imperfectionem moderatur,
perfecta modulatio ex utroque perficitur, et unum quidem vel duos tonos absque
380 semitonio, quam semitonium absque torno in consonantia poni magis sonoritati et

\[ \omega = F1 + \beta (F4, L, Ger) \]

Varia lectio:

367 nimis] minus F4 : nimium L | cantus om. Ger | facilis] facit L 368 dissimilitudinem F1 F4:
similitudinem \( \beta (-F4) \) | et\(^{1}\) om. Ger 370 nostra hoc intentione Ger | antiphonarum L 371 amicus
om. L | diximus L 373 intentio | incontentio L 374 enim om. L 377 unius] unus F1 | imperfectio| perfectio F4 378 moderetur F1 F4 379 perficitur| conficitur L 380 semitonio|
-imum \( \beta (-Ger) \) | quam] quod F4 | consonantiam F1
auctoritati placet. Exemplum autem toni est in hac antiphona prima consonantia: Angelus Domini. Quoscumque autem modos syllabarum semitonio fieri diximus, decentius ac frequentius fieri confirmamus, unde si superiora de semitonio retineas, necessarium de tono amplius non requiras. Illud modo licet maxima cura perpendas, ut si unam iam semitonium vel tonum cognoscis, ex ipsius similitudine alios colligas. Eadem quippe vocum syllabae et consonantiae sicut in uno ita in omnibus inveniuntur, in nullo discrepantibus nisi quod unus tonus alio tono gravior vel acutior existet. Unde ut, alia ex aliis colligens, facilius vim cohaerentium atque aliqua similitudine convenientium cognoscas, his duabus figuris tonos et semitonios deppingimus.

<table>
<thead>
<tr>
<th>Toni</th>
<th>γ A</th>
<th>C D</th>
<th>D E</th>
<th>F G</th>
<th>Semitonii</th>
<th>B C</th>
<th>E F</th>
<th>a b</th>
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</thead>
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<tr>
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<td>cd</td>
<td>de</td>
<td>fg</td>
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<td>c</td>
<td>f</td>
<td>α B</td>
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<tr>
<td>Toni</td>
<td>gα</td>
<td>εΔ</td>
<td>bc</td>
<td>Bε</td>
<td>Semitonii</td>
<td>ε</td>
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<td></td>
</tr>
</tbody>
</table>

<figura 11>

Cum enim sicut in uno, ita in aliis licet mutata voce cantetur; valde tibi proderit talibus figuris studium adhibere, ut si omnes tonos et semitonios semote discere laborem putas,

\[ \omega = F1 + \beta (F4, L, Ger) \]

_Varia lectio:_

agnita similitudine omnes velut unum habeas, quatenus ad cantandi peritiam flante Dei
spiritu naviter pertingas.

Praeterea cum aliqua vox ad tertiam a se iungitur, duobus hoc modis fieri

395 perhibetur: in eiusmodi enim consonantiiis, gravior atque acutior aut tono et semitonio,
aut duobus tonis a se invicem dividuntur. Et ea quidem quae tono et semitonio fit

D D F D D
contractior est, hoc modo: Iohannes autem cum. Quae vero duobus tonis protensor, ut in

a F a c
d hac antiphona prima depositio: Quinque prudentes. Quidquid autem superius de tono et
semitonio dictum est de hoc quoque modo dicitur, nisi quod praesentis modi syllabae

400 non adeo ut superiores multiplicari inveniuntur, sed quantum hic modus illo est
protensor, tantum in replicationem et multiplicationem eveniet rarior.

Cum autem vox ad quartam a se coniungitur, propter diatessaron dignitatem
omnibus superioribus syllabarum modulis decoratur. Sed sicut de ea quae est ad tertiam
diximus, ita quoque de hac perhibemus quia quantum ea quae fit tono vel semitonio aut
ea quae fit duobus tonis aut tono et semitonio videtur expansior, tantum multiplicatione

\[ \omega = F1 + \beta (F4, L, \text{Ger}) \]

---

Varia lectio:

F1 397 modo om. L [voce vacant Ger] F super cum habet F1 [post cum verbum] audisset
habet Ger 398 voces vacant Ger [c² super prudentes om. L 400 hic] hoc L 402 coniungi L 403
superiorum Ger 404 hac] ea L [quia] quare Ger
ac replicatione rariori contenta est, huiusmodi enim syllabam saepius repetere absque alterius interpositione minime debemus. Distat enim in huiusmodi syllaba vox ab altera duobus tonis et semitonio, hoc est diatessaron symphonia, ut est huiusmodi depositio:

G   D
Spiritus sanctus. Ut autem tribus tonis inter se different, nec sonoritatis nec regulae auctoritate fulcitur. Cum superius monstratum sit, tres continuos tonos simul iungi non posse, ut est a sexta voce in nonam secundam, vel a nona prima in duodecimam. Iungitur praeterea vox ad quintam cum diapente ratione fulcitur, id est cum tribus tonis et semitonio ab illa separatur, nam ut duobus tonis et duobus semitoniiis id fiat rarissime invenitur. Ponitur autem huiusmodi syllaba simplex, duplicata enim raro, hoc modo:

Da G

Primum quaerite.

Fit autem syllaba ex tribus vocibus sed singulos tantum motus habentibus tum

\[ \omega = F1 + \beta (F4, L, \text{Ger}) \]

Varia lectio:

406 rari L 407 ulterius F4 408 post symphonia verba ut est huiusmodi symphonia habet F1 | depositione F4 409 voces vacant \( \beta (-F4) \) | autem hoc F1 | sonoritas L 410 post tres verba sonoritatis nec regulae continuos auctoritate habet L | continuos om. L | tonos om. F4 410-412 cum…fulcitur om. Ger 411 post voce vocem f habet L | post secundam vocem b habet L | post prima vocem b habet L | post duodecimam vocem e habet L | iunguntur F4 411-413 Iungitur…separatur om. L 413 separatur] separatur F4 414 autem F4 : hec F1 : enim L Ger | ab a a Gef

enim F1 : autem \( \beta \) 415 Primum quaerite L | voces vacant Ger | vocem G super Primum om. F4 416 post sed verbum in habet Ger
continua, tum interrupta. Et continua quidem est quando ipsae tres voces ut in monochordo positae sunt, ita in una syllaba ponuntur, nulla in medio remanente, quod in ea syllaba, in qua vox ad tertiam iungitur, notatur si secunda quae remansit media assumatur. Unde fit ut sicut in illa syllaba aut duo toni aut tonus et semitonius differentiam facerent, ita et in hac quoque eaedem duae species inveniantur. Tres enim continuae voces aut duos tonos aut tonum et semitonium duobus suis spatiis claudunt. In utraque autem specie, secus modos praedicta syllaba continebit, nam cum a prima incipit aut ad secundam et tertiam directe ascendit, aut prius ad tertiam ac deinde ad secundam venit, fiuntque modi duo; item cum a secunda incipit aut ad primam prius et post ad tertiam, sive prius ad tertiam et post ad primam vadens, modos facit iterum duos; cum vero a tertia incipit sive prius ad primam ac deinde ad secundam, sive prius ad secundam ac deinde ad primam procedens, modos reddit alios duos. Ad quamcunque enim harum syllabarum quemlibet unum motum adieceris, duas syllabas binis motibus constantes, sive, ut quidam volunt, quaternis motibus musicam fieri syllabam ac tribus vocibus pernotabis. Si vero et alium adieceris motum, ut sint motus quinque, sic in duas syllabas

\[ \omega = F_1 + \beta (F_4, L, Ger) \]

Varia lectio:

partietur, ut altera duos atque altera motus habeat ternos, atque hoc tamdiu concrescet, usque dum huiusmodi syllabae plerumque duae plerumque tres aut plures fiunt.

Interrupta autem ternis vocibus fit syllaba cum ita tres voces disponuntur, ut a graviore in acutiorem una vel duae voces intactae praetermittuntur, id est, cum gravior atque altior diatessaron aut diapente constituunt. Nam tribus sonantibus aut una intermittit et sunt quatuor, aut duae intermittuntur et intermissae simul atque sonantes quinque numerantur. Quatuor autem et quinque voces tum iure consistunt, cum diatessaron et diapente conficiunt.

Ut igitur superflua de syllabarum positione praetermittamus, hoc tibi de earum cognitione sufficiet, quod quaelibet syllaba duabus vel tribus vocibus constans diatessaron vel diapente numquam excedit. Si enim duarum vocum fuerit, si duas alias intermiserit, in diatessaron manebit. Si vero tres intermiserit, in diapente hoc fiet, et duae sonantes et tres intermissae quinque numerantur. Quod si trium vocum fuerit, ut superius dictum est, in diatessaron unam, in diapente vero intermittet duas. Haec praeterea vocum coniunctiones quibus syllabae constitutae sunt, dum unaquaque vox sive in depositione sive in elevatione aut ad secundam aut ad tertiam aut ad quartam sive

$$\omega = F1 + \beta (F4, L, Ger)$$

Varia lectio:

ad quintam iungeretur, similiter ut in syllabis dictum est ita in partibus et distinctionibus observandae sunt, ut finis alicuius partis vel distinctionis sequentis partis vel

450 distinctionis principio secundum praedictos modos convenire ubique videatur. Haec autem paucia de musicis syllabis diximus ut quam plures varietates consonantiarum paucis fiant vocibus alique modo monstraremus, atque ut eum qui antiphonarium per monochordi voces notare debet, qualiter eas distribuat doceremus, sive quia omne quod dividitur facile capitur tam usu quam sensu. Quod vero est indivisum, idem est et confusum magisque mentem confundit et ignorantiae tenebris involvit, quam aliqua doctrina imbuat aut scientiae luce expeditam faciat, atque haec causa est propter quam et syllabae et partes ac distinctiones etiam in musica excogitatae sunt.

Sed quoniam ex rerum similitudine non parvam scientiam capimus, cum quod in una re fit et in aliis similiter fieri perpendiculars per unam plures cognoscimus, ut quod in locis ipsae quas diximus vocum coniunctiones in monochordo, similiter fiant similique modo licet mutata voce cantetur cognoscas, sicut de tono et semitonio superius fecimus, ita nunc de reliquis coniunctionibus vocum, quaecumque similes sunt, his figuris

\[ \omega = F1 + \beta (F4, L, Ger) \]

Varia lectio:

notamus, quaram si Deus aginctionem dederit, numquam curiositatem huius operis frustra
te arripuisse paenitebis. Et prima figura quae voces a se tono et semitonio differant
edoebit; secunda vero de his quae duobus tonis a se invicem differuntur; tertia vero de
diatessaron et quarta de diapente curabit. Duplices autem vel triplices figurae fient,
propter eam quam diximus diapason mirabilem concordiam.

\[ \omega = F1 + \beta (F4, L, Ger) \]

**Varia lectio:**

463 quorum L | dedit Ger 463-464 frustra te | frustate F1 464 aripisse F4 | paenitebit L | post
semitonio verba a se habet F4 465 differunt Ger : -ent L | vero om. Ger 466 de om. L | curabunt
L
De duarum vocum coniunctione et similitudine his quatuor figuris satis monstratum est. Sed quia in ea in qua prima a tertia differt una intermissa est, in ea vero quae quatuor a se vocibus discrepat, id est diatessaron, duae intermittuntur, et in ea quae est diapente tria, aliis figuris nihil intermittentibus, monstrandum est quae a se tres voces similiter differant, et de quatuor et quinque similiter, ut non minus quam syllabarum partium quoque distinctionum similitudo patefiat.

Sed quoniam tres voces, duae ubique intervalla continentes, tribus eadem variant modis, prima horum figura erit quae primum intervallum semitonium secundo vero tonum continet; in secunda vero primo tonus ac deinde semitonius inducetur; in tertia vero duorum tonorum spatia continebit.

\[ \omega = F1 + \beta (F4, L, \text{Ger}) \]

Varia lectio:

Diatessaron vero quia duobus tonis et semitonio fit, cum aliquando in primo, aliquando in secundo, aliquando in tertio semitonium ponit, tribus depingitur modis:

\[ \omega = F1 + \beta \ (F4, \ L, \ Ger) \]

**Varia lectio:**

478-479 Diatessaron...modis *om. L* 479 ponat *F4*
Diapente quoque, cum tribus tonis et semitonio fiat, hoc est quatuor intervalla habeat, tum primus est semitonius, tum secundus, tum tertius, tum quartus hoc modo. Sed quae in primo vel quarto habet semitonium, cum tres continuos tonos velit, neque naturalem neque regularem partem vel distinctionem videtur habere, cum tres continui

\[ \omega = F1 + \beta \ (F4, L, \text{Ger}) \]

Varia lectio:

480 Diapente...cum om. L 481 tum \textsuperscript{1234} ] cum L 482 quarto] in quarto F4
toni in nulla varietate consoni esse probentur, hoc modo:

\[
\begin{array}{cccccc}
 S & T & T & T & T & T \\
 E & F & G & a & b & c \\
\end{array}
\begin{array}{cccccc}
 T & T & S & T & T & T \\
 F & G & a & b & c & d \\
\end{array}
\begin{array}{cccccc}
 T & S & T & T & T & T \\
 A & B & C & D & E & F & G \\
\end{array}
\begin{array}{cccccc}
 T & T & S & T & T & T \\
 F & G & a & b & c & d \\
\end{array}
\begin{array}{cccccc}
 T & T & S & T & T & T \\
 G & a & b & c & d & e & f & g \\
\end{array}
\]

<figura 22>

485

Ad hoc enim haec speculatio valet, quod eundem cantum, licet acutiori vel graviori voce, in omnibus similibus facere poteris, verbi gratia, Bel - la bis quinis. Iste totus cantus in qualibet diapente quae duobus tonis et tertio semitonio et tono consistat cantari poterit.

Diapason quoque eodem modo similes invenimus, cum similibus litteris primum et secundum versum per octo voces notamus, hoc modo:

\[
\begin{array}{cccccc}
 T & T & S & T & T & T \\
 \Gamma & A & B & C & D & E & F & G \\
\end{array}
\]

<figura 23>

\[\omega = F1 + \beta (F4, L, Ger)\]
Ex his quae monstrata sunt reliquas quoque similitudines prudens lector advertat, ea enim quae per se quisquam capere possit, per omnia persequi otiosum est. A modo quae de partibus et distinctionibus divinus spiritus revelare dignabitur, eodem adiuvante potius exemplificare quam tractare conemur.

\[ \omega = F1 + \beta (F4, L, Ger) \]

Varia lectio:

\underline{491} post advertat verbum intendat s.l. habet F1 \underline{492} per se quisquam] per quisquam F4 \underline{493} post persequi verbum dicere et post otiosum verbum vanum s.l. habet F1 \underline{< > supplevi} \underline{494} quae om. L \underline{< > supplevi}
Varia figura

Figura 1

F1 Ger:

\[
\begin{array}{cccccccc}
A & B & C & D & E & F & G & a \\
\text{cor} & & & & & & & \\
\end{array}
\]

\[
\begin{array}{cccccccc}
b & b & c & d & e & f & g & a \\
\text{modulus} & & & & & & & \\
\end{array}
\]

\[
\begin{array}{cccccccc}
\text{da} & & & & & & & \\
\end{array}
\]

F4:

\[
\begin{array}{cccccccc}
A & B & C & D & E & F & G & a \\
\text{cor} & & & & & & & \\
\end{array}
\]

\[
\begin{array}{cccccccc}
b & b & c & d & e & f & g & a \\
\text{modulus} & & & & & & & \\
\end{array}
\]

\[
\begin{array}{cccccccc}
\text{da} & & & & & & & \\
\end{array}
\]

L om.
**Figura 2**

**conieci:**

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<th>tonus epogdous ii</th>
<th>tonus epogdous iii</th>
<th>tonus epogdous iv</th>
<th>tonus epogdous v</th>
<th>tonus epogdous vi</th>
<th>tonus epogdous vii</th>
<th>tonus epogdous viii</th>
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<td>C</td>
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<td>E</td>
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<td>G</td>
<td>a</td>
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<td>octo</td>
<td>novem</td>
<td>octo</td>
<td>novem</td>
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<td>octo</td>
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<th>tonus epogdous v</th>
<th>tonus epogdous vi</th>
<th>tonus epogdous vii</th>
<th>tonus epogdous viii</th>
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<td>B</td>
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<td>D</td>
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<td>a</td>
<td>a</td>
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<td>novem</td>
<td>octo</td>
<td>novem</td>
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<td>octo</td>
<td>novem</td>
<td>novem</td>
<td>octo</td>
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<tr>
<td>L om.</td>
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<td></td>
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### Figura 3

**conieci:**

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<th>T</th>
<th>in ultimam aron</th>
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<td>B i</td>
<td>C ii</td>
<td>D</td>
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<tr>
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<td>E ii</td>
<td>F iv</td>
<td>G</td>
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<td>a iii</td>
<td>b vii</td>
<td>c</td>
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<td><strong>formae sunt quartae</strong></td>
<td>a vi</td>
<td>□ iv</td>
<td>c viii</td>
<td>d</td>
</tr>
<tr>
<td><strong>formae sunt quintæ</strong></td>
<td>d ix</td>
<td>e v</td>
<td>f x</td>
<td>g</td>
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</table>

### F1:

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<th>S</th>
<th>T</th>
<th>in ultimam aron</th>
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<td><strong>formae sunt primæ</strong></td>
<td>A i</td>
<td>B i</td>
<td>C ii</td>
<td>D</td>
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<td><strong>formae sunt secundæ</strong></td>
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<td>E ii</td>
<td>F iii</td>
<td>G</td>
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<td>b vii</td>
<td>c</td>
</tr>
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164
**Figura 3 cont.**

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<td>b vi</td>
<td>c</td>
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L om.
**Figura 6**

*om. β*

**Figura 7**

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<td>c</td>
<td>d</td>
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<td>Quartum</td>
<td>D</td>
<td>E</td>
<td>f</td>
<td>g</td>
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<tr>
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<td>b</td>
<td>c</td>
<td>d</td>
<td>e</td>
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<tr>
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<td>e</td>
<td>f</td>
<td>g</td>
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<tr>
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<td>F</td>
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<th>D tonus</th>
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*L om.*
Figura 8

$\beta$ (-L)

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| Forma ii | C   | F   | G   | c   |
| Forma iii | D   | G   | a   | d   |
| Forma iv | E   | a   | b   | e   |
| Forma v  | F   | b   | c   | f   |
| Forma vi | G   | c   | d   | g   |

F1:

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<td>[Diagrama]</td>
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</tbody>
</table>

| Forma ii | C   | F   | G   | c   |
| Forma iii | D   | G   | a   | d   |
| Forma iv | E   | a   | b   | e   |
| Forma v  | F   | b   | c   | f   |
| Forma vi | G   | c   | d   | g   |

L om.
**Figura 9**

**F4:**

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<td>g</td>
</tr>
<tr>
<td>g</td>
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<td>B</td>
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**L om.**
**Figura 10**

conieci:

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<tbody>
<tr>
<td>Prima divisio priorum per novem, id est epogdous tonus</td>
<td>A B nihil D E nihil G a b c d e f g α B E ε Δ</td>
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</tr>
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<td>C D E F G a b c d e f g α B E ε Δ</td>
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<td></td>
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<tr>
<td>Divisio priorum per tres, id est diapente</td>
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<td></td>
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<th>S T</th>
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</thead>
<tbody>
<tr>
<td>Prima divisio priorum per novem, id est epogdous tonus</td>
<td>A B nihil D E nihil G a b c d e f g α B E ε Δ</td>
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<tr>
<td>Divisio priorum per quatuor, id est diatessaron</td>
<td>C D E F G a b c d e f g α B E ε Δ</td>
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<td>Divisio priorum per tres, id est diapente</td>
<td>D E nihil G a b c d e f g α B E ε Δ</td>
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duo vel medietas
Figura 10 cont.

F4:

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</tr>
<tr>
<td>Divisio priorum per quatuor, id est diatessaron</td>
<td>C D E F G a b c d nihil e f g α B ε Δ</td>
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<tr>
<td>Divisio priorum per tres, id est diapente</td>
<td>D E nihil G a b c d e f nihil g α Ε ε Δ</td>
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Ger:

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<td>D</td>
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<td>F</td>
<td>G</td>
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<td>b</td>
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Figura 11

conieci:

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L om.
Figura 12

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_Ger:_

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_L om._
**Figura 14**

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<td>D G</td>
<td>E a</td>
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**L om.**
**Figura 15**

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**Figura 16**

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**Figura 17**

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### Figura 20

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**Figura 21**

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$\ g\ \alpha\ B\ \varepsilon$

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$\Gamma\ AB\ C \quad CD\ E\ F \quad FG\ abc$

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**Figura 22**

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**Figura 23**

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*Thesaurus musicarum Latinarum*. http://www.chmtl.indiana.edu/tml/start.html


