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TRANSLATION, WITH INTRODUCTION AND  
COMMENTARY, OF PART IV OF LE ISTITUTIONI  
HARMONICHE.

City University of New York, Ph.D., 1977  
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1977

ZARLINO ON MODES:

An Annotated, Indexed Translation, with Introduction  
and Commentary, of Part IV of Le Istitutioni harmoniche

by

VERED COHEN

A dissertation submitted to the Graduate  
Faculty in Music in partial fulfillment of the  
requirements for the degree of Doctor of  
Philosophy, The City University of New York.

1977

This manuscript has been read and accepted for the Graduate Faculty in Music in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

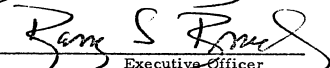
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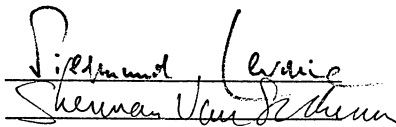
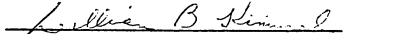
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### Abstract

The core of the dissertation is a translation of Part IV of Gioseffo Zarlino's Le Istitutioni harmoniche, a four-part work encompassing both speculative and practical aspects of music. In Part IV Zarlino presents an historical review of modal theory since the ancient Greeks, explains contemporary modal theory, and discusses each mode in particular.

Le Istitutioni harmoniche was first published in 1558 and a second version was published in 1573. The most significant difference between the two versions is the use of a new order of interval species and modes in the 1573 edition of Istitutioni, an order that was introduced in Zarlino's Dimostrationsi harmoniche (1571). This new order is reflected in Part IV in the designations of the modes, which are numbered starting from C instead of D. The possible significance of the emergence of C as a focal point is examined in this study.

The dissertation is composed of three main parts: Introduction, Translation, and Commentary. The Introduction contains a discussion of the structure and contents of Part IV, a survey of Zarlino's sources, an explanation of musical terms used in Zarlino's writings, a comparison of Part IV in the 1558 and 1573 editions, and a discussion of the background and significance of Zarlino's innovations. The

Translation is based on the 1558 edition but incorporates all 1573 additions and indicates all discrepancies between the two versions. The Commentary clarifies and expands on matters in the text that are ambiguous or unfamiliar to the modern reader. Information concerning persons, mythological figures, polyphonic works, and chants mentioned in the text can be found in the five appendices.

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## INTRODUCTION

## STRUCTURE AND CONTENTS

Le Istitutioni harmoniche, first published in Venice in 1558, attempts to encompass in one comprehensive work both the speculative and practical aspects of music.

Born in Chioggia in 1517, Gioseffo Zarlino served there as musician and churchman until the age of 24. In 1541 he moved to Venice, where he was a pupil of Adrian Willaert. He became maestro di capella at St. Mark's in 1565 and served in this capacity until his death in 1590.

In 1558 Zarlino published the Istitutioni because, as he explained in the dedication to Vincenzo Diedo,

. . . although there are many others who have written many things about the science and art [of music], nevertheless he who reads them cannot acquire that knowledge which he desires, for they have not really touched on sufficiently, nor shown, some things of great importance. Hence I, who ever since my tender years have always had a natural inclination toward music and had already spent a large part of my life acquiring its knowledge, wanted to show, if I could in some manner, those things that pertain to its theory and practice.

Zarlino, who knew Greek, Latin, and Hebrew, set out to write in his native language a work which links musical theory and practice. Le Istitutioni harmoniche consists of four parts; the first two deal with the

speculative, the last two with the practical, aspects of music. In Part I, after discussing the origin, importance, and classifications of music, Zarlino expounds thoroughly arithmetic, geometric, and harmonic proportions. In Part II he explains ancient Greek music, its tonal system, and division of the monochord. Part III is devoted to the laws of counterpoint; and Part IV, to the theory of modes.

Part IV, the center of this discussion, is not a separate essay but rather the last portion of an integrated whole. The final chapters serve as a conclusion to the entire work. Part IV consists of the following chapters:\*

1. That which is a mode and of its species. Ancient modes: difficult to discuss because there are no extant examples of them. Modern modes: usage, number, and how to adapt their music to the words. "Mode" signifies moderation, thus used for musical entities which unite several elements with proportion. Each ancient mode associated with a definite musical instrument, meter, and subject matter, as documented in works of classical writers.

2. That the modes have been named differently by many, and for what reason. Terms used to signify modes, each reflecting a different

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\*The titles are by Zarlino, the descriptions by me.

aspect: harmonies, tropes, tones, modes, and systematic or entire constitutions.

3. On names and number of the modes. In ancient usage: different names and numbers of modes as proposed by sixteen Greek and Roman scholars. In modern usage: twelve modes, placed within the seven species of the octave, divided harmonically or arithmetically, and producing six authentic and six plagal modes.

4. On the inventors of the modes. Four Popes credited with contributing to the development of the church modes. Invention of the ancient modes attributed to various mythological figures, as told by Greek and Roman writers.

5. On the nature or property of the modes. Each mode capable of inducing different passions in the listeners. Qualities, effects, and uses of each mode, documented in works of Greek and Roman writers.

6. On the order of the modes. Opinions of various Greek and Roman writers concerning the order of the modes. Order follows either nature or accident. Different scientific approaches, as in the question of the movement of celestial bodies, result in different systems of order.

7. That the Hypermixolydian of Ptolemy is not that which we call eighth mode. Ptolemy's Hypermixolydian, contained within the octave A - a, is not identical with the eighth mode, contained within the octave

D - d; neither is it identical in intervallic structure with Hypodorian; nor is it Aeolian.

8. In what manner the ancients indicated the notes of their modes.

Ancient notation consisted of two sets of signs placed above the text, one indicating notes, the other rhythm. Later signs indicated intervals. Boethius is wrong when saying that differences between modes are only in pitch; they really are in intervallic structure. Identification of the first mode with ancient Dorian, the third with Phrygian, and so on, is wrong.

9. In what manner the octave should be harmonically or arithmetically divided. The octave can be divided into a diapente and a diatessaron in two ways, namely, with the diapente below and the diatessaron above, and with the diatessaron below and the diapente above. The first division, which is more sonorous, is called harmonic; the second, arithmetic.

10. That the modern modes are necessarily twelve, and in what manner it may be proved. Six combinations of the four species of the diapente with the three species of the diatessaron are permitted. Each combination creates two modes: one with the diapente below and the diatessaron above, the other with the diatessaron below and the diapente above. Thus twelve modes are produced.

11. Another way of demonstrating the number of twelve modes.

Of the seven species of the octave, six can be divided harmonically, producing six authentic modes; and six can be divided arithmetically, producing six plagal modes. Thus twelve modes come into being.

12. Division of the modes into authentic and plagal. Modes produced by harmonic division are designated by uneven numbers and called principal or authentic. They tend to proceed upward, ascending higher above the finalis than modes of the other group. Modes produced by arithmetic division are designated by even numbers and called lateral, plagal, or plagal. They tend to proceed downward.

13. On the final note of each mode, and how far it is possible to ascend or descend above and below the above-mentioned notes. The finalis is the lowest note of the diapente in both authentic and plagal modes. Each finalis is therefore common to two modes. Modes may be perfect; imperfect or diminished; and superfluous or abundant.

14. On the common modes, and on the mixed modes. Common modes include the ambitus of both the authentic and plagal modes, thus having eleven notes. Compositions written in them are identified by the authentic mode. Imperfect common modes do not include all eleven notes. Mixed modes are those in which the diapente or diatessaron of another mode is repeated.

15. Another division of the modes; and on that which one should observe in each mode in composing music; and in what manner the eight Psalmodies are matched with the modes. Two kinds of modes: varied and stable. Differences of procedures in composing in authentic or plagal modes. Rules for applying Psalmodies to Antiphons.

16. If by removing the tetrachord Diezeugmenon from any composition and putting in its place the Synemmenon while the other notes remain immovable, one mode can be changed into another. If the tetrachord Synemmenon is used in a composition incidentally, it does not change the mode. If it is used systematically, it does change the mode, because a change in the place of the semitone changes the octave species.

17. On the transposition of the modes. If by transposition of the semitone one mode is changed into another, then every mode can be transposed. Transposition important for organists who accompany choruses, and for instrumentalists who cannot play all accidentals. Transposition done by flats or sharps.

18. A detailed discussion of the first mode; its nature, its beginnings, and its cadences. The first mode lies within the octave D & d, divided harmonically by a. Its finalis is D, and its regular beginnings and cadences are on D, F, a, and d. It is somewhat sad and suited to serious words.

19. On the second mode. The second mode lies within the octave a & A, divided arithmetically by D, its finalis. Its regular beginnings and cadences are on a, F, D, and A. It is the collateral, or plagal, of the first mode. Its nature is tearful and humble, and suited to words which represent weeping, sadness, and every kind of misery.

20. On the third mode. The third mode lies within the octave E & e, divided harmonically by b-natural. Its finalis is E, and its regular beginnings and cadences are on E, G, b-natural, and e. It is somewhat hard but, tempered with the diapente of the ninth mode, suited to words of lament.

21. On the fourth mode. The fourth mode lies within the octave b-natural & B-natural, divided arithmetically by E, its finalis. Its regular beginnings and cadences are on b-natural, G, E, and B-natural. It is somewhat sadder than the third mode and suited to lamentful words.

22. On the fifth mode. The fifth mode lies within the octave F & f, divided harmonically by c. Its finalis is F, and its regular beginnings and cadences are F, a, c, and f. It induces modesty, happiness, and elevation in the souls of the listeners.

23. On the sixth mode. The sixth mode lies within the octave c & C, divided arithmetically by F, its finalis. Its regular beginnings and cadences are on c, a, F, and C. It is suited to subject matters which contain tears and is used in serious and devout compositions.

24. On the seventh mode. The seventh mode lies within the octave G & g, divided harmonically by d. Its finalis is G, and its regular beginnings and cadences are on G, b-natural, d, and g. It is suited to words that are cheerful and lascivious and to those that indicate threat and anger.

25. On the eighth mode. The eighth mode lies within the octave d & D, divided arithmetically by G, its finalis. Its regular beginnings and cadences are on d, b-natural, G, and D. It fills the souls of the listeners with joy. Completely removed from lasciviousness and suited to serious and speculative subject matters.

26. On the ninth mode. The ninth mode lies within the octave A & a, divided harmonically by E. Its finalis is A, and its regular beginnings and cadences are on A, C, E, and a. It is open and clear and suited to lyrical verses and to cheerful and sweet subject matters. It is not a new or irregular mode.

27. On the tenth mode. The tenth mode lies within the octave e & E, divided arithmetically by a, its finalis. Its regular beginnings and cadences are on e, c, a, and E. Its nature is similar to that of the second mode because both contain the same diapente, and to that of the fourth mode because both contain the same diatessaron.

28. On the eleventh mode. The eleventh mode lies within the octave C & c, divided harmonically by G. Its finalis is C, and its

regular beginnings and cadences are on C, E, G, and c. It is suitable for dances and therefore sometimes considered lascivious.

29. On the twelfth mode. The twelfth mode lies within the octave g & G, divided harmonically by c, its finalis. Its regular beginnings and cadences are on g, e, c, and G. It is suitable for amatory and lamentful subject matters but used in cheerful compositions as well.

30. That which the composer should observe when composing, and in what manner the modes should be judged. The mode of a composition not determined only by the finalis but also by the form and procedure of the composition, because there are compositions in mixed modes or not ending on the finalis.

31. On the manner to be followed in adapting the parts of a composition and on their range, and how far the highest note of each of those placed above can be from the lowest note of the concentus. If the tenor is in an authentic mode, the bass proceeds through the notes of the plagal, and vice versa. The soprano in the same mode as the tenor, and the alto in that of the bass. Rules concerning distances between the voices. Different voice arrangements.

32. In what manner the harmonies are accommodated to the given words. Three components of music: speech, harmony, and number. Speech placed above the others. Different intervals and tempi for different subject matters.

33. The manner to be followed in placing the musical figures under the words. Ten rules concerning number and value of notes allotted to the various syllables of speech.

34. Of the ligatures. Rules concerning the value of each part of a ligature, depending on whether it is square or oblique, ascending or descending, and with or without a stem.

35. What anyone desiring to arrive at some perfection in music must know. A good musician should know mathematics (arithmetic and geometry), grammar, dialectics, rhetoric, and natural sciences. He should be able to play and tune the monochord or the harpsichord, and be instructed in singing and in counterpoint or composing.

36. On the fallacy of the senses, and that judgment should not be made solely by their means but should be accompanied by reason. In judging musical matters, reason must accompany sense, which by itself might err. One needs to know both the speculative and practical aspects of music.

These 36 chapters reveal a clear organization and can be divided into several groups:

Chapters 1 - 8 constitute primarily an historical review of modal theory, dealing with the "ancients" at length and by name while making

but brief and generalized reference to the "moderns." Considering the various aspects of modal theory such as the number of modes, their names, order, properties, etc., Zarlino discusses the views of scholars, philosophers, and poets. As would be expected, this section contains a large number of quotations and references to philosophy, history, poetry, and mythology. Stories from classical mythology, such as that of Agamemnon and Clytemnestra, are used as evidence to bear out or emphasize certain assertions. Zarlino displays what might be a certain measure of naïveté when numbering among the inventors of modes Pope Gregory the First on one hand, and the God Mercury on the other. In general, this "historical review" is useful, not so much as a practical view of the continuity and development of modal theory, but rather as a window upon the historical attitude and perspective of the author.

Chapters 9 - 29 constitute a concrete discussion of the modes. They can be divided into two subgroups: one involving a general examination of the modes, and the other explicating each mode individually. In chapters 9 - 17 Zarlino discusses the various aspects of modal theory, such as the number of modes, their division into authentic and plagal, transposition of modes, and other related matters. Chapters 18 - 29 compose a group in which each chapter is devoted to a detailed discussion of the modes, proceeding consecutively from the first mode

through the twelfth. In conjunction with the discussion of each individual mode, Zarlino provides polyphonic compositions and a two-part musical example written in that mode.\* In chapters 26 and 27\*\* Zarlino broadens the discussion in order to explain and justify the inclusion of modes which until the mid-sixteenth century were excluded from the generally accepted list of ecclesiastical modes.

In chapters 30 - 32 Zarlino gives instructions to musicians and composers; the modes are relegated to a secondary position in chapter 31, and chapter 32 refers to them but scantily.

Chapters 33 - 36 are not related to modes and do not comprise a unified group. Chapters 33 and 34 deal, respectively, with allocation of notes to syllables and with ligatures -- two specific points of interest to the musician, not discussed earlier in the Istitutioni. Chapters 35 and 36 are of a general nature and must be viewed, together with the two preceding chapters, as a capping, not of Part IV and its discussion of modes, but rather of the entire four-part work.

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\*The two parts are designated Soprano and Tenore.

\*\*Chapter numbers according to the 1558 edition.

## ZARLINO'S SOURCES

Zarlino's great erudition is demonstrated by numerous references to, and quotations from, many scholars, philosophers, poets, and churchmen. This component of his work must have been important in his eyes, for he adds in the title page of Istitutioni: "In which, besides matters pertaining to music, there are quoted many citations from poets, historians, and philosophers, as one can see clearly when reading it." These citations give the reader an insight into Zarlino's educational background and literary preferences.

It is not surprising that Zarlino, a churchman himself, mentions eleven church fathers, theologians, and Popes, spanning sixteen centuries. The first three centuries are represented by two Greeks: Ignatius, Bishop of Antioch (died c. 110), and Clement of Alexandria (c. 150 - 216); the fourth and fifth centuries, by St. Basil the Great, Bishop of Caesarea (329 - 379), St. Damasus the First (Pope from 366 to 384), and Gaudentius, Bishop of Brixia (c. 360 - after 410). The sixth, seventh, and eighth centuries are represented by St. Gregory the First (Pope from 590 to 604), St. Vitalian (Pope 657 to 672), St. Leo the Second (Pope from 682 to 683), and St. John of Damascus (c. 675-749). There is a leap of over five centuries to John Gerson (1363 - 1429) and to a near-contemporary of Zarlino, Leo the Tenth (Pope from

1513 to 1521).

Zarlino's knowledge of poetry was extensive and encompassed works in Greek, Latin, and Italian, written over a period of twenty-five centuries. The Greek poets cited in Part IV are Homer (c. 850 B.C.), Pindar (518 - 438 B.C.), Philoxenus (436 - 380 B.C.), and Mannassess (twelfth century). The Latin poets are Ennius, a Greek by birth, regarded as the father of Roman poetry (239 - 169 B.C.), Virgil (70 - 20 B.C.), Horace (65 - 8 B.C.), who is quoted and mentioned in Part IV more than any other poet, Ovid (43 B.C. - 18 A.D.), Seneca (3 B.C. - 65 A.D.), and Statius (45 - 96). Zarlino quotes Greek and Latin poetry mostly in order to illustrate the nature of modes and related matters. The three most famous Italian poets, Dante (1265 - 1321), Petrarch (1304 - 1374), and Boccaccio (1313 - 1375), are quoted for a demonstration of rhyme patterns. Also cited are Zarlino's near-contemporaries Sanazaro (1453 - 1530) and Castiglione (1478 - 1529).

Zarlino's classical education is manifested through his references to Greek and Roman scholars. Greek philosophy is represented by seven authorities covering a period of almost eight centuries: Pythagoras (flourished 540 - 510 B.C.), Plato (427 - 347 B.C.), Heraclides Ponticus (born c. 390 B.C.), Aristotle (384 - 322 B.C.), Aristoxenus (flourished c. 318 B.C.), Plutarch (c. 46 - c. 120), and Pollux (end of second century). Plato is cited considerably more

than anyone else (twenty-three times in Part IV). Other Greek authorities mentioned are Laches (end of fifth century B.C.), a famous general; Lysias (c. 459 - 389 B.C.), an orator; Euclid (flourished c. 300 B.C.), a mathematician; Ammonius (second century (B.C.), a writer; Diodorus (died after 21 B.C.), an historian; Strabo (c. 63 B.C. - c. 24 A.D.), a geographer; Dio Chrysostomus (c. 50 - after 112), a rhetorician and sophist; Lucian (second century), a sophist; Ptolemy (second century), a mathematician, astronomer, and geographer; Aristides Quintilian, a music theorist; and Athenaeus (lived c. 230), a grammarian. Zarlino cites nine Roman scholars, spanning six hundred years, from the height of the Roman Empire to the commencement of the Medieval epoch: Cicero (106 - 43 B.C.), a statesman and orator; Valerius Maximus (first century B.C. - first century A.D.), a writer; Pliny the Elder (23 - 79), a naturalist; Quintilian (40 - c. 118), a rhetorician; Apuleius (born c. 124), a novelist; Censorinus (third century), a writer; Martianus Capella (early fifth century), a pedagogue; Boethius (c. 476 - 525), a philosopher; and Cassiodorus (c. 480 - c. 575), a statesman. The Jewish historian Josephus Flavius (37 - c. 100) completes the list of ancient authorities cited in Part IV.

Of Zarlino's contemporary or near-contemporary music theorists, only one is mentioned by name (Gafori) and the works of two others are

cited (Stefano Vanneo's Recanetto and Pietro Aron's Toscanello). A conspicuous omission is that of Glarean. As far as one can learn from Zarlino's writings, he was not aware that Dodecachordon was published and that twelve modes had been proposed.

The polyphonic compositions mentioned in Part IV of the Istitutioni are a microcosm of the polyphony of the second half of the fifteenth century and the first half of the sixteenth century. Almost eighty compositions are named, most of them sacred and only eighteen secular. Assuming that Zarlino made use of familiar compositions, one can learn from them about the well-known polyphonic music of the period as well as about Zarlino's personal preferences. Zarlino's predilection for the music of his teacher, Adrian Willaert, is clear; in Part IV of the Istitutioni, thirty-six of Willaert's compositions are brought as examples. Zarlino's second preference was his own music, for he mentions twenty of his compositions. Josquin, represented by six compositions, is preferred above others by a small but definite margin. The other composers supply one, two, and in a few cases, three illustrations.

## DEFINITIONS

Some musical terms in Zarlino's writings are not commonly used in modern music theory, or have meanings that differ from modern practice. A discussion of these terms is required for clarity.

Harmonia

Zarlino's use of the term "harmony" is not unequivocal. In several places (for example, Istitutioni, II, 12, and IV, 32; also Sopplimenti, VIII, 1), he mentions Plato's concept of harmony as one of the three components of melody,<sup>\*</sup> the other two being rhythm and speech. Zarlino accepts Plato's statement but applies it to polyphonic music, in which harmony has to do with the concentus of voices. After quoting Plato's statement (Istitutioni, II, 12) he clearly denotes a certain kind of concentus of voices by the term "proper harmony."

Zarlino, conceding that the music of the ancients consisted of one part only (Istitutioni, II, 4, and III, 79), is aware of using the term "harmony" for two different things. He says (Istitutioni, II, 31) that for the ancients harmony consisted of modulation<sup>\*\*</sup> of one part only;

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\*See Melodia below.

\*\*See Modulatione below.

and later (Sopplimenti, VIII, 2) he writes that music, although very simple in its beginning, soon grew and developed, a *concentus* of voices came into being, and already in the early stages of the development there was a *concentus* between the voice and the accompanying instrument.

Zarlino's own concept of "harmony" is grounded in polyphonic music, and emphasizes its vertical aspect. In that respect it is, as Marco and Palisca say, close enough to the modern meaning of "harmony,"\* However, it is different from the modern concept of functional harmony in that Zarlino's "harmony" is the combination of notes and intervals arising from the sounding together of the melodic lines of the voices in a polyphonic composition. He defines (Istitutioni, II, 12) two kinds of harmony: proper and nonproper (*Propia* and *Non Propia*), saying:

Proper harmony . . . is the *concentus* of consonant notes or voices without any offense to the ears, meaning by that the *concentus* which arises from the modulations made by the parts of any composition. . . . Proper harmony then is a composition or mixture of lower and higher sounds, with or without a middle voice, which strikes our hearing sweetly. Proper harmony arises from the parts of any composition as they proceed

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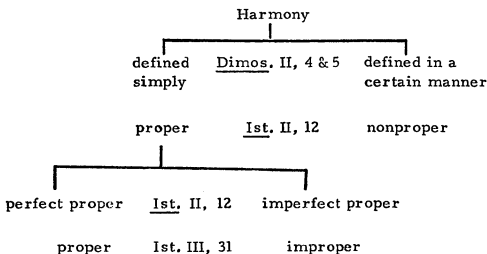
\*p. xxiii.

together in concordance from beginning to end. It has the power to induce in the mind various passions. And this harmony arises not only from consonances but also from dissonances. For good musicians make every effort that in their harmonies the dissonances accord and be consonant with marvelous effect. Thus we can consider proper harmony in two ways, namely, perfect and imperfect. Perfect is that in which there are many parts in a composition, and they sing together in a way that the outer parts are mediated by others. Imperfect is that in which only two parts sing together without being mediated by any other part. Nonproper harmony . . . should be called harmonious consonance rather than harmony, inasmuch as it does not contain in itself any modulation, although its outer parts are mediated by other sounds. Nonproper harmony by itself does not have the power to induce in the mind various passions as does the harmony called proper, which is composed of many nonproper harmonies.

In another place (Istitutioni, III, 31) Zarlino differentiates between two kinds of harmony in a somewhat different manner, using the terms "proper" and "improper" (Propia and Impropia) as distinct from "proper" and "nonproper" (Propia and Non Propia). The proper and improper harmonies defined in Part III do not correspond to the proper and nonproper harmonies defined in Part II. The former are a subdivision of the latter, for in Part III Zarlino uses the term "proper harmony" to designate what in Part II he called "perfect proper harmony," and he defines as "improper harmony" what in Part II he called "imperfect proper harmony."

Zarlino uses still different terms when defining "harmony" in Dimostrazioni (Discussion II, Definition 4): "Harmony defined simply is the concentus which arises from at least two parts joined together, according to the degree of harmonic proportion, and which strikes our ears sweetly." He continues (Definition 5 of the same Discussion): "Harmony defined in a certain way is the concordance created by at least two parts placed together, but not according to the degree of the harmonic mean. It does not strike our hearing so sweetly as the other kind of harmony." The differentiation in Dimostrazioni seems to correspond to that between proper and nonproper harmony in Part II of Istitutioni, namely, to the primary differentiation.

In the following diagram I have tried to summarize Zarlino's classifications, both primary and secondary, of harmony. The diagram includes all the various terms employed by him throughout his books.



Concerning polyphonic music, Zarlino's concept of "harmony" is clear. It is less so in monophonic music, because he does not give a definition of "harmony" applicable to monophonic music. It could correspond to what we today call "melodic line," that is, that part of music which remains in a song after we have taken away rhythm and words and which is its most purely musical aspect. This proposition derives logically from Plato's statement. Zarlino's acceptance of it seems supported by his own statement in Sopplimenti (VIII, 13) concerning the music of the Jews in which he translates the Hebrew word נְגִינָה\* (Neginah) as "harmony," explaining that by means of its words are produced with "modulation." In Sopplimenti (VIII, 1) Zarlino says that harmony is pitch relationships.

Zarlino's concept of "harmony" in music of his time is a definitely vertical one. Thus when he speaks in the context of "modern musicians" about "harmonies generated by the modes," he probably means harmonies created by the voices of polyphonic compositions written in each of the modes.

In addition to applying the word "harmony" both for horizontal melody and vertical concentus, Zarlino complicates matters further

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\*This word has different meanings in different contexts. Here it signifies the melodic line of Biblical cantillation.

by using it occasionally in the sense of "mode" (as in Istitutioni, IV, 2). Here the word harmonie is a translation of the Greek harmoniai.

### Melodia

Zarlino's use of the term "melody" is (like his use of "harmony") not unequivocal. In many places in his writings the word "melody" should be interpreted as music or singing in general. Zarlino uses the ancient Greek terms and accepts (as evidenced in Istitutioni, II, 12, and IV, 32, in Sopplimenti, VIII, 1, and in other places) Plato's statement that melody (melos, music or singing) consists of harmony (harmonia, melodic line\*), number (rhythmos, rhythm\*\*), and speech (logos, words\*\*\*).

Further proof that Zarlino's term "melody" should be understood as "music" is found in the title of chapter 11 of Sopplimenti, VIII, where Zarlino uses the words Musica and Melopeia as interchangeable. Moreover, in several places (as, for example, in Sopplimenti, VIII, 1 and 2) he employs the word Melopeio (or Melopeo) to indicate a musician.

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\*See the sixth paragraph of Harmonia above.

\*\*See Numero below.

\*\*\*See Oratione below.

Throughout his writings, Zarlino uses both versions of this term, namely, Melodia and Melopeia (for example, in Istitutioni, IV, 4, the term melodie appears in the edition of 1558, while Melopeie appears in the edition of 1573).

There are, however, instances in which Zarlino uses the word melodia in a sense close to the modern meaning of "melody" (and to his own use of the term "modulation"\*). For example, in Istitutioni, II, 9, he talks about the three sorts of melody (Melodia): diatonic, chromatic, and enharmonic. This kind of use of the term is in keeping with Zarlino's interpretation of the Greek word Μέλος (melos), which is the origin of all the above terms and which means (as Zarlino explains in Sopplimenti, VIII, 1) "song or modulation."

### Numero

The term Numero in Zarlino's writings has been translated as "rhythm" by Strunk and both "rhythm" and "meter" by Marco-Palisca. Zarlino distinguishes between rhythm and meter, giving an interesting parallelism to illustrate the difference (Istitutioni, II, 8): "It must be

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\*See Modulatione below.

noted that rhythm is different from meter and verse in this that meter and verse contain in themselves a certain delimited space, whereas rhythm is more universal and its spaces are free and not delimited. Hence rhythm is like the genus, but meter and verse are less universal and are like the species." Meter is defined in the same chapter as "a certain composition and order of feet, made to delight our hearing." Zarlino says (Istitutioni, II, 7) that what we call meter is "delimited number contained in verse."

The word Numero is in most cases closer to the more general term, namely, rhythm; but because Zarlino uses both Rhythmno and Numero, it is possible that the latter signifies an even broader concept of the temporal aspect of music. I have therefore decided to leave it in its literal translation as "number." This term often also applies to the common meaning of number in the arithmetical sense.

### Oratione

Oratione is Zarlino's term for Plato's logos. The difficulties of translating logos are too well known to be elaborated here (cf. The Gospel according to St. John, I, 1, and Goethe's Faust, 1224 ff.). Zarlino identifies oratione with "words" or "text"; Marco-Palisca translated it as "text," Einstein as "expression," and Strunk as

"speech." I borrow Strunk's term frequently but revert to "words" or "text" when the context demands it.

### Modulatione

The term "modulation" in Zarlino's writings does not mean a change of tonal center within a composition; rather it signifies what we today call "melody." In Istitutioni, II, 14, there is a definition of this term: "Modulation is a movement made from one sound to another by diverse intervals." Zarlino distinguishes between modulation without rhythm, as in chant, and rhythmic melody, as in figured music. Marco-Palisca say that the concept of modulatione emphasizes the horizontal aspect of a polyphonic texture,<sup>\*</sup> and translate it, according to context, as "part movement," "harmony," and "melody."

Melody seems to be the closest equivalent term in the context of Part IV of Istitutioni. The validity of this term is manifested by passing remarks like "quella semplice aria o modulatione" ("that simple air or modulation," Sopplimenti, VIII, 2), "la modulatione o canto" (the modulation or song, Sopplimenti, II, 6), etc.

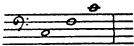
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\*p. xxiii.

Arithmetic and harmonic division

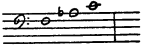
Zarlino defines arithmetic proportion of intervals in Dimostrazioni, First Discussion, Definition 11, saying: "When three sonorous quantities are arranged one after the other in a way that the difference between the largest quantity and the middle one is the same as the different between the middle quantity and the smallest one; and the larger proportion exists between the smaller quantities while the smaller proportion exists between the larger quantities; then they are said to be arranged and ordered in arithmetic proportion."

In Istitutioni, I, 36, Zarlino teaches how to divide any proportion arithmetically. The middle number, that is, the mean, is found by adding the extreme numbers and dividing the sum into two equal parts. If the sum of the extreme numbers constitutes an uneven number, which cannot be divided equally into two whole numbers, the extremes should be first doubled (which does not change the proportion). If we take the octave (2/1) as an example, both numbers should be doubled (4/2), added ( $4+2=6$ ), and then divided by 2 ( $6:2=3$ ). The resultant sequence, 4.3.2, fulfills all the conditions of arithmetic proportion; the differences between each of the extremes and the middle number are equal (1); and the larger proportion (3/2) exists between the smaller numbers (2 & 3) while the smaller proportion (4/3) exists between the larger numbers (3 & 4). In terms of intervals, the

sequence 4.3.2 means that the octave (4/2) is divided into a diatessaron (4/3) and a diapente (3/2), the diatessaron below the diapente, as in . This division of the octave is defined in

Definition 13 of the Fifth Discussion of Dimostrationsi, which says:

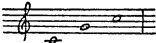
"The octave is said to be divided arithmetically into two parts when it is divided by a middle note in such a manner that the diatessaron occupies the lower place of that octave and the diapente occupies its higher place." This is the octave division of the plagal modes.

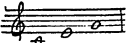
In order to divide the diapente (3/2) arithmetically, again both numbers should be first doubled (6/4), added ( $6+4=10$ ), and then divided by 2 ( $10:2=5$ ). The resultant sequence, 6.5.4, fulfills the above conditions. In terms of intervals, the sequence 6.5.4 means that the diapente (6/4) is divided into a minor third (6/5) below and a major third (5/4) above, as in , or what we today call a minor triad.

Zarlino defines harmonic proportion of intervals in Definition 13 of the First Discussion of Dimostrationsi, saying: "When three sonorous quantities are placed in order and between the largest quantity and the middle one there is a larger proportion than that which is between the middle quantity and the smallest one, and also the difference between the largest quantity and the middle one and the difference between the middle quantity and the smallest one create a proportion

which is equal to that of the two extremes, then such order is said to be made according to the harmonic proportion or mean." It should be noted that, in contrast to the arithmetic proportion, here the differences between the three numbers are unequal and the larger proportion exists between the larger numbers.

In Istitutioni, I, 39, Zarlino teaches how to divide any proportion harmonically. First it has to be divided arithmetically, then the extremes should be each multiplied by the middle number to produce the extremes of the harmonic proportion. The middle number of that proportion is produced by multiplying the extreme numbers of the arithmetic proportion. If we take the octave, of which the arithmetic proportion is 4, 3, 2, and perform the above-mentioned multiplications, the result will be 12, 8, 6 or 6, 4, 3. This sequence fulfills all the conditions of harmonic proportion specified in Definition 13 of the First Discussion of Dimostrazioni: the difference between each of the extremes and the middle number are not equal ( $6 - 4 = 2$  whereas  $4 - 3 = 1$ ), the larger proportion ( $6/4$  or  $3/2$ ) exists between the larger numbers (4 & 6), while the smaller proportion ( $4/3$ ) exists between the smaller numbers (3 & 4). Also, the differences between the numbers, which are 2 and 1, create the same proportion ( $2/1$ ) as the extremes ( $6/3$  or  $2/1$ ).

In terms of intervals, the sequence 6.4.3 means that the octave ( $6/3$ ) is divided into a diapente ( $6/4$  or  $3/2$ ) and a diatessaron ( $4/3$ ), the diapente below the diatessaron, as in . This division of the octave is defined in Definition 12 of the Fifth Discussion of Dimostrazioni, which says: "The octave is said to be divided harmonically when it is divided into a diapente and a diatessaron in a manner that the diapente is placed in the lower part of the octave and the diatessaron is placed above it." This is the octave division of the authentic modes.

In order to divide harmonically the diapente, of which the arithmetic division is 6.5.4, the above-mentioned multiplications have to be performed and the result will be 30.24.20. This proportion fulfills all the conditions of harmonic proportion. It should be noted that the difference between the largest and middle numbers ( $30 - 24 = 6$ ) and that between the middle number and the smallest one ( $24 - 20 = 4$ ) create a proportion ( $6/4$  or  $3/2$ ) which is equal to that which the two extremes create ( $30/20$  or  $3/2$ ). In terms of intervals, the sequence 30.24.20 means that the diapente ( $30/20$  or  $3/2$ ) is divided into a major third ( $30/24$  or  $5/4$ ) below and a minor third ( $24/20$  or  $6/5$ ) above, as in , or what we today call a major triad.

If we construct two octaves and diapentes, one according to arithmetic, the other according to harmonic proportion, the following

structure will result:



The two octaves, one divided arithmetically and the other harmonically, are mirror images of each other, and the minor triad is a mirror image of the major triad. This is further emphasized by the conception of arithmetic progressions as descending and of harmonic ones as ascending (see 278 below). The inverse relationship of these progressions, manifested above in the form of musical intervals, can also be seen in mathematics: arithmetic progression is defined as a series in which the difference between any term and the preceding one is a constant; harmonic progression is defined as a series of numbers in which every term is the reciprocal of the corresponding term of a series in arithmetic progression. The arithmetic mean of numbers  $a$  and  $b$  is expressed in the formula:  $a + \frac{(b-a)}{2}$  or  $\frac{a+b}{2}$ . The harmonic mean of numbers  $a$  and  $b$  is the reciprocal of  $\frac{1}{a} + \frac{1}{2}(\frac{1}{b} - \frac{1}{a})$ , which is  $\frac{2ab}{a+b}$ .

The inverse relationship is understood musically much more easily than mathematically: major is the exact inverse of minor. The two octaves shown above demonstrate the major-minor polarity with

which Zarlino was concerned.\* He emphasizes the superiority of harmonic division. In Dimostrationsi, Fifth Discussion, Definition 8, Zarlino talks about what we today call a major scale and says that it represents the natural succession of intervals because it is arranged according to harmonic division. In Istitutioni, IV, 9, Zarlino says that harmonic proportion is much better than arithmetic proportion because the order of the consonances placed in it is such that all the notes are in their proper and natural order. In Istitutioni, I, 39, he says that the sounds produced by harmonic division create a "sweet concentus"; and in III, 31, he gives the reason for it, saying that arithmetical proportion is somewhat removed from perfection because its parts are not arranged in their natural positions, whereas a harmony resulting from harmonic division is perfectly consonant because its parts are arranged according to the natural sequence of the sonorous numbers.\*\*

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\*This is discussed in a subsequent section of the Introduction.

\*\*The sonorous numbers are numbers 1 to 6 and their multiplications. Zarlino discusses this matter in Istitutioni, I, 15 and 19, and in Dimostrationsi, Third Discussion, Definition 44, as well as in other places.

COMPARISON OF PART IV IN THE  
1558 AND 1573 EDITIONS

There are two principal editions of Le Istitutioni harmoniche. The first published in Venice in 1558 and reprinted in 1562 with changes only in the frontpiece. The other with significant changes, published in 1573 and reprinted with small changes in 1589 as part of De tutte l'opere del R. M. Zarlino ch'ei scrisse in buona lingua italiana. These two versions of Le Istitutioni harmoniche will be referred to as the editions of 1558 and 1573.

I shall record all differences, large and small, between Part IV as it appears in the 1558 and 1573 editions. I shall attempt to show the significance of these changes and to clarify the reasons for them.

The revisions in Part IV of Istitutioni do not involve its basic structure as outlined above. The changes occur within the structure. They can be classified according to the following categories: contents, grammar, and terminology. In all three categories the changes reflect an evolution and constitute an improvement over the earlier version, fulfilling the promise set forth in the frontpiece of the 1573 edition: "Di nuovo in molti luoghi miliorate."

### Changes in Contents

In the 1573 edition Zarlino sought to clarify and update the Istitutioni. Nearly all of the changes in the contents of Part IV consist of additions to the text, and only in a very few instances have omissions been made from the original 1558 edition.

The most obvious group of clarifying additions in the 1573 edition is that of page-border annotations. In the original version there are many references to writings of scholars and to preceding parts of Istitutioni, but all these references are within the body of the text. In the 1573 edition Zarlino added 105 annotations in the margin, identifying works by writers mentioned in the text, including himself. Most of the annotations occur in the first six chapters, the portion concerned with an historical survey of the modes. By specifying what had been mentioned in the original version, they improve it significantly.

Another group of additions within the text consists of references to Zarlino's Dimostrazioni harmoniche, which had appeared subsequent to the 1558 and 1562 editions of Istitutioni. Zarlino updates the text of the 1573 edition by incorporating references to material previously not available. Dimostrazioni harmoniche provides a valuable commentary on the text of Istitutioni, both by illustrating various statements already in the first version and by explaining and justifying the new numbering system used by Zarlino in the 1573 edition.

References to Dimostrazioni armoniche appear in all Parts of the 1573 edition of Istitutioni, but I shall deal only with the nine found in Part IV.

Seven references, all alluding to the Fifth Discussion of Dimostrazioni armoniche, point to statements already made in the 1558 edition, and are listed below in the order of their appearance in the text:

1. Chapter 1: a reference to Definition 11, which defines a mode.
2. Chapter 11: a reference to Proposal 10, which shows that the octave B-natural to b-natural cannot be divided harmonically.
3. Chapter 11: a reference to Proposal 25, which shows that any mode can be transposed up or down by an octave, up by a diatessaron, and down by a diapente.
4. Chapter 11: a reference to Proposal 12, which shows that the octave F to f cannot be divided arithmetically.
5. Chapter 13: a reference to Definition 17, which defines where the finalis of each mode is.
6. Chapter 17: a reference to Proposal 25, described above.
7. Chapter 35: a general reference to Dimostrazioni armoniche, which presents

the whole work as an illustration of the importance of dialectics to the music scholar.

The two remaining references to Dimostrazioni harmoniche relate to the new system of numbering modes and interval species used in the 1573 edition, a system introduced and explained in Dimostrazioni harmoniche. In chapter 6, in which the new designations of the octave species are mentioned for the first time in Part IV (they had been mentioned in Part III) of Istitutioni, Zarlino refers the reader to the Fifth Discussion of Dimostrazioni for additional information. In chapter 20\* Zarlino comments on his designation as third mode of that which all other musicians call first mode, and makes reference to the Fifth Discussion of Dimostrazioni for an explanation of the new numbering.

Into the text of the 1573 edition Zarlino incorporated quotations of ancient and medieval poetry, in addition to the many already included in the 1558 edition, apparently as the result of further thought and review. These added quotations are from works by Sanazaro (chapter 1), Gerson (chapter 4), Horace (chapter 5), and Dante (chapter 15).

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\*According to the 1573 edition.

The only group of changes that includes both additions and deletions relates to the names of various compositions. In his discussion of each mode, Zarlino refers to the names of polyphonic compositions written in that particular mode. Of the many works thus enumerated, four listed in the edition of 1558 were omitted from that of 1573 on grounds that I have not been able to ascertain, and eight compositions are listed in the 1573 edition for the first time. Of these eight, some were published in 1559, which accounts for their not having been mentioned in the 1558 edition. Others, however, had appeared prior to 1558 and were added in 1573, possibly as an afterthought.

Changes occur in the headings of chapters 1, 15, 29, 30, and 31. Most of the changes consist merely of the addition of words (or, as in chapter 31, of their deletion), or of a revision in the phrase sequence. They do not flow from any significant changes in the contents of the chapters, and are probably the result of no more than further consideration and afterthought. However, in one instance (chapter 15) the additional sentence in the title is the result of the addition of a sizable section to the chapter. This section, which deals with the matching of the Gloria Patri to compositions in various modes, appears in the 1558 edition in chapter 27 in a less detailed manner. We see here the relocation of a subject, bringing about a change in a chapter heading.

There are additions in the 1573 edition that do not fit into any specific category, such as additional information concerning ligatures (chapter 34), a reference to a book by Zarlino\* (chapter 35), or added emphasis on the presence of the note B-flat in the tetrachord synemmenon (chapters 18 and 29\*\*). Throughout the 1573 edition one can find small changes from the 1558 edition, consisting, for the most part, of the addition of a few words or a sentence. Most of these clarify the text and should be viewed as improvements upon the original wording. A few of these clarifications concern specific works mentioned in the first edition, such as the inclusion of chapter numbers of these works (chapter 15 is a good example). These additional references appear in the text itself rather than in the form of marginal notes. A large number of the clarifications consists of more detailed specifications of terms mentioned in the text, or of enlargement upon statements therein.

Zarlino further improved Istitutioni by correcting almost all the mistakes listed in the errata of the 1558 edition, and by adding at the end of the 1573 edition a subject index for the entire work.

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\*Il Musico Perfetto, also mentioned in Dimostrazioni harmoniche, Fifth Discussion, Proposal 25, as Il Perfetto Musico.

\*\*According to the 1558 edition.

In sum total, the majority of the changes in contents incorporated into the expanded text of the 1573 edition consists of additions and constitutes an improvement upon the original text. In part, the changes resulted from developments that took place during the period separating the two versions, and, in part, from further thought and review by the author.

#### Changes in grammar and related matters

Although from the standpoint of music theory the grammatical changes appearing in the text of the 1573 edition are unimportant, they should be mentioned in order to present a complete picture.

The most consistent and recurring changes involve verbal forms and conjugations. For example, whereas the suffix "-er o" appears in the first person, plural, throughout the 1558 edition, it has been replaced by "-iamo" in the 1573 edition (intendemo -- intendiamo; potemo -- potiamo; vedemo -- vediamo). Also in the first person, plural, the suffix "-vemo" has been replaced by "-bbiamo" (dovemo -- dobbiamo; havemo -- habbiamo). The suffix of the third person, plural, "-eno" becomes "-ono" in the 1573 edition (discendeno -- discendono), and likewise "ino" becomes "iono" (vogliino -- vogliono). These changes appear consistently throughout the text and reflect the process of standardization and Tuscanization of the Italian language that was

taking place during that period. Therefore they can be viewed as part of the general updating of the text.

There are other minor changes in spelling -- often in non-Italian names. Many of the spelling revisions result from alternations between the Latin and vernacular spellings (Iosquino -- Giosquino; giuditio -- giudicio). Because they appear infrequently, and there seems to be no guiding principle to explain why a particular form was changed in the 1573 edition, further comment on these would serve no purpose.

Aside from revisions in grammar and spelling, there are changes in punctuation. The 1573 edition displays an extensive deletion of the many superfluous commas that appeared in the earlier version, a substantial percentage of them immediately prior to ampersands. A further, though minor, punctuation change should be mentioned: in the 1558 edition, colons often serve in a role today reserved for semicolons. In the 1573 edition these colons are replaced by semicolons.

Finally, a change lending visual clarity to the text of 1573 is the printing of all quotations and names of compositions in large and differently styled type, thus causing them to stand out far more clearly than in the 1558 edition. This effect is enhanced by the start on a new and indented line after each quotation, as opposed to the text of the 1558 edition, which continued on the same line as the quotation.

The revisions in grammar, spelling, and punctuation may be regarded as part of the trend toward modernization evident in the 1573 edition.

### Changes in Terminology

The changes in terminology are more significant than those in the other categories, for they constitute a break with tradition. By "changes in terminology" I mean changes in the numbers by which the modes and interval species are designated.

The various species come into being from the different arrangements of wholetones and semitones that fill a musical interval (accidentals are excluded in this system of "white key" arrangements). Thus each interval has two or more species, each indicated by a number. In Part III of *Istitutioni* Zarlino devotes a chapter to each interval (up to the octave) and gives illustrations of all its different species.\* In the 1558 edition he uses the old accepted system, recognized by all music theorists. In the 1573 edition he employs a new system of numbering the interval species.

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\*The major and minor seconds, as well as the diminished and augmented intervals, are not classified by species and are therefore not included in Table 1. The major third has two species because of the distinction between the large and small wholetones.

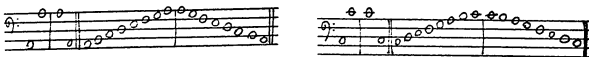
Table 1 presents a juxtaposition of the two numbering systems, on the one hand, from chapters 12 -16 and 20 - 23 of Part III as set forth in the edition of 1558 and, on the other, in that of 1573.

Table 1

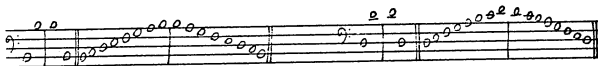
1558	1573
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The octave  
(Part III, chapter 12)

First species:



Second species:



Third species:



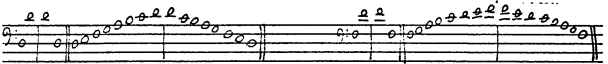
Table 1, continued

1558

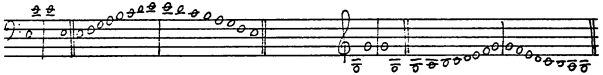
1573

## The octave, cont'd

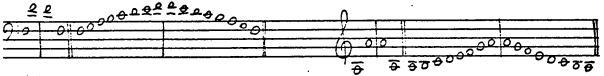
## Fourth species:



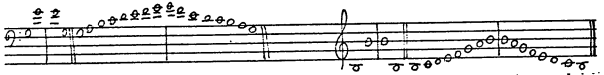
## Fifth species:



## Sixth species:



## Seventh species:



The fifth  
(Part III, chapter 13)

## First species:



\*The bracketed notes are my addition and indicate possible transpositions of the same species.

Table 1, continued

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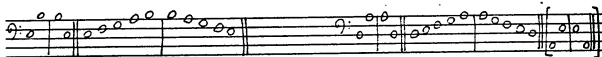
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1558	1573
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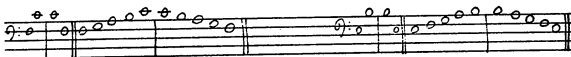
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The fifth, cont'd

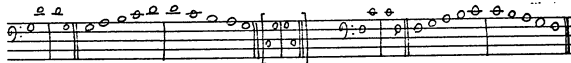
Second species:



Third species:



Fourth species:



The fourth  
(Part III, chapter 14)

First species:

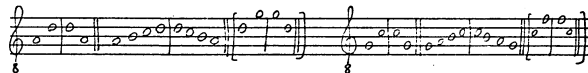


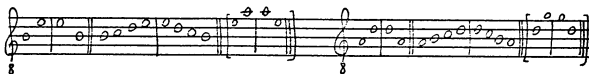
Table 1, continued

1558

1573

The fourth, cont'd

Second species:

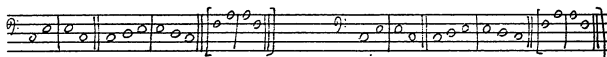


Third species:



The major third  
(Part III, chapter 15)

First species:



Second species:

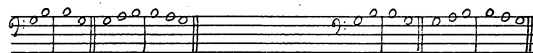






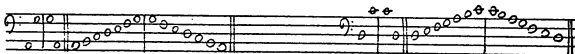
Table 1, continued

1558

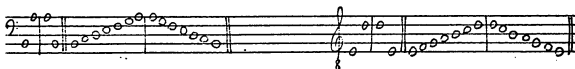
1573

The minor seventh  
(Part III, chapter 23)

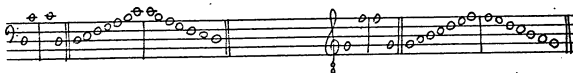
First species:



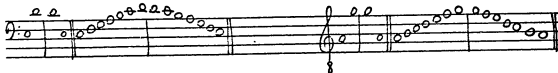
Second species:



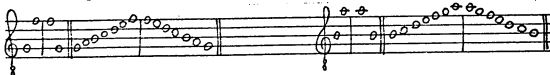
Third species:



Fourth species:



Fifth species:



Examination of Table 1 shows that, in the numbering system employed in the 1573 edition, the designations of the interval species are revised in the case of five intervals (octave, fifth, fourth, minor sixth, and minor seventh) but remain unchanged in another four (major third, minor third, major sixth, and major seventh). This might seem inconsistent, but a closer study reveals a unifying principle: in the 1573 edition the first species of the intervals start on C or on the nearest possible higher note, and from there the remaining species are arranged in ascending order, so that the first species of the octave, fifth, fourth, \* major third, major sixth, and major seventh all start on C; the first species of the minor third and minor seventh, which cannot start on C, start on D, the nearest highest note; and the first species of the minor sixth, which cannot start either on C or on D, starts on E. The starting point in the 1573 edition is C, whereas in the 1558 edition, governed by the same principle, the starting point is A. The species of two intervals, the fifth and the minor third, could start in the 1558 edition on A but actually start on D. As to the fifth, the start on D permits its four species to continue on an

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\*Although the three species of the fourth start on G, A, and B-natural, they can also start on C, D, and E. The reason for Zarlino's choice was probably his wish to complete the fifth species into octaves.

uninterrupted sequence of notes, as Zarlino himself says in chapter 13 of Istitutioni, Part III, 1558 edition. As for the minor third, no satisfactory reason is evident.

In the case of four intervals, the species numbers are the same in both versions; but these same designations result from two different systems of numbering which sometimes coincide. Take as an example the interval of the major sixth: according to the old concept of A as the starting point, the first species cannot start either on A or on B-natural, and therefore starts on C; according to the new concept of C as the starting point, the first species already starts on C.

The old concept of A as the starting point of the species of the octave, fifth, and fourth, as encountered in the 1558 edition of the Istitutioni, is shared by all music theorists of the period. Zarlino's later shifting of the starting point to C is an original contribution and an indication of a new concept, the ramifications of which will be discussed in the course of this Introduction.

This principle of moving the starting point to C is at work not only in the change in interval-species designations but also in the revision of mode numbers. Table 2 juxtaposes the modes arranged by number as set forth in the 1558 edition to those presented in the 1573 edition.\*













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\*The musical illustrations are taken from chapter 10 of Istitutioni, Part IV.

Table 2

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	1558	1573
First mode:		
Second mode:		
Third mode:		
Fourth mode:		
Fifth mode:		
Sixth mode:		

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Table 2, continued

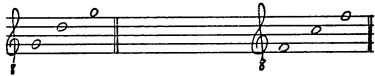
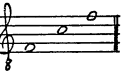
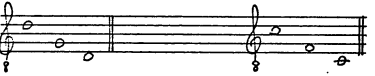
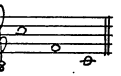
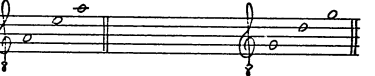

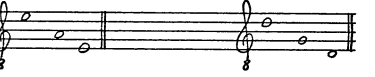

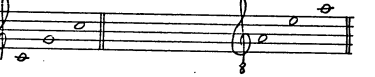

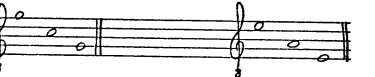

	1558	1573
Seventh mode:		
Eighth mode:		
Ninth mode:		
Tenth mode:		
Eleventh mode:		
Twelfth mode:		

Table 3

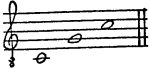
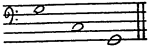
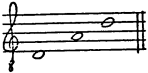
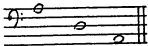
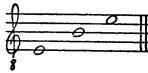
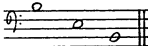
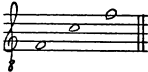
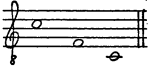
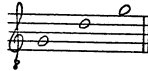
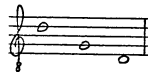
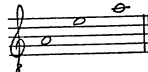
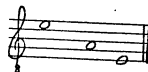
	1558	1573
	Eleventh mode	First mode
	Twelfth mode	Second mode
	First mode	Third mode
	Second mode	Fourth mode
	Third mode	Fifth mode
	Fourth mode	Sixth mode

Table 3, continued

	1558	1573
	Fifth mode	Seventh mode
	Sixth mode	Eighth mode
	Seventh mode	Ninth mode
	Eighth mode	Tenth mode
	Ninth mode	Eleventh mode
	Tenth mode	Twelfth mode

The information in Table 2 can be rearranged in order to show the same comparison from a different angle, as seen in Table 3. Because of the revision in mode designation, the twelve chapters (18-29) in Part IV of Istitutioni which are devoted to discussions of each of the modes were reorganized in the 1573 behind their unchanged titles. Thus, as an example, although chapter 22 in the 1573 edition remains entitled "On the fifth mode," the description therein is taken from chapter 20, entitled "On the third mode," in the 1558 edition. Each of the other eleven chapters reflects the same sort of change.

As in the case of the interval species, the mode designations in the 1558 edition are those employed by all the theorists of the day, whereas the mode designations by Zarlino in the 1573 edition represent a break with tradition, caused by a new concept of the significance of the octave species called today "major scale."

The concept of C as the starting point, which resulted in the renumbering of both interval species and modes, did not originate in the 1573 edition of Istitutioni. It emerges in Zarlino's Dimostrationsi harmoniche, published in Venice in 1571. In the Fifth Discussion, Definitions 8, 9, and 10 of Dimostrationsi harmoniche, Zarlino presents the new designations respectively of the species of the octave, fifth, and fourth; and in Definition 14, the new mode numbers. In Dimostrationsi Zarlino emphasizes that he is introducing a new system

of numbering, which probably accounts for his using in the 1573 edition of Istitutioni the new designations as a matter of course, mentioning only in an offhand manner that his order of the modes is different from that of other musicians.\*

Dimostrazioni harmoniche is a turning point, after which Zarlino obviously felt compelled to revise and republish Istitutioni so that it should include the changes brought about by the new system of numbering introduced in 1571. Zarlino emphasizes in Dimostrazioni\*\* that his changes were solely external and did not affect the "intrinsic and essential" quality of the modes. The modes remain the same and only the designations have been changed. Yet I believe that although the changes relate to terminology, they clearly delineate an important development in the concept of modal theory.

In Definition 8 of Dimostrazioni, Fifth Discussion, Zarlino explains at length the reasons for his tradition-breaking decision.

His first reason is that the order of intervals in the sequence C, D, E, F, G, a, b-natural, c is the result of harmonic division of the octave and each of its parts. Because harmonic division is the

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\*In chapters 8 and 20 of Part IV of the 1573 edition.

\*\*Fifth Discussion, Definition 8.

most natural, this octave species should be allotted the first place.

The second reason has to do with the hexachord. Because its order is: Ut, Re, Mi, Fa, Sol, La, placement of the first species on the first syllable (Ut) would be more logical than on the second syllable (Re), as done until then.

The third reason is that by using the hexachord as a point of reference, one will easily remember on which note each species begins, because the first species will start on the first note of said hexachord, the second species on the second note, and so on. Zarlino says that this method is applicable not only for the octave but for the intervals of the fifth and fourth as well. It will allow the species of these three consonances to start on the same note, unlike the previous arrangement, and will facilitate memorizing their various species.

The fourth reason is that in this new order the twelve modes can be arranged one after the other without skipping a note (as opposed to the previous order in which the succession of authentic modes was interrupted by b-natural, and that of the plagal modes by F). The new order also allows the sixteen notes GG, A, B-natural, C, D, E, F, G, a, b-natural, c, d, e, f, g, aa to contain all twelve modes. In Definition 14 Zarlino repeats that in his new arrangement the modes are placed "one after the other in a natural and uninterrupted order."

Zarlino adds a fifth reason for the new order, saying that through this change he follows the intention of the ancients in that his first mode starts on C, his third on D, and his fifth on E, thus paralleling the three principal modes of the ancients, namely the Dorian, Phrygian, and Lydian, which are also distant from each other by a whole tone.\*

When mentioning the new order of interval species and modes in the 1573 edition, Zarlino inserts small comments clarifying his attitude. The old order had been arrived at "with little reason,"\*\* whereas he revised it "with reason"\*\*\* and "rightfully."\*\*\*\* Even when he does not emphasize the difference in order, Zarlino adds in the 1573 edition adjectives that express his preference for it, such as "good order"\*\*\*\*\* and "natural order."\*\*\*\*\*

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\*See 251 in the Commentary.

\*\*"Con poco ragione," chapter 20 in the 1573 edition.

\*\*\*"Ragionevolmente," chapter 6.

\*\*\*\*"Meritamente," chapter 20.

\*\*\*\*\*"Buono ordine," chapter 11.

\*\*\*\*\*"Ordine naturale," chapter 13.

ZARLINO'S INNOVATIONS:  
SIGNIFICANCE AND BACKGROUND

Of all the reasons presented by Zarlino for introducing a new system of numbering interval species and modes, the first one is the most significant. The others serve "practical" purposes (facilitation of memorizing the various species, ability to arrange the modes in an uninterrupted manner, and so on). The first reason, however, takes as the point of departure the natural sequence of notes produced by harmonic division. By giving such prominence to the resulting mode, C - G - c, Zarlino recognizes the importance of what today is called the major scale.\* This particular correlation of a mathematical law with a musical structure is one of Zarlino's contributions to music theory. In Definition 8 of Dimostrationsi, Fifth Discussion, Zarlino comments on the "natural" succession of intervals in the major scale arranged according to harmonic division. In chapter 31 of Istitutioni,

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\*This concept was not entirely new; Miller (p. 165) says that Glarean was "fully cognizant of the worth of the Ionian," as evidenced by his remark that it was the omnium Modorum usitatissimus (Dodecachordon, p. 115). But Zarlino was the first to emphasize its superiority as arising from physical phenomena.

Part III, he talks about the superiority of the harmony resulting from harmonic division of the octave, calling it perfect because ordered according to the natural sequence of the sonorous numbers.\* In chapter 9 of Part IV of Istitutioni, Zarlino says that harmonic division is "very sonorous and sweet," because all notes are in their proper place.

In 1571 Zarlino was ready to draw the conclusion, namely, to make the major scale a focal point and to defend his new stand. As he himself says,\*\* the ideas that had led to his decision to break with the old tradition had been on his mind for a long time before 1571.

By applying the polarity of harmonic and arithmetic divisions not only to the octave but also to the fifth, Zarlino made the first step toward establishing the polarity of major and minor. He was the first to discuss the "gay" effect of the major third and the "sad" effect of the minor third.\*\*\* By extension of this thought, modes with a major third above their finalis are gay, and those with a minor third are sad.\*\*\*\* This dichotomy can be viewed as a first step in the process

\*Shown in chapter 15 of Istitutioni, Part I.

\*\*Definition 8 of Dimostrationsi, Fifth Discussion.

\*\*\*Istitutioni, III, 10 and 31; IV, 32.

\*\*\*\*Istitutioni, IV, 18 (according to the 1558 edition).

of the development from the modal concept of the Renaissance to the Baroque concept of expression. More than one hundred years elapsed before the terms major and minor scales were commonly used. Robert Wienpahl says about it: "This is the first recognition of the fact that there were actually only two types of modes, those which had a tonic major third and were cheerful, and those which had a minor third and were sad."\* Shirlaw goes as far as to say that Zarlino "has laid down the principle that besides the major and minor harmonies no other fundamental harmonies exist,"\*\* and detects in Zarlino's writings the roots of the theory of Rameau.\*\*\* Hugo Riemann credits Zarlino with "the actual establishment of a harmonic concept."\*\*\*\* It should, however, be emphasized that Zarlino's treatment of major and minor is not chordal but intervallic. He does not see the triad as an entity but rather as a combination of a major third and a minor third. If the former is positioned below, the effect is cheerful; if it is positioned above, the effect is sad.

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\*p. 30.

\*\*p. 36.

\*\*\*p. 30

\*\*\*\*p. 288.

The importance of Zarlino as music theorist is undisputed. Gustave Reese says that Zarlino made "extremely influential contributions to the historical development of music theory."<sup>\*</sup> Wienpahl says that "the most important advances in 16th-century harmonic theory were made primarily by one man, Gioseffo Zarlino (1517-90), and it is safe to say that probably no theorist since Boethius was as influential upon the course of the development of music theory."<sup>\*\*</sup> Alfred Einstein calls Zarlino "the greatest theorist of his century and perhaps of all centuries."<sup>\*\*\*</sup>

Yet Zarlino did not develop his modal theory in a vacuum but rather in an environment that was ripe for changes in this area. The changes that Zarlino suggests spring mainly from the musical practice of his time. The middle of the sixteenth century witnessed the beginning of the decline and dissolution of the modal system. Wienpahl says that in the period 1540 to 1580 only 34% of the music analyzed by him subscribed to a relatively pure modal standard, the remainder being tonal or having a mixture of modal and tonal elements.<sup>\*\*\*\*</sup>

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<sup>\*</sup>p. 48.

<sup>\*\*</sup>p. 27.

<sup>\*\*\*</sup>Vol. I, p. 453.

<sup>\*\*\*\*</sup>p. 40.

The developments and changes in modal theory can be demonstrated by the following five works: Gafori's Practica musicae (1496), Heyden's De arte canendi (1540), Glarean's Dodecachordon (1547), Vicentino's L'antica musica ridotta alla moderna prattica (1555), and Zarlino's Le Istitutioni harmoniche (1558/1573).

Gafori represents the conservative view of modal theory. The modes are eight in number, as shown in Table 4. This is not challenged by two later works by Pietro Aron, Thoscanello de la musica (1523) and Trattato della natura et cognitione di tutti gli tuoni di canto figurato (1525).

Table 4

Mode name	Mode number	Range	Finalis
Dorian	1	<u>D</u> - <u>d</u>	<u>D</u>
Hypodorian	2	<u>A</u> - <u>a</u>	<u>D</u>
Phrygian	3	<u>E</u> - <u>e</u>	<u>E</u>
Hypophrygian	4	<u>B</u> - <u>b</u>	<u>E</u>
Lydian	5	<u>F</u> - <u>f</u>	<u>F</u>
Hypolydian	6	<u>C</u> - <u>c</u>	<u>F</u>
Mixolydian	7	<u>G</u> - <u>g</u>	<u>G</u>
Hypomixolydian	8	<u>D</u> - <u>d</u>	<u>G</u>

Sebald Heyden retains the number of modes, but his work, as Reese says, "reflects the disintegration of the old church-mode system, induced by the demands of polyphony. In several respects, modes VII and VIII are presented as having the character of major."<sup>\*</sup> Reese points out that the tenor of the Osanna from Josquin's L'homme arme, given by Heyden as an example of the polyphonic treatment of the seventh mode, supplied with a signature of one flat, has F rather than C as the final.

Glarean goes one step further. He increases the number of the ecclesiastical modes from eight to twelve, thus causing the modal system to include the major and minor scales.<sup>\*\*</sup> This is adopted by Zarlino, who does not acknowledge Glarean's accomplishment of eleven years earlier. Whether Zarlino never heard of Dodecachordon or was not willing to give Glarean the credit remains unanswered.

Nicola Vicentino, like Zarlino, a pupil of Willaert, tried to revive the chromatic and enharmonic genera of the Greeks. For this purpose he constructed his "archicembalo," a multi-keyboard instrument with

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<sup>\*</sup>p. 42.

<sup>\*\*</sup>In actual practice these "added" modes had played an important role for a long time, especially in secular, but also in sacred, music.

additional keys. This attempt to be freed of the old modal system was passing and did not last.

Zarlino's attempt to close the gap between old concepts and contemporary practice was more successful and pointed in the direction that music history ultimately took, namely, the emergence of the major and minor scales as the principal modal organizations.

There remain many questions concerning the relationship of Zarlino's modal theory to previous and subsequent music theory. Zarlino does not mention Vicentino by name, but he expresses criticism of his thinking. At the end of chapter 3 of Istitutioni, Part IV, Zarlino says that we should be surprised at those who believe that they can put into use the enharmonic and chromatic genera when even the relatively simple diatonic genus is not yet fully understood. Zarlino, who must have had Vicentino in mind, compares "those people" to the alchemists who are misled in their desire to find what cannot be found.

The possible influence of Glarean's Dodecachordon on Istitutioni is shrouded in uncertainty. Zarlino does not acknowledge Glarean's inclusion of the four additional modes in the modal system. Whether or not Zarlino knew the Dodecachordon is as yet an unanswered question.

Zarlino is mentioned by many subsequent writers. However, his new order of the modes was not generally accepted, although it is to be found in Seth Calvisius' Exercitationes Musicae Duae (1600), Marin Mersenne's Harmonie Universelle (1636), and Johann Joseph Fux's Gradus ad Parnassum (1725). The extent of Zarlino's influence on the development of music theory requires and deserves a study of its own.

## TRANSLATION

PREFACE TO THE TRANSLATION

This translation tries to be as faithful to the original as possible and to retain Zarlino's personal style, which, although burdened by long sentences and many conjunctions, carries the weight of his thought. In the interest of readability and clarity, excessively long sentences have been split, and the continuous original text divided into paragraphs.

Terms used by Zarlino present a double problem. Often a word does not signify what it means to the modern reader. Moreover, Zarlino sometimes uses the same term to signify different things in different contexts (a good example for both instances is the term harmonia). Rather than finding different words to describe the same term in different contexts, I have chosen to use the English cognates of some of the terms. In translating some other terms, I have consulted Marco and Palisca's translation of Part III of Istitutioni and Strunk's translation of several chapters from Parts III and IV. Solutions borrowed from them are acknowledged in the Commentary. I have retained the terms diapente (fifth) and diatessaron (fourth) in order to avoid confusion with the species numbers often mentioned in connection with the consonances, as in the sentence: "The first species of the fourth can be matched with the fourth species of the

fifth" (Istitutioni, IV, 10). All other intervals are called by their English names. For religious terms I have used the official English terminology rather than literal translation.

The polyphonic musical examples have been transcribed into modern notation. The voices, given separately in the original, have been arranged in score, with barlines added between the staves. Chant examples appear as photo reproductions from Istitutioni.

My Commentary expands on the original text in an attempt to make it clearer and more comprehensible to the modern reader. The comments are marked by consecutive numbers and appear at the end of the translation.

Information concerning names and figures mentioned in the text can be found in Appendices A and B. Appendix A concerns persons whose writings are cited or quoted by Zarlino, and also churchmen. Appendix B concerns names of both real and mythological figures whom Zarlino mentions in Part IV, mainly in order to illustrate the use of the modes. Appendices C and D catalogue the polyphonic works mentioned in the text; and Appendix E, the chants mentioned or appearing in Part IV.

This translation is based on the first edition (1558) of Istitutioni. The textual differences between this edition and the edition of 1573 are significant in that they point to a changing attitude toward the modes,

as explained in my Introduction. Therefore the translation considers both versions, with all discrepancies between the two indicated. My reason for basing the translation on the 1558 edition is twofold. First, this edition is historically more significant. Second, the mode numbers and interval-species designations used in the 1558 edition conform to the accepted practice, both before and after Zarlino's lifetime.

Every departure from the first edition found in that of 1573 is recorded in the translation.\* These are of three sorts:

1. Omissions. These are indicated by angular parentheses encompassing words, phrases, or whole sections that appear in the 1558 edition only.
2. Alterations. The original version of 1558 is encompassed by angular parentheses, at the end of which a letter refers to a footnote which gives the 1573 version in double angular parentheses.

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\*Except in some chapters of the group 18-29, from which, as a result of the change in mode numbers (see 417 in the Commentary), segments of the text were transferred by Zarlino to different chapters in the 1573 edition. In these cases, complete documentation of every transfer would have made the text too clumsy and hard to follow.

3. Additions. These are indicated in two ways.

Most are incorporated within the text and indicated by double angular parentheses. Some additions do not fit within the text because they include mode and interval-species numbers which do not conform with those used in the translation. Such additions are indicated by a letter after the last word the two editions have in common, and are given as footnotes, again in double angular parentheses. All lettered footnotes, alterations as well as additions, retain the mode and species numbers of 1573.

I have identified the different numbering of mode and species in the following manner. If all the numbers in a chapter (or sometimes in a group of chapters) have undergone a change, my Commentary states the fact and refers to the page in my Introduction where the corresponding number in the 1573 edition can be found. If only some of the numbers have been changed, there are angular parentheses in the text plus a letter indicating a footnote which gives the 1573 version in double angular parentheses.

An important addition in the 1573 edition are page-border annotations. They are identified in the translation by asterisks and given as footnotes. In the original, Zarlino does not indicate precisely the word or name to which the annotation refers. In some

cases Zarlino's intent remains unclear, as when he makes a reference to a book title used by more than one author mentioned in his text. All such instances are mentioned in the Commentary. These original page-border annotations appear in my translation as asterisked footnotes and are followed by the full title and details. If the reference is to a quotation in the text, the English translation is included in the footnote. Only references added by Zarlino are given as footnotes; quotations without references are translated in the Commentary.

Signs used in the translation:

- < > Anything inside the angular parentheses appears in the 1558 edition only and was omitted in 1573.
  - < <sup>a</sup> > Anything inside the angular parentheses appears in the 1558 edition only and was changed in 1573. The 1573 version is in double angular parentheses in a lettered footnote.
  - a A letter points to a footnote which shows in brackets the material added in the 1573 edition.
  - « » Anything in double angular parentheses does not appear in 1558 and was added in the 1573 edition.
  - l A number refers to the translator's Commentary.
  - \* An asterisk indicates a reference added by Zarlino in the 1573 edition.
- Numbers in the left-hand margin indicate the pages of the 1558 edition.

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That which is a mode⟨⟨and of its species⟩⟩

Seen in the preceding part and sufficiently demonstrated is the way that should be followed in composing music; and in what manner, and with what beautiful and regulated order the consonances are linked with one another and with the dissonances.<sup>1</sup> I shall presently discuss the modes. And although this task is very difficult (especially as I want to discuss some things according to the usage of the ancients) because ⟨at present⟩ (as I have said at other times\*) modern music is practised differently from ancient music, and also because there is not any example or vestige of ancient music which can lead us to a true and perfect knowledge of it; nevertheless I do not want to refrain from discussing ⟨⟨first⟩⟩ some things in the best way I can. I shall discuss them both in general and in particular and touch upon some of the more notable matters as they come to my mind and as they become pertinent to the subject. By this, scholars will be able to arrive at a resolution of any doubt which may occur to them in this matter. This done, I shall show in what manner the modern

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\*2. Parte      [Istitutioni, Part II, chapter 4.<sup>2</sup>]  
cap. 4.

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musicians use the modes, and I shall talk about how many sorts there are, their order, and in what manner the harmonies<sup>3</sup> generated by them are accommodated to speech, namely, to the words.<sup>4</sup>

Having to begin this discussion, we shall first see what a mode is, so that we may know what it is that we intend to discuss. Nor will it be done outside our proposition, because mode is the main subject of this our last discussion. It should be noted that this word "mode," in addition to all its other meanings, which are many, means properly "reason," namely, that measure or form which we use in doing anything and which prevents us from going too far, making us act in all things with a certain intermediacy<sup>5</sup> or moderation. And this is truly good, because (as Pindar\* says), Ἔπειτα δ' ἐν' ἐχάσῳ μέτρον, "In everything there is mode, or measure." The same also Horace said after him:

Est modus in rebus, sunt certi denique fines,  
Quos ultra, citraque nequit consistere rectum. \*\*

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\*Olimp. [Olympia, ode 13.]  
ode. 13  
Ser. lib.1.

\*\*Saty. I. [Satirae, Book I, To Maecenas, Satire I,  
"There are certain limits, beyond which  
on either side nothing right can exist."]

Thus this intermediacy or moderation is nothing other than a certain delimited and closed order of proceeding through which a thing is conserved in its essence by virtue of the proportion<sup>6</sup> found in it. This not only delights but also carries much profit with it.<sup>7</sup> From this it comes that if either by chance or by intention order is separated from proportion, one cannot tell how much this offends and how much the emotions abhor this kind of order.<sup>8</sup>

Ancient musicians and poets, both being the same (as I have said elsewhere\*), having considered this thing, called their compositions "modes." In these they expressed different numbers<sup>10</sup> or meters and different harmonies, matched by proportion<sup>11</sup> to various subject matters by means of speech. Hence it happened that they proposed three classes<sup>12</sup> of modes, not considering the sound, or harmony, which came into being but only the other parts<sup>13</sup> joined together. One of these classes they called Dithirambico;<sup>14</sup> the other, Tragico; and the third, Nomico.<sup>15</sup> The species of these classes were many, such as Epithalamii,<sup>16</sup> Comici, Encomiastici,<sup>17</sup> and similar others. Considering then the harmonies themselves which emerged from these

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\*In Proemio & c. 6. Secun. par.

[Istitutioni, Proem and Part II, chapter 6.<sup>9</sup>]

joinings,<sup>18</sup> [the ancient musicians and poets] called them likewise "modes" because they retained in themselves a certain intrinsic and limited form. They called them "Dorian," or "Phrygian,"<sup>19</sup> or another name, according to the name of the people<sup>20</sup> who were inventors of that harmony, or after those who used to enjoy that species of  
 294 harmony more than another. Thus the Dorian harmony was named after the Dorians, who were its inventors, the Phrygian harmony after the people who used to live in Phrygia, and so the others in order. It is true that each mode having something intrinsic in its tune, and being accompanied by different numbers, they called some of them grave and severe, some bacchanal and wild, some honest and religious, and some others lascivious and bellicose. Hence for this reason they took great caution in accompanying these harmonies by numbers, and both together with regard to the appropriate subject matter, which they expressed in the speech,<sup>21</sup> or spoken word, according to the nature [of the subject matter].

Having then considered all these things, they named their compositions<sup>22</sup> according to the nature of the composite, as, for example, "tearful" modes, which are elegies, inasmuch as they contain sad and plaintive subject matters. This can be seen expressly in the two volumes (besides almost innumerable others

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by other authors) that Ovid\* wrote after he was sent into exile by Augustus. Also in what he writes in the Epistle of Sappho to Phaon, wanting to show that amatory things are tearful and suited to elegies, saying:

Forsitan & quare mea sint alterna requiris  
Carmina, cum lyricis sim magis apta modis.  
Fleendus amor meus est. Elegia flebile carmen.  
Non facit ad lacrymas barbitos ulla meos.<sup>23</sup>

Horace mentions these modes, saying:

Tu semper urges flebilibus modis  
Mysten ademptum.\*\*

And also Boethius, in Book 3 of The Consolation of Philosophy, says:

Quondam funera coniugis  
Vates thraicius<sup>25</sup> gemens,  
Postquam flebilibus modis,  
Sylvas currere, mobiles  
Amnes stare coegerat.\*\*\*

\*De Tristibus; & De Ponto [ Tristia and Epitola ex Ponto. ]

\*\*I Carmi. ode. 9. [ Carmina, Book II,<sup>24</sup> ode 9, "You always plead in tearful modes the dead Mystes." ]

\*\*\*Metro 12. [ De Consolatione Philosophae, Book III, metrum 12, "At the funeral of his wife, the Thracian poet<sup>26</sup> sighed after, in weeping modes, he had compelled the woods to run and the mobile rivers to stand." ]

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Cicero also commemorated them in the Tusculan Disputations when (mentioning at the same time the humble and depressed) he said: "Haec cum praessis et flebilibus modis, qui totis theatris moestitiam<sup>27</sup> inferant, cancinuntur."<sup>\*</sup> And in another place, mentioning slow<sup>28</sup> [people]: "Solet idem Roscius dicere, se quo plus aetatis sibi<sup>29</sup> accederet, eo tardiores tibicinis modos, et cantus remissiores esse facturum."<sup>\*\*</sup> Others named them "lamenting" modes, as can be seen in Apuleius when he says: "Et sonus Tibiae Zigiae mutatur in quaerulum Lydij modum."<sup>30</sup> Some called them "sweet" modes, as the same Horace shows in another place when he says:

Me nunc Tressa<sup>31</sup> Chloë regit,  
Dulces docta modos, &  
Citharae sciens.<sup>\*\*\*</sup>

And Seneca also:

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- \*Tus. lib.1. [Tusculan Disputations, Book I, "They sang these words with dampened and tearful modes which carried sadness into the whole theatre."]
- \*\*De Orat. lib. I. [De Oratore, Book I, "The same Roscius likes to say that the older he grows, the slower he will make the modes of the tibia and the less passionate the music."]
- \*\*\*Car. lib.3. ode.9. [Carmina, Book III, ode 9, "The Thracian Chloë, learned in sweet modes and knowledgeable on the kithara, now rules me."]

Sacrifica dulces tibia effundat modos.\*

Some others also called them "sad" modes, as can be seen by the authority of Boethius:

Carmina qui quondam studio florente peregi  
Flebilis heu moestos<sup>32</sup> cogor inire modos.\*\*

And some modes they called "immodest," which Quintilian commemorated, saying: "Apertius tamen profitendum puto, non hanc a me praecipi, quae nunc in scenis effoeminata,<sup>33</sup> et impudicis modis fracta."\*\*\* Others they called "rough" or "coarse" modes, which Ovid shows:

Dumque, rudem praebente modum tibiae Tusco,  
Lydius<sup>34</sup> aequatam ter pede pulsat humum;\*\*\*\*

\*In Agamé. [Agamemnon, "Let the sacrificial tibia give forth sweet modes."]

\*\*I. de Cō. [De Consolatione Philosophiae, Book I, metrum I, "Once I completed songs with eagerness, now that I am weeping I am forced to initiate sad modes."]

\*\*\*Institu. o-  
rat. lib.I.  
cap. 10. [Institutiones Oratoriae, Book I, chapter 10, "I think that it must be more openly stated that it was not [the music] that I recommended. [The music] now on the stage has been made effeminate by immodest modes."]

\*\*\*\*I De Arte  
amandi [Ars Amatoria, Book I, "While to the rude mode offered by the tibia-playing Tuscan Lidius struck the levelled floor three times with his foot."]

And others they called "discordant" modes, and Statius mentions these:

Discordesque modos, & singultantia verba  
Molior.\*

Lastly (leaving aside many others for the sake of brevity) one universally called some compositions "lyrical" modes, as can be seen by the authority of Ovid, mentioned above.<sup>35</sup>

Such matters were not expressed only by voice, but were accompanied by harmony generated by some instrument, be it cetera,<sup>36</sup> lyra,<sup>37</sup> piffero,<sup>38</sup> or any other sort of instrument. There was nevertheless a great difference between these modes, because the people of one province used one manner of verse and one instrument, and those of another province used another instrument and another manner of verse. And the modes were different not only in instrument and manner of verse but also in harmony, because one people used one sort of harmony and another used another sort, just as the modes were also different in the numbers found in the verse.

From this it followed that the modes were named after those people (as I have said above<sup>39</sup>) who enjoyed themselves more with

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\*Sylva. lib.  
5. Epicedij  
in filium

[Silvae, Book V, section 5 (A lament for his adopted son), "Bring forth discordant modes and sobbing words."]

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that particular manner or had been its inventors. Hence one can understand that if people, like those of Phrygia, heard some foreign manner, they said it to be the mode of the province where it was most used or where it had been discovered. They called, for example, the mode Aeolian after the people of Aeolia, its inventors. That mode was contained in a certain hymn composed in lyrical mode with certain numbers; and these people enjoyed themselves very much with the lyra or the cetera, to the sound of which they used to sing the above-mentioned hymn. According to the opinion of some (which I believe to be false), at those times [lyra and cetera] were the same thing. This instrument<sup>40</sup> was likewise used by the Dorians, although they may have used another manner of verse and a very different harmony. To this fact Pindar attests when he names a similar instrument Δορίαν φόρμιγγα, \* namely, Dorian cetera.<sup>42</sup>

And Horace says:

Sonantem mistum<sup>43</sup> tibijs carmen lyra,  
Hac Dorium, illis Barbarum.\*\*

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\*Olymp. ode. r. [Olympia, ode 1. <sup>41</sup>]

\*\*In Epodo ode. 7. [Epodes, ode 9, <sup>44</sup> "Sounding mixed with tibijs the song of the lyre, this one Doric, the other barbaric."]

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Hence we can see from that word "Barbarum," which  $\langle$ he intended<sup>a</sup> $\rangle$  for the Phrygian mode, that also the Phrygians used pifferi. And they really used to play this mode with similar instruments, as I can show with many examples which I leave aside for the sake of brevity, except one from Virgil, who says in this manner:

O vere phrygiae (neque enim phryges) ite per alta  
Dindyma, Ubi assuetis<sup>45</sup> biforem dat tibia cantum;\*

And one from Ovid:

Tibia dat phrygios, ut dedit ante modos;\*\*

From these one can understand what I have said to be true.

With this instrument likewise those people who lived in Lydia made their harmonies, and of this Horace is a witness, saying:

Virtute functos more patrum duces,  
Lydis remisto<sup>47</sup> carmine tibiis,  
Troianque, & Anchisen, & alma<sup>48</sup>  
Progeniem Veneris canemus;\*\*\*

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a  $\langle$ is intended $\rangle$

\*Aeneid. 9. [Aeneid, Book IX, lines 617-18, "O you Phrygian women, indeed (for you are not Phrygian men), go over the heights of Dindymus,<sup>46</sup> where to accustomed ears the double-reed tibia gives music."]

\*\*Fast. lib. 4. [Fasti, Book IV, "The tibia, as it has before, presents Phrygian modes."]

\*\*\*Car. lib. 4. ode. 15. [Carmina, Book IV, ode 15, "Let us sing in the manner of the fathers the virtuous deeds of leaders of the Trojans, and Anchises, and the progeny of alma Venus."]

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cont.

And before him Pindar, beseeching Jove for the sake of Psaumidus of Camarina, <sup>49</sup> winner of the Olympic games, says: "I come to you beseeching, O Jove, *Λυδίοις ἀυλῶτες*,"\* that is, with Lydian pifferi.<sup>50</sup> Examples showing that the Lydians used the piffero are not lacking. We have the testimony of Apuleius, with the authority brought above,<sup>51</sup> and of many others, but those shown here suffice.<sup>52</sup>

From this, then, we can understand that the ancient modes consisted of harmonies and numbers expressed by one sort of instrument, and that the difference between the modes lay in the variation of the harmonies, in the diversity of the numbers, and in the manner of performance, namely, the instrument. And although some people<sup>53</sup> conformed with some others in regard to harmonies or instruments, they were then different in regard to numbers. And if in regard to numbers they were in agreement, they differed then in regard to harmonies and instruments. So that if in one or two things they were in conformity, they varied then in the rest.

The same we see also nowadays in different nations, inasmuch as the Italians use the same number, namely, verse feet or syllables, as the French and Spanish, that is, of eleven syllables. Nevertheless,

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\*Olimpi.      [Olympia, ode 6.]  
ode. 6.

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when one hears them sing, one perceives a different harmony and another manner of proceeding, inasmuch as the Italians sing differently from the French, and the Spanish sing in a manner different from that of the Germans, not to mention the barbarian nations of infidels, as is obvious. The Italians and the French largely use the lute and the Spanish use the ceterone,<sup>54</sup> even though it varies but a little from the lute, and other people use the piffero.

In regard to numbers, or verses, there are great differences among nations, their manners differing greatly from each other. We may know this from the fact (starting from the beginning) that although in some places outside Italy rhymed or blank verse of eleven syllables, made similar to the Latin hendecasyllable, is not used, nevertheless in Italy, in France, and in Spain it is used very much. And what is called rima in Italy I believe comes from the Greek word  $\rho\upsilon\theta\mu\acute{o}\varsigma$  which means (as I have said elsewhere\*) number, or consonance, because from those correspondences and ties that are found at the end of the verses and which are called cadences<sup>56</sup> comes into being the consonance, or harmony,<sup>57</sup> which is found in them. The Italians do not use these cadences very much in that manner of verse

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\*2. Partis [Istitutioni, Part II, chapter 8.<sup>55</sup>]  
cap. 8.

found in the ottave rime,<sup>58</sup> or stanzas, in the sonnets, in the capitoli,<sup>59</sup> and in other similar verses called complete. They use it more in canzonas and madrigals, in which many sorts of verses are placed, such as those of seven syllables and similar others called broken verses, as is obvious.

Thus in Italy, mother of good and rare intellects, various manners of composing are used, as can be understood from the above-mentioned ottave rime, or stanzas, whichever you want to call it, from the terzetti,<sup>60</sup> sestine,<sup>61</sup> sonnets, and capitoli, in which only one manner of verse is employed, namely, the complete verses. [The Italians then use rhymes, or cadences,] in canzonas, madrigals, and other similar verses, in which various sorts of numbers are placed in imitation of the odes of Horace, although the Horatian numbers are without the memorable cadences, whereas the Italians are bound to these cadences in the manner described, as can be seen in the learned and graceful canzonas of Petrarch and many other most excellent men. I believe it is true that the learned Italian spirits have been the inventors of these, inasmuch as I do not remember ever having found among the works of any other poet, either Greek or Latin, a similar way of composing with such cadences, for all that the most learned Horace has sung very many odes in many manners.

It is true that ⟨the⟩⟨other⟩ Latin poets (although not very often) have used similar cadences, or correspondences, in the middle and last syllables of their verses, which are called canini,<sup>62</sup> as the Poet<sup>63</sup> has done in each of these:<sup>64</sup>

Ad terram misere aut ignibus segra dedere.\*  
 Cornua vellatarum obvertimus antennarum.\*\*  
 Illum indignanti similem: similemque minanti.\*\*\*  
 Tum caput orantis nequicquam, & multa precantis.\*\*\*\*  
 Ora citatorum dextra contorsit equorum.\*\*\*\*\*

And Ovid also has observed this law in the following:

Vim licet appelles, & culpam nomine veles.\*\*\*\*\*

He has observed it also in many other works which are not put here in

- \*Aeneid. 2. [Aeneid, Book II, line 566, "And flung themselves to the ground or dropped helpless into the fire."]
- \*\*Ibidem 3. [Ibid., Book III, line 549, "We turn windward the horns of our stretched-out sails."]
- \*\*\*Ibidem 8. [Ibid., Book VIII, line 649, "He looked indignant like one threatening."]
- \*\*\*\*Ibide 10. [Ibid., Book X, line 554, "Then as he pleaded in vain and begged much."]
- \*\*\*\*\*Ibide 12. [Ibid., Book XII, line 373, "With his right hand he wrenched aside the jaws of the exerted horses."]
- \*\*\*\*\*In Epistola Helenae ad Paride. 8. [Hieroides, V,<sup>65</sup> Oenone to Paris, "You may call it force, and veil the fault in the word."]

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order not to increase the volume. Hence Petrarch (as I believe), imitating this manner of composing, places them in another way, rhyming the end of the preceding verse with the middle of the following verse in the following way: <sup>66</sup>

Mai non vò più cantar com'io soleva:  
Ch'altri non m'intendeva: onde hebbi scorno.  
E puossi in bel soggiorno esser molesto.\*

And so the remainder of the canzona. He observed the same thing also in the canzona (which starts) Vergine bella.\*\* «Sanazaro did the same in Arcadia in that part in the beginning where Ergasto, talking with the shepherd Selvaggio, says:

Menando un giorno gli agni appresso un fiume.  
Vidi un bel lume in mezzo di quell'onde.  
Che con due bionde trecce allor mi strinse,  
Et mi dipinse un volto in mezzo'l cuore.<sup>67</sup>

And so the rest that follows. »

But whether such manner of composing with similar cadences is found among the Greek or Latin poets, this should be of little importance.<sup>68</sup> Because just as much as one could glorify the first

\*Canz. 22. [Canzonieri, sonnet 22, "Never more shall I sing as I used to, for she heard me not, hence I felt scorn; thus even in a beautiful spot can one feel ill at ease."]

\*\*Canz. 49. [Canzonieri, sonnet 49.]

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inventor of this manner of composing in Italian, even though he has taken the invention of some Greek or Latin poet, so Horace prided himself on having been the first who discovered the way of composing lyrical verses in Latin in the manner of the Greeks, as can be understood from his words when he says:

Dicar, qua violens obstrepit Aufidus,  
Et qua pauper aquae Daunus agrestium  
Regnator<sup>69</sup> populorum, ex humili potens  
Princeps Aeolium carmen ad Italos  
Deduxisse modos.\*

Tolomei also can pride himself on having been the first who expressed heroic verse, hexameter, and pentameter in Italian art.<sup>73</sup>

Some claim that the most learned Florentine poet Dante Alighieri was the first inventor of terzetti, and Boccaccio of ottava rima. Therefore if one would want to give a particular name to these manners of composing, desiring to name them after the country in which they were discovered, both would be called (as Horace asks with the authority stated above<sup>74</sup>) Italian modes;<sup>75</sup> or, wanting to name them after the region, they would be called Tuscan modes.<sup>76</sup>

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\*Carmi. lib. 3. Ode. 31 [Carmina, Book III, ode 30,<sup>70</sup> "Where the violent Aufidus<sup>71</sup> drowns me out and also where Daunus<sup>72</sup> short of water rules over arid people, I shall be called as the first who, from humble beginnings, knew how to lead an Aeolian song in Latin." ]

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cont.

But if one would want to name them after their own inventors, the first manner would be called (so to speak) Dantean mode; and the second manner, Boccaccian mode -- just as the laws concerning stringed and wind instruments (as we have seen in Part II\*) were named partly after the nation and partly after the inventors.

And whereas in Italy there is not only one manner of verses but there are rather several particular manners, as I have shown, still the Greeks in our time, in addition to their other manners, have verses of fifteen syllables,<sup>78</sup> like those by Constantine Mannassess, the great philosopher:

Ὁ τῶν θεῶν παντέλειος, καὶ παντοκτίστηρ λόγος,  
τὸν οὐρανὸν τὸν ἀναστρὸν παράγαγεν ἀρχαῖτες;

Meaning; "The word of God *«is»* perfect in all and he who made all things in the World, in the beginning made the Heavens without stars." Of such verses, all his hexameters are full, and they [the Greeks] sing them according to their custom in a particular mode not used in Italy. Therefore (not mentioning other nations) from these two we can see the differences in numbers and harmonies that could occur in the modes of these nations at the time that music was in flower in Greece. Because just as we see these two nations in our time

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\*Capit. 5. [Istitutioni, Part II, chapter 5.<sup>77</sup>]

having each a particular manner of verse and a particular manner of singing, so we should believe that the same was true in ancient times among these nations.

297 And even though in our time some people of different nations have the same number of verse feet and the same manner of composing their songs, nevertheless they then differ in the manner of singing. And these differences are found not only among different nations but also in the same nation and in the same region, as can be seen in Italy. Thus the canzoni called villote<sup>80</sup> are sung in one manner in places near Venice and in another manner in Tuscany and in the Kingdom of Naples. The same was once true among the ancients; because although the people of Doria and those of Aeolia used the same quality, or sort, of verse and the same instrument, their harmonies were then different in some aspects. From this one can understand the diversity of the names of the modes, namely, that just as in any mode the number, instrument, and harmony were different from those in another mode, so also the diversity of names came into being. Hence I believe that the Dorian mode was different from the Aeolian, just as the Phrygian was different from the Lydian, and this not only in regard to harmonies but also to numbers, as can be understood from the various effects generated by each mode, as we shall see in due course.<sup>81</sup>

297  
cont.

Thus we should not be surprised when we read\* about Philoxenus that, having tried to make a dithyrambic<sup>83</sup> poem in the Dorian mode, he could not ever bring it to the desired end, because by the nature of the mode he was pulled again to Phrygian harmony suitable for this poem, whose feet and number are faster than in any other poem, and in contrast, the numbers of the Dorian mode are slower and more halting. Therefore, there being different numbers in the Dorian and Phrygian harmonies (as has been said), it was impossible for Philoxenus to do anything that was good, just as it would be impossible, while dealing with the numbers of Sapphic verse, to sing or lead in heroic verse. And this because Sapphic verse is composed of a trochee, a spondee, a dactyl, and two trochees or a trochee and a spondee at the end, as are these two verses by Horace:

Mercuri, facunde nepos Atlantis

and

Persicos odi puer apparatus;>\*\*

whereas heroic verse is composed of six feet alternating dactyls and

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\* 8. Polit. c. [Aristotle, Politics, Book VIII, chapter 7. <sup>82</sup>]  
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\*\*1. Carm. [ Carmina, Book I, ode 10, "Mercury, thou  
Ode. 10. 8 eloquent grandson of Atlas," and ode 38,  
38 "As a boy I hated the Persian apparatus." ]

297  
cont.

spondees, as can be seen in each of the two following verses of  
Virgil:

Sed fugit interea, fugit irreparabile tempus<sup>84</sup>

and

Parcere subiectis, & debellare superbos.\*

All this discussion, perhaps longer than necessary, I have wanted to make for no other reason than that one can understand more easily that which was a mode in music. Hence we can truly say that in ancient times the mode was a certain delimited form of melody,<sup>85</sup> made with reason and artifice, and contained within a delimited and proportioned order of numbers and harmony, adapted to the subject matter contained in the speech. And although modern musicians consider in their compositions only a certain order of singing and a certain species of harmony, leaving aside the consideration of the delimited number or meter, because they say that this belongs to the poets, especially now in our time when music is separated from poetry, nevertheless they consider this order<sup>86</sup> inasmuch as it is contained in one of the seven species of the octave already shown,<sup>87</sup> divided harmonically or arithmetically,<sup>88</sup> as we shall see further on.<sup>89</sup>

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\*Aeneid. 6. [Aeneid, Book VI, line 853, "To have mercy on the humble, and to tame in war the proud."]

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cont.

Among these seven species there is a certain manner of singing which differs from one to the other, and this order of singing with a different manner or air they call mode,<sup>90</sup> and some call it trope, and some tone.<sup>91</sup>

We should not be surprised at those who want to call it trope, because *τρόπος* is a Greek word which means "mode" or "reason." And if this term comes from the word *τροπή*, which means "conversion" or "mutation," it would be just as good, because one mode is converted and changed into another, as we shall see.<sup>92</sup>

They also call it tone; and this is not badly said, because by the word tone (as Euclid<sup>93</sup> shows in his Introduction) one can mean four things. First, one may mean that which the Greeks call *ἄθόγγος*, which signifies every sound of articulate voice that does not move either up or down. Second, one may mean one of those two intervals shown in chapter 18 of Part III.<sup>93a</sup> Third, one may mean a strong and sonorous voice, as when we say, "Francesco has a good, sonorous, and powerful tone," namely, a good, sonorous, and powerful voice. Last, one may mean that which we have named above, as when one says, "the Dorian tone, the Phrygian tone and the others," namely, the Dorian mode, the Phrygian mode and the following in order. And because this name tone is extended to several things, as we have seen, therefore in order to avoid ambiguity as much as

possible, I have wanted to call them modes and not tones.<sup>94</sup>

Wanting then to state that which is a mode, we shall say with Boethius that mode is a certain constitution in all the orders of notes,<sup>95</sup> different by pitch; and that this constitution is like a body full of modulation<sup>96</sup> which gains existence from the conjunction of the consonances, such as the octave, twelfth, or double octave. Thus from Proslambanomenos to Mese, one constitution comes into being, in which the dividing notes or pitches<sup>97</sup> are coordinated. Similarly we find another constitution from Mese to Netehyperboleon, always taking into account their dividing sounds.

298 But because these constitutions are really the various octave species found from one letter to the other,<sup>98</sup> as we have seen in chapter 12 of Part III,<sup>99</sup> numbering their dividing notes,<sup>100</sup> therefore we shall say «just as we also say in the Eleventh Definition of the Fifth [Discussion<sup>101</sup>] of Dimostrazioni<sup>102</sup> and also have said above,» that mode is a certain form or quality of harmony found in each of the above-mentioned seven species of the octave. These seven species, when divided harmonically, according to the way now under consideration, give six principal and authentic modes,<sup>103</sup> from which, by arithmetic division, their collaterals come into being,<sup>104</sup> called (as we shall see<sup>105</sup>) plagal or plagal.

## Chapter 2

That the modes have been named differently  
by many, and for what reason

And although I have called these manners of singing modes, there have been some, however, who have called them also harmonies,<sup>106</sup> some who have called them tropes, some tones, and some systematic or entire constitutions. Those who called them harmonies were many; and among them were Plato,\* Pliny,\*\* and Julius Pollux.\*\*\* It is true that Pollux (according to my opinion) differentiates between harmony and mode, because «first» he takes harmony only for concentus<sup>108</sup> which is generated by sounds or by voices added to number. Then he takes mode for the compound of harmony, number, and speech, which Plato calls melody,<sup>109</sup> and shows how much mode differs from harmony. Hence in our time,

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\*De Rep. [The Republic, Book III.]  
lib. 3.

\*\*Nat. Hist. [Historia Naturalis, Book II, chapter 22.]  
lib. 2. cap.  
22

\*\*\*Onomast. [Onomasticon, Book III, chapter 94.<sup>107</sup>]  
lib. 3. cap.  
9.4.

the usage of music being very different from that of the ancients (as I have shown elsewhere<sup>110</sup>), because anything concerning number is ignored (except for those harmonies which are in dances, for they necessarily become joined with number), according to the opinion of that man [Pollux] we should call them harmonies rather than modes. But this is done because the name mode is more common among musicians than harmony. When, then, Pollux calls them harmonies, he does not disagree at all with Plato, meaning concentus which is generated by sounds or by voices, joined with number. But when he calls them modes, then he means melody, namely, the compound of the above-mentioned three things.

We should not be surprised that one and the same thing is named in so many manners, because it is not inconvenient that a single thing, when considered differently, is also named differently. Therefore when Plato and the others call them harmonies, it could be that he gave them this name because of the concordance of many sounds or voices dissimilar among themselves, and because of the conjunction of many consonances joined together, found in many parts and also in a single part;<sup>111</sup> inasmuch as *Ἀρμονία*, according to the opinion of Quintilian,\* is concordance generated by the conjunction of many

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\*Insti. Lib. [Institutiones Oratoriae, Book I,  
cap. chapter 10.]

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cont.

things dissimilar among themselves.

And if some others called them tropes, it was also well said, because they are changed one into the other, down or up. Hence, because of these qualities they are different from one another, as all the notes of one mode are lower or higher by the interval of a whole tone or semitone from the notes of the mode closest to it. In consideration, then, of the passage that they make with one another, ascending or descending with the notes of one order into the notes of another, they were named in this manner. It is as if those who called them tropes wanted to say: turned from low to high, or contrary.

But if we would consider the modes according to modern usage, namely, concerning the conversion of their diatessarons, which are placed (as we shall see) sometimes below and sometimes above the common diapente<sup>112</sup> they could also be called tropes. Hence it seems to me not out of place that some called the above-mentioned two species,<sup>113</sup> namely, the diapente and the diatessaron, sides or limbs of the octave, and that they call that same octave body, because the change in position creates such a great variance that it makes an admirable effect. From this comes that some called part of these modes lateral, which are the plagals, named after one of their sides which changes, namely, the diatessaron.

And those who named them tones did not do it without reason. One of those was Ptolemy, who says that perhaps they were so called because of the space of a tone by which the principal modes -- the Dorian, Phrygian, and Lydian (as he shows in chapters 7 and 10 of the second book of the Harmonics), are distant from each other. Others still claim that they are named tones because of a certain abundance of intervals, like the five wholetones in every octave, in addition to the two large semitones;<sup>114</sup> or because of the last sound, or final note, of each mode,<sup>115</sup> by means of which they draw a rule for knowing and judging by the ascent and descent of their modulations,<sup>116</sup> whatever composition it be, in which mode it is composed.<sup>117</sup> But this last opinion does not please me, inasmuch as it does not have in itself any reason which the intellect accepts.

They are also called modes after the Latin word "modus" derived  
 299 from the verb "modulari" which means to sing. Or perhaps they are called modes because of the moderated order perceived in them, for it is not permissible, without offense to hearing, to go beyond their boundaries and disregard the property and nature of each.

Those who named them systems, or entire constitutions, one of whom is Ptolemy,<sup>118</sup> started from the following reason: that system means a congregation of voices, or sounds, which contains in itself a certain ordered and complete modulation, or conjunction of conso-

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cont.

nances, like the diapente, diatessaron, and also others. In this manner, every mode is placed entirely in one of the seven species of the octave, which is the most perfect<sup>119</sup> of any other constitution whatsoever.

### Chapter 3

#### On name and number of the modes

Just as among all those who have made mention of the modes one sees a great variety concerning their name in general, as we have seen,<sup>120</sup> so also the same thing happens concerning some names in particular and their number. For if we should want to consider that which Plato\* writes on such matters, we shall find that he proposes only six modes, calling some of them Mixolydian harmonies, some High Lydian, others Ionian, and others Lydian without adding anything. Then he adds to these the Dorian and Phrygian, praising only these two and approving them above all the others as very useful to a well-

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\*De Rep. 3. [The Republic, Book III.]

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cont.

instituted republic.<sup>121</sup> In another place\* he mentions only the Dorian, Ionian, Phrygian, and Lydian, and among these it seems that he praises only the Dorian as more severe and better than any other mode.

Aristoxenus on his part (as Martianus Capella\*\* claims) proposes fifteen modes, namely, five principal modes which are the Lydian, Iastian, Aeolian, Phrygian, and Dorian, with ten collateral modes, adding to each of the principal modes the two Greek prefixes Ὑπέρ, which means above, and Ὑπό, which means below. Hence two other modes come into being, one of which he calls Hyperlydian and the other Hypolydian, and so he does with the other modes in order.

Cassiodorus in his Compendium of Music proposes the same number with similar names; and, writing to Boethius, he proposes five modes, namely, Dorian, Phrygian, Aeolian, Iastian, and Lydian, and says that each mode has a high and a low related mode and these two are so called with respect to the middle one.\*\*\* Thus he infers

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\*In Lache-     [Laches.]  
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\*\*Lib. 9.        [Nuptiae Philologiae et Mercurii, Book IX.]

\*\*\*Epist. lib. 2    [Epistolarum, Book II, To Boethius, 122]  
Ad Boe-  
trham

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cont.

that each of the above-mentioned modes has two collateral modes, as he shows later when he says that artful music is contained in fifteen modes, and in this he is in agreement with Martianus.<sup>123</sup> But Euclid,<sup>124</sup> who also follows «the opinion of» Aristoxenus, proposes only thirteen modes and Censorinus\* does the same. Hence one sees two followers of the same author to have very conflicting and varied opinions about the number of the modes.

Ptolemy,\*\* when discussing this thing, proposes seven modes, namely, Hypodorian, Hypophrygian, Hypolydian, Dorian, Phrygian, Lydian, and Mixolydian. To these he adds an eighth mode, calling it Hypermixolydian,<sup>125</sup> which is the mode called Hyperphrygian by Euclid. This he [Ptolemy] did, so that the Greater Perfect System, namely, the fifteen notes from Proslambanomenos to Nete Hyperbolaeon, would be comprised of the notes of these modes. And although he knew very well that besides these seven modes and the one he added, there were many other modes, as one can see when he mentions the

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\*In Isagoge [De Die Natali, Isagoge.]  
De Die na  
tali ad Q  
Cetelium

\*\*Harmo. II. [Harmonics, Book II, chapter 15.]  
2. cap. 15

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cont.

Iastian<sup>126</sup> and the Aeolian, calling them harmonies, nevertheless he did not want to go beyond this number. The reason may be that he had planned to match (according to his proposition) the above-mentioned eight modes each to one circle of the celestial sphere, as can be seen in chapter 9 of the third book of Music, and this in the manner in which the ancients had also assigned a name to each sphere, as Pliny shows in Natural History. \*

Julius Pollux agrees with Plato on the number of modes<sup>127</sup> but disagrees on the names, because he proposes the [<sup>or</sup>masculine] Dorian, Ionian, and Aeolian and calls them First harmonies. To these he adds the [feminine] Phrygian, Lydian, Ionian,<sup>128</sup> and another one which he calls Continova,<sup>129</sup> like one of those harmonies used in music of pifferi.

Aristides Quintilianus, in the first book of Music, proposes six modes, which he calls tones, (namely,<sup>a</sup>) the Lydian, Dorian, Phrygian, Iastian, Mixolydian, and Syntonolydian, which we may call High Lydian.<sup>130</sup> But the philosopher Gaudentius, having mentioned in his Introduction the Mixolydian, Lydian, Phrygian, Dorian, Hypo-

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\*Lib. 2. cap. [Historia Naturalis, Book II, chapter 22.]  
22

a «which are»

lydian, Hypophrygian, and that which he calls Common, naming it later Locrian and Hypodorian, adds to the examples which he proposes the example of the Aeolian and that of the Hypoaeolian.

Apuleius,\* in addition to these people, proposes five modes: Aeolian, Iastian, Lydian, Phrygian, and Dorian. And Lucian\*\* proposes four modes: Phrygian, Lydian, Dorian, and Ionian.<sup>131</sup> I shall not say what Boethius does, because in chapters 14 and 15<sup>132</sup> of the fourth book<sup>133</sup> he does not disagree in any way with the modes proposed by Ptolemy. And although Plutarch\*\*\* claims that there are only three modes, namely, Dorian, Phrygian, and Lydian, nevertheless he says so mentioning them as principal modes, for he adds later that any other mode depends on these and is derived from them. And he said this because he saw that there were no more than three sorts of diatessaron, as I have shown in chapter 14 of Part III,<sup>135</sup> and from  
300 these three kinds of diatessaron the variety of modes is born.

There are many (leaving out their names which are almost infinite) who have mentioned only the Dorian, Aeolian, and Ionian as

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\*Floridorū [Florida, Book I. ]  
lib. I.

\*\*In Harmo [Harmonides.]  
nide

\*\*\*In Musica [Music.<sup>134</sup>]

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cont.

modes truly Greek, because (as Cicero shows<sup>†</sup>) Greece was divided into three parts, (namely,) Doria, Aeolia, and Ionia, as Pliny also shows in chapter 2 of the sixth book of his Natural History.

Others have incidentally mentioned part of them, as does Pindar,<sup>\*\*</sup> who named the Dorian after the name of the Dorian cetera, and so the Aeolian. And Horace in various places names the Ionian, Aeolian, Dorian, and Lydian. Thus from the diversity of order, the variety of number, and the difference of names which exist in all these authors, one cannot dig out anything but confusion of mind.<sup>136</sup>

Yet, however the modes are arranged and whatever their number and names, this matters little to us. It is enough to know for now that the ancients used their modes in the manner I have shown above, and that according to the usage of modern musicians, namely, placed in one of the seven species of the octave divided harmonically or arithmetically, there are twelve modes.<sup>137</sup> The reason is that the seven species of the octave can be divided in twelve ways only, and no more,<sup>138</sup> six of which are the principal modes and six their collaterals,

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\*Pro L. Flacco [The Speech in Defense of Lucius Valerius Flaccus.]

\*\*Olimp. ode I. [Olympia, ode 1.]

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cont.

as we shall see,<sup>139</sup> no matter how many modes the ancients wanted to have.

How such a disagreement arose among the writers, concerning the number of modes as well as their names and order, is difficult to judge -- unless we wanted to say that this happened either because in their time not all the modes were yet known, or because they did not mention any mode except those which came into discussion at a convenient time and place.

We can gather, then, from that which is said, that the principal modes among the ancients were six: Dorian, Phrygian, Lydian, Mixolydian, Aeolian, and Ionian. And although Ptolemy and Apuleius and others, too, called the Ionian mode by the name of Iastian, this shows little or nothing, because considering both names in the Greek language, one is as valid as the other, as the Mixolydian mode is also called Locric, or Locrese, by Julius Pollux, and Athenaeus takes for certain that the Hypodorian was the Aeolian.

It is really very difficult to have a clear and perfect knowledge of the usage of the ancients because it cannot be demonstrated in any way, being so totally extinguished that we cannot find any vestige of it. We should not be surprised at this, for time consumes everything that is created. We should rather be surprised at some who believe that they can put into use the enharmonic and chromatic genera,

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cont.

already left out for so long and so great a span of time, neither knowing their style nor having any vestige of them. They do not realize that one does not yet have a full knowledge of the diatonic genus, and truly they do not know in what manner these modes were used according to the custom of the ancients. Hence I believe that even if they want to examine the matter they will find without any doubt, after having racked their brain with much effort and hardship, that they have thrown away time, which is more precious than any other thing. They will find that they have been misled as the alchemists were misled in their desire to find that which they will never be able to find, I mean that which they call quintessence.

#### Chapter 4

##### On the inventors of the modes

It will not be out of place (if it were at all possible) to tell who has been the first inventor of the modern modes, because until now I have not found anyone who told it, even though it is manifest to all who read Platina\* that it was Pope Gregory the First, a most holy

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\*De Vitis  
pontificũ.

[Lives of the Popes.]

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cont.

man, who ordered that one should sing the Introits, the Κύριε  
ἐλέησον nine times, the Halleluya, and the other things that are  
sung at the Mass. Similarly that Vitalian, the first of this name,<sup>140</sup>  
put Chant in order and added Organa (as some claim) according to  
consonances. But Leo the Second, a man expert in music, composed  
the chant of the Psalms, that is, found their intonations and the way  
in which they are sung, and reduced the Hymns to better consonance.  
Damasus the First had ordered earlier that these Psalms be sung in  
Church one verse by the chorus, and that at the end, the Gloria patri  
be added to the rest. «And according to what John Gerson tells, it  
was Ignatius, a most holy man and a martyr of Christ, who discovered  
the Antiphons,<sup>141</sup> which he shows when he says:

Antiphonas dedit Psalmos Ignatius aptas.  
Monte prout quodam desuper audierat.\* »

All this has been said concerning ecclesiastical chant, although  
its first inventor cannot be found. But concerning the invention of  
those modes that are in figured chant and the invention of composing  
in the manner done at present, there is no doubt that we cannot be  
certain, although (according to what can be seen) it has not been long

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\*DeCanti-  
cis trac. 3

[De Canticis, III, "Ignatius gave to the  
Psalms apt antiphons, as he heard them  
from high up from a mountain." ]

301 since this way of composing (in figured chant) was found.

And although the same difficulty arises concerning the inventors of the ancient modes, nevertheless we can have some knowledge of the inventors of many of them. For Pliny\* claims that Amphion, son of Jove or of Mercury<sup>142</sup> (as some claim) and Antiope, was the inventor of Lydian harmony in which (according to what Aristoxenus relates in the first book of Music) Olympus<sup>143</sup> played on the piffero the funeral music on the grave of the serpent Python. This harmony was used also in the funeral rites of the virgin Psyche, as mentioned above.<sup>144</sup>

It is very true that Clement of Alexandria\*\* attributes the invention of Lydian harmonies to Olympus of Mysia, who was perhaps the one mentioned above,<sup>146</sup> and others claim that Lydian melody was discovered for no other purpose than for this function,<sup>147</sup> as said above. They also say that the peasants used this melody on forked roads and crossroads in honour of Diana, in imitation of Ceres who looked for the abducted Proserpine<sup>148</sup> with great cries of anguish, as the Poet<sup>149</sup> hints when he says:

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\*Natur. his      [Historia Naturalis, Book VII, chapter 56.]  
lib. 7 cap.  
56

\*\*Stromat.      [Stromata, Book III.<sup>145</sup>]  
lib. I.

Non tu in triviis indocte solebas  
Stridenti miserum stipula disperdere carmen? \*

From the above one sees that they did not perform this function with many instruments but only with one piffero, the inventor of which (as Apuleius claims\*\*) was Hyagnis the Phrygian, father of that Marsyas who was severely punished by Apollo for his arrogance. They also performed the same with the zuffolo,<sup>150</sup> the inventor of which (as some claim, and especially Virgil) was Pan, god of shepherds, because, as he says:

Pan primus calamos caera<sup>151</sup> coniungere plures<sup>152</sup>  
Instituit.\*\*\*

Dorian melodies, on the other hand, according to the same Clement<sup>153</sup> of whose opinion was also Pliny, were discovered by Thamyras, who was from Thrace. The Phrygian, Mixolydian, and Mixophrygian<sup>154</sup> (as the above-mentioned Clement claims) were

\*In Palemene [Eclogues, Book III, Palemon, "Uneducated one, were you not accustomed at the cross-roads on a harsh-sounding straw reed to spoil the miserable song?" ]

\*\*Floridorū lib. I. [Florida, Book I.]

\*\*\*In Alexide. [Eclogues, Book II, Alexis, line 32, "Pan was the first to arrange and connect several reed pipes with wax." ]

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cont.

discovered by the above-mentioned Marsyas,<sup>155</sup> who was from Phrygia, although some claim that Sappho of Lesbos, the ancient poetess, was the inventress of Mixolydian melody, and others attribute these inventions to Thersander, and others to a trumpet player called Pythoclides. But Plutarch, taking the testimony of one named Lysias,<sup>156</sup> maintains that Lamprocles of Athens was the inventor of these melodies, and some claim that Damon the Pythagorean was the inventor of the Hypophrygian, and that Polymnestor was the inventor of the Hypolydian.

I have not discovered the inventors of the other modes, but if the authority of Aristotle on this subject, stated in Book II of the Metaphysics,\* is valid, it may be said that Timotheus had been the inventor of the rest, even though Phrynides, the perfect musician of those times, had lived before him, because (as Aristotle says) if Timotheus had not existed we would not have many melodies.<sup>157</sup> But really it seems to me that the modes are more ancient than Timotheus, as one can see when reading many authors and examining them in regard to time.

It is not only very difficult but also impossible to know which of the modes was discovered first, even though some claim that the Lydian

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\*Capit.I. [Metaphysics, Book II, chapter 1.]

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cont.

was the first mode to be discovered. If we could accept this opinion, as regards the order of the modes posited by Plato, Pliny, Martianus, and many others, then it would be posited that one mode was found earlier than the other. But really it is a weak argument, because we could say the same about any other mode put first in any other order, like the Phrygian, which is put by Lucian first in order, and the Aeolian, which is put by Apuleius in first place.

We shall now stop discussing these things and shall speak about their nature, for we shall talk about the properties of the modern modes another time.

## Chapter 5

### On the nature or property of the modes

The ancient modes being, as we have seen elsewhere,<sup>158</sup> a composition of several things put together, from the variety of these things a certain difference of modes came into being. Hence one may understand that each mode retained in itself a certain indefinite variance, especially when all the things that went into the composition<sup>159</sup> were put together proportionally. Thus the mode was capable of inducing various passions in the souls of the listeners, inducing in

them new and diverse habits and customs. From this it follows that all those who have written anything about the modes attributed to each mode its property, according to the effects which they saw arise from them.<sup>160</sup>

Hence they called the Dorian a stable mode and claimed that it was by its nature very fit for the customs of the spirit of civilized men, as Aristotle shows in Politics;<sup>\*</sup> moreover, Lucian<sup>\*\*</sup> calls it severe because it has in itself a certain severity, and Apuleius<sup>\*\*\*</sup> calls it bellicose. Athenaeus<sup>\*\*\*\*</sup> attributes to it severity, majesty, and vehemence; and Cassiodorus<sup>\*\*\*\*\*</sup> says that it gives modesty and  
302 preserves chastity. They also say that it is a mode which contains seriousness, for which reason Laches in [the book by] Plato

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\*Lib. 8. ca- [ Politics, Book VIII, chapter 7.]  
pit. 7.

\*\*In Harmo [ Harmonides. ]  
nide.

\*\*\*Florid. I. [ Florida, Book I. ]

\*\*\*\*Dipnos. [ Deipnosophistae, Book XIV,  
lib. 14. ca. chapter 10.]  
10.

\*\*\*\*\*Epistolaru [ Variae Epistolae, Book II, To Boethius. ]  
lib. 2. ad  
Boethum.

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cont.

compared those who discussed or argued grave and severe things -- like virtue, wisdom, and other similar things -- to the musicians who, to the sound of the cetera or lyra, sang not the Ionian melody nor the Phrygian nor the Lydian, but rather the Dorian, which he estimated to be the true Greek harmony. And this especially when they were men worthy of such words;<sup>161</sup> and between them and these words a certain consonance was understood.

And because the Dorians used a somewhat grave and severe harmony with not very quick numbers which, accompanying the words, contained severe and grave things, therefore the ancients claimed that by means of the Dorian mode prudence was acquired, and through it a chaste and virtuous spirit was induced in us.

And this was not said without reason, as can be understood from history. For (as Strabo tells\*) King Agamemnon, before leaving his country to go to the Trojan war, put his wife Clytemnestra in the custody of a Dorian musician because he knew that while the musician was near her she could not be corrupted by anyone. When the vicious Aegisthus realized this, he removed him from sight and put an end to his own unrestrained desires. This may seem strange to some people;

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\*De Situ or      [ De Situ Orbis, Book I. ]  
bis lib.I.

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cont.

but considering what I have said in Part II, \* they will find that it is not impossible, for it is to be believed that the good musician stimulated her continually with learned stories of virtuous deeds and contempt of vices, accompanied by appropriate harmonies. He placed before her many examples to be imitated of very chaste and well-mannered women, teaching her the way which she should follow in order to preserve chastity. He also entertained her with philosophical stories and very sweet songs, as was suited to a chaste and modest woman.

In this manner Dido also, according to Virgil, \*\* was entertained by the good musician Iopas with severe and grave songs, which is customary to do among honest and chaste women, but not among lascivious and less than honest ones, as we read in the same Virgil about the nymphs:

Inter quas cutam Clymene narrabat inanem  
Vulcani, <sup>163</sup> Martisque dolos, & dulcia furta. \*\*\*

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\*Cap. 7. & 8    [Istitutioni, Part II, chapters 7 and 8. <sup>162</sup>]

\*\*Aeneid.        [Aeneid, Book I.]  
lib. I.

\*\*\*Georgi.        [Georgics, Book IV, lines 345-46, "Among  
lib. 4.            them Clymene told of Vulcan's baffled care,  
of the woes and stolen joys of Mars." <sup>164</sup>]

302  
cont.

Because of these effects, the ancients attributed the said properties to the Dorian mode and applied to it subject matters which were severe, grave, and full of wisdom. And when they parted from these and moved on to pleasant, merry, and light things, they used the Phrygian mode, its numbers being quicker than the numbers of any other mode and its harmony higher than that of the Dorian. Hence I believe that from this came the proverb which says, "From Dorian to Phrygian." This proverb can be adapted when one passes from a discussion of very high and grave things to a discussion which contains light, low, not very ingenious things, and likewise merry and festive and also not very decent things.

Clement of Alexandria,\* following the opinion of Aristoxenus, claims that the enharmonic genus as an ornate and elegant genus greatly suits Dorian harmony; and that the diatonic genus as a more vehement and higher genus suits Phrygian harmony. The Dorian then was so venerated that no other mode except this and the Phrygian was approved and admitted by the two most learned philosophers Plato and Aristotle, because they knew the great benefit that these modes brought to a well-instituted republic, estimating the other modes to

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\*Stromat. [Stromata, Book VI.]  
lib. 6.

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cont.

be of little benefit and little value. Hence they wanted that children be instructed in music from a very early age.

The ancients also claimed that the Hypodorian had a nature in everything different from that of the Dorian,<sup>165</sup> because just as the Dorian was disposed to a certain virile steadiness and to modesty, so the Hypodorian induced a certain laziness and indolence by the heaviness of its movements. Hence (as Ptolemy\* and Quintilian\*\* tell) the Pythagoreans had this custom that between morning and the time they went to sleep they used to mitigate the exertions and cares of the mind of the past day by means of the Hypodorian; and at night when they awoke from their sleep they returned to their abandoned studies with the Dorian. Athenaeus\*\*\* (as I have also said elsewhere<sup>166</sup>) thought that this<sup>167</sup> was the Aeolian, and attributed to it the ability to induce in the spirit a certain swelling and langor because of a somewhat soft nature.

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\*Harmon.  
lib. 3. cap.  
7.                    [Harmonics, Book III, chapter 7.]

\*\*Institut.  
lib. 9. c. 4.        [Institutiones Oratoriae, Book IX, chapter 4.]

\*\*\*Dipnos.  
lib. 14.             [Deipnosophistae, Book XIV.]

The ancients further attributed to the Phrygian mode (as Plutarch shows\*) the nature of sparking the soul,<sup>169</sup> inflaming it with anger and wrath, and provoking lasciviousness and lust; for they estimated it as a somewhat vehement and furious mode, having a most severe and cruel nature which renders man senseless. Hence (according to my opinion) Lucian\*\* touched very well on its nature with these words: "Just as (says he) not all of those who hear the Phrygian piffero go crazy, but only those who are touched by Rhea and who, having heard  
 303 the verse, remember the first affection or the first passion, and also the first perturbation, «so not all of those who hear philosophy go away astonished and involved, but only those in whom there is a certain intrinsic incitement for philosophy.»»<sup>170</sup> Ovid similarly hinted at it in these two verses, saying:

Attonitusque feces, ut quos Cybeleia mater  
 Incitat, ad Phrygios vilia membra modos.\*\*\*

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\*In politi-      [Politics. 168 ]  
 ticis.

\*\*In Episto.      [Dialogues of the Dead. ]  
 ad Nigri-  
 num

\*\*\*In Ibin.      [Ibis, 171 "In frenzy sever your vile parts to  
 the tune of Phrygian modes, like those  
 whom the Cybelean mother<sup>172</sup> excites." 173 ]

303.  
cont.

Aristotle\* calls it Bacchian, namely, furious and baccante, and Lucian\*\* calls it furious or impetuous, although Apuleius\*\*\* calls it religious.

This mode (as we have seen<sup>174</sup>) was played in ancient times on the piffero, a very stimulating instrument, for which reason (as some say) the Spartans used to call soldiers to combat by means of the sound of pifferi. And (as Valerius tells\*\*\*\*), compelled by the very severe laws of Lycurgus, they were careful never to go with the army to fight if not first well animated and warmed up by the sound of the above-mentioned instruments, to the rhythm of the anapest, which is composed of three tempi, namely, of two briefs and one long. Hence from the first two, which make a more frequent and quicker beat, they understood that they had to assail the enemy with great drive, and from the long they understood that they had to stop and resist boldly

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\*Polit. lib. 8. cap. 5. [Politics, Book VII, chapter 7.173a]

\*\*In Harmo nide [Harmonides.]

\*\*\*I. Florido rum [Florida, Book I.]

\*\*\*\*Dictor. & Fact. lib. 2. cap. I. [Factorum et Dictorum Memorabilium Libri, Book II, chapter 6.174a]

if they had not broken the enemy in the attack.

The same thing was also done by the Romans, as Tullius<sup>175</sup> tells, \* who used to incite the spirit of the soldiers to fight manfully not only by the sound of the trumpet but by songs accompanied with this sound. And Virgil also shows this, speaking about Misenus:

. . . quo non praestantior alter,  
Aere ciere viros, Martemque accendere cantu. \*\*

«And Horace, speaking about Tyrtaeus, says:

Tyrtheusque mares animos in martia bella  
Versibus exacuit. \*\*\*»

The Italians, on the other hand, used the trumpet, which was the invention of the Tyrrhenians,<sup>176</sup> as Diodorus\*\*\*\* claims, and Pliny\*\*\*\*\*

\*Tuscul. lib. I. [Tusculan Disputations, Book I.]

\*\*Aeneid. 6. [Aeneid, Book VI, lines 164-65, "Surpassed by none in mobilizing men by wind instruments and in kindling by song the god of war."]

\*\*\*De Arte poetica [Ars Poetica: An Epistle to the Pisos, "And Tyrtaeus stirred up by verses the manly spirits for martial war."]

\*\*\*\*Hist. lib. 6. [Bibliotheca Historica, Book V. 176a]

\*\*\*\*\*Histo. natu. lib. 7. c. 56. [Historia Naturalis, Book VII, chapter 56.]

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cont.

claims that the inventor was one named Pysaeus, also a Tyrrhenian.

Virgil touches on this invention in one word when he says:

Tyrrhenusque tubae mugire per aethera clangor.\*

But Joseph<sup>177</sup> in the first book of the Jewish Antiquities claims that the inventor of the trumpet was Moses; and Homer says that it was Dirce; some others, Tyrtaeus; and some, Miletus.

With the sound of the trumpet, which was harsh, quick, vigorous, and strong (as can be understood from the words of the ancient poet Ennius who, expressing the nature of this instrument, said:

At tuba terribili sonitu tarantara dixit<sup>178</sup>;

they professed the Phrygian mode. Induced then to fight with great vehemence by the sound of the above-mentioned instrument, they were induced to stop fighting by the slowness of the sound, that is, by the slowness of the movement and the seriousness of the mode.

Alexander the Great also was induced to take up arms by Timotheus<sup>179</sup> by means of a piffero (as Suidas<sup>180</sup> indicates), performing the Orthian melodies<sup>181</sup> in the Phrygian mode. Similarly a young man from

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\*Aeneid. 8. [Aeneid, Book VIII, line 526, "And while the Tyrrhenian blast of the tuba roared through the ether."]

Taormina (as Ammonius\* and Boethius\*\* tell, and as I have mentioned many times<sup>182</sup>) was warmed up by this mode.

For this reason the ancients claimed that subject matters dealing with war and being threatening and frightful would be suitable to this mode, and that the Hypophrygian would moderate and mitigate the terrible and excited nature of the Phrygian mode. Hence some say that just as the Spartans and the Candiotes<sup>183</sup> used to excite the soldiers to fight by means of the Phrygian mode, so they used to recall them from fighting by means of the Hypophrygian played on pifferi. They also claimed that Alexander was recalled from battle by Timotheus by means of this mode, played on the cetera, and that the above-mentioned young man from Taormina was appeased by means of this mode and the singing of spondees.

Cassiodorus\*\*\* claims that the Phrygian mode has the nature to excite to fight and to inflame with fury, and that the Lydian is a remedy for the toils of the mind and similarly for those of the

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\*In Predica bilibus [Not identified.]

\*\*Musicae lib. I. cap. I. [De Institutione Musica, Book I, chapter I.]

\*\*\*Variarum. lib. I. Ad Boethum. [Variae Epistolae, Book II,<sup>184</sup> To Boethius.]

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cont.

body. But some claim that the Lydian is suited for things full of lament and weeping, because it departs from the modesty of the Dorian and from the severity of the Phrygian.

In this mode,<sup>185</sup> Olympus<sup>186</sup> (as Plutarch tells\*) to the sound of the piffero on the grave of Python sang the Epicedes,<sup>188</sup> which are some verses sung in front of the grave of a dead. For in ancient times it was the custom to have someone sing to the sound of the piffero, or of another instrument, at the death of parents or dearest friends, by means of which song they were induced to lament the circumstances of their death. And this was done by a woman dressed in dark clothes, as is also observed at present in some cities, especially of Dalmatia,<sup>189</sup> at the death of honoured men. Staius Papinius commemorated this, saying:<sup>190</sup>

Cum signum luctus cornu grave mugit adunco  
Tibia, cui teneros suetum producere manes,  
Lege Phrygum mesta. \*\*

Hence one sees that these harmonies are made in Phrygian or Lydian

\*In Musica. [Music. 187]

\*\*Theb. li. 6 [Thebaid, Book VI, "When the tibia roared on the curved horn the grave song for mourning which used to accompany the tender departed spirits according to the sad Phrygian custom." ]

modes, as can be seen from the authority of Apuleius cited above.<sup>191</sup> Because of its effects, some have called the Lydian horrible, sad, and mournful; and Lucian\* calls it furious or impetuous. It is very true that Plato proposes three sorts of Lydian harmony, namely, mixed, high, and simple, without further specification.

304 Some have had the opinion that the Hypolydian has a nature different and contrary to that of the Lydian, and that it contains a certain natural softness and abundant sweetness. They say that it fills the spirits of the listeners with happiness and merriness mixed with sweetness, and that it is completely removed from lasciviousness and every vice. Therefore they adapted it to subject matters which were tame, civilized, and grave, and which contained profound, speculative, and divine things, like those dealing with the glory of God and eternal happiness, and those apt to impetrate Divine Grace.

And they similarly claimed that the Mixolydian had the nature to incite the spirit and to restore it. Apuleius calls the Aeolian "simple," and Cassiodorus claims that it has power to render a spirit oppressed by various passions tranquil and serene; and that after these passions are driven away, it has power to induce sleep

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\*In Harmo     [Harmonides.]  
nide

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cont.

-- nature and properties truly very similar to those of the Hypodorian. Hence one should not be surprised if Athenaeus, citing the authority of Heraclides Ponticus, was of the opinion that the Aeolian was the Hypodorian,<sup>192</sup> or vice versa.

Some claim that one can adapt to the Aeolian cheerful, sweet, mild, and severe subject matters, because (as they say) it has in itself a pleasant severity mixed with a certain cheerfulness and sweetness beyond the usual, and they are of the opinion that as an open and clear mode it is very suitable for the modulations of lyrical verses. But if that which Heraclides<sup>193</sup> thought is true, it would be very contrary to all those things, because it would have a different nature, as I have shown above.<sup>194</sup>

Apuleius calls it varied Iastian or Ionian (which is just as valid); and Lucian calls it cheerful because it is (according to the opinion of some) very suitable for dances and balls. Hence one began to reckon it "lascivious," and the inventors of this mode, who were the Athenians, people of Ionia, "lovers of cheerful and merry things"; and many scholars of eloquence called them "vain and light." Cassiodorus claims that it has the nature of sharpening the intellect of those who are not very educated, and of inducing a certain desire for heavenly things in those who are burdened by a certain earthly and human desire.

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cont.

These things they say about the modes. Hence one perceives great variety among the writers, some claiming one thing and others another. For this reason I think that this variety may have originated from the variety of the customs of the provinces; which, being very different, so also were the modes. [Another possible reason for the differences among the writers is] that one part of the writers talked about those modes which preserved the essence of their first and pure simplicity, and the other part talked about those modes which had already lost their first nature. To give an example, we shall mention the Dorian which, once honest, grave, and severe, by the change in customs was changed, too, and was then applied to things of war. We should not be surprised at it, because if a change in customs comes into being from the variety of harmonies, as is said elsewhere,<sup>195</sup> it is also not implausible that a variety of harmonies and modes comes into being from changes in customs.

[The differences among writers on modes] could also stem from the little knowledge that the writers of those times had concerning this thing, as often happens in our times, that some propose to write some things which they do not understand but rather go back to the judgment and opinion of another who sometimes knows about it less than they. And so they often take one thing for another and attribute to it some property which, while they consider it as true,

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cont.

is as far from the true property as heaven is from earth. And many times we see that they take one thing for another, as one can see in what Dio Chrysostomus writes about Alexander the Great in the Commentaries of the Kingdom,\* an example brought by many, where he says that he was forced by Timotheus to take up arms by means of the Dorian mode. Still he<sup>196</sup> is the only one of this opinion, from what I have been able to understand, because Basil the Great «(as I have said other times<sup>197</sup>)» and many others before him claim that he<sup>198</sup> was forced to perform a similar act by means of the Phrygian mode. But enough has been said about this, for it is necessary that we start to discuss the order of the modes.

## Chapter 6

### On the order of the modes

We should then note that just as the ancients were of many opinions concerning the names of the modes and their properties, so also they had different opinions concerning their order and place, for

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\*Orat.I. [Commentaries of the Kingdom, First Discourse.]

some arranged the modes in one manner and others in another.

Plato, \* before anyone else, placed first in his order the Mixolydian harmonies, to which he added the High Lydian. In the second place, he then put the Ionian harmonies and those harmonies which he simply calls Lydian without adding anything, and in the third place he put the Dorian and Phrygian harmonies. It is very true that one can say that he has not posited this order as natural but rather as an  
 305 order arranged by chance and accident, according to what suited him in his proposition, just as he also did in another discussion\*\* in which he placed first the < Ionian, thereafter the Phrygian, adding to them the Lydian, and then he put the Dorian<sup>a</sup> > melody in last place.

Others held to another order, for they placed the Hypodorian in the low part of their order, before every other mode, and the Mixolydian in the high part, putting above it the Hypermixolydian and above the Hypodorian the Hypophrygian. After this the Hypolydian, adding to it the Dorian, after which followed immediately the Phrygian

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\*De Rep. 3. [The Republic, Book III.]

\*\*In Lachete [Laches]

<sup>a</sup> « Dorian, then the Ionian, adding to them the Phrygian, and after this the Lydian<sup>199</sup> »

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cont.

in such a manner that the Lydian was placed above these four middle ones.<sup>200</sup> And among these people were Ptolemy and Boethius.

And although some others held to another order, as «did» Apuleius,\* who placed the Aeolian before every other mode, thereafter the Iastian and the others, as one sees in his order,<sup>201</sup> nevertheless Martianus puts the Lydian first, then adds the Iastian and the others. But others put the Mixolydian first, among which are numbered Euclid<sup>202</sup> and Gaudentius who are mentioned above.<sup>203</sup> Julius Pollux in two places puts the Dorian ahead of every other mode, as did Plutarch and Cassiodorus. But Aristides Quintilianus accommodated the Lydian, as did Martianus, even though Lucian put the Phrygian in first place.

Thus from this difference of opinion follows nothing but great confusion of mind, and this can come into being because some people writing on this matter held to the natural order when placing the modes one after the other, but some (not attending to such a thing) proposed an accidental order. The first were those who discussed these things according to the order of science and in a manner proven by reason, as did Euclid, Ptolemy, Gaudentius, Aristides,<sup>204</sup>

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\*Florida-- [Florida, Book I.]  
um. l.

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Boethius, Cassiodorus, and Martianus. But the others discussed them by chance, according to what suited them in their proposition; therefore they did not necessarily put the modes according to how they ought to be placed one after the other, following the natural order, but rather in that way which was more convenient for them. Among these ⟨people⟩ were Plato, Plutarch, Pollux, and Apuleius. It is, however, no wonder that the latter should each hold to a different order; but we should wonder at the former who, treating the thing scientifically, were so different in opinion.<sup>205</sup>

But let us now stop wondering because (as I said elsewhere<sup>206</sup>), just as it happens in the other sciences<sup>207</sup> in which there are many sects, so in music there were in those times two principal sects, one of which was called Pythagorean, which followed the doctrine of Pythagoras, and the other was called Aristoxenian, which was of those who followed the opinions of Aristoxenus.<sup>208</sup> There being among these people many differences and diverse opinions concerning the same thing because some wanted it one way and some ⟨wanted it⟩ another way, from the variety of their principles nothing arose but a variety of conclusions. Hence it happened that just as they differed in many things (as I have shown in some places when it fit my proposition<sup>209</sup>), so also they disagreed on number, place, and order of the modes.

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cont.

For if we consider what Ptolemy and Boethius write on this matter, we shall find that they place the Mixolydian mode in the high part of their systems<sup>210</sup> and claim that the lowest note of each is called Proslambanomenos; the middle, Mese; and the highest, Nete. And Boethius claims that the distances and intervals found in each mode are only of a whole tone or semitone. Nevertheless Euclid,<sup>211</sup> numbering the species of the octave, puts the first species in the low microtones, which he calls Βαρύτυκνοι, from Hypate Hypaton to Paramese, and says that the ancients called it Mixolydian. The second he puts in the middle microtones, which he calls Μεσότυκνοι, from Parhypate Hypaton to Trite Diezeugmenon, and names it Lydian. «And» the third he puts in the Ο'ξύτυκνοι, namely, high microtones, and calls it Phrygian. «He calls» the fourth species Dorian, the fifth Hypolydian, the sixth Hypophrygian, and the seventh he names not only Hypodorian but also Locrian and Common, which does also Gaudentius, as can be seen «in their writings». The reason one sees clearly: he does one of two things, either he puts the Mixolydian mode in the low part of his monochord (as it really is) and the Hypodorian or Locrian higher up, or he arranges the strings<sup>212</sup> of the said instrument in a way different from that of other ancient musicians. Hence we now see justified that opinion which I touched in chapter 29 of Part II, when discussing the opinion that the

ancients had of celestial harmony.<sup>213</sup>

But he who would want to talk about the way in which the said modes were sung would have a difficult task; first, because no example of this thing can be found; then, because (although Boethius\* places the intervals found from one note to another in each mode) Ptolemy and Aristides place other different intervals; and neither the one nor the other proposes the manner of proceeding, whether they sang [the modes] from low to high or from high to low.

And although there are many copies written by the hand of Ptolemy which show these intervals, nevertheless so many of them in the examples and in other places, either by time or through the fault of the scribes, are so imperfect that little benefit can be drawn from them. It is very true that in chapter 1 of the third book he [Ptolemy] clearly applies the fourth, that is, the Tetrachordo Diatonico diatono,<sup>214</sup> to the Aeolian mode. I have not been able to find any discussion of the others.

306 But these distances are better expressed by Aristides\*\* so

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\*Musicae li. [De Institutione Musica, Book IV,  
4. c. 14 & chapters 14 and 15.]  
15.

\*\*De Musica [De Musica, Book I.]  
Lib. I.

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cont.

that they can be understood even though the copy which has come into my hands is so full of mistakes due to the ineptitude of the scribes that I could hardly draw these few words. These I want to put as they are, so that one sees somehow the variety of the ancient modes and how they differ from our modern modes. And it says:

Τὸ μὲν ἄν λυδίαν διαστημα σωματίδισαν, ἐκ διέσεις καὶ τόνου καὶ τόνου, καὶ διέσεις καὶ διέσεις, καὶ τόνου καὶ διέσεις. καὶ τοῦτο μὲν ἡμῶν τέλειον σύστημα. τὸ δὲ δόριον, ἐκ τόνου καὶ διέσεις, καὶ διέσεις καὶ τόνου καὶ τόνου καὶ διέσεις καὶ διέσεις καὶ διέσεις καὶ διέσεις. ἡμῶν δὲ τοῦτο, τόνο τοῦ διὰ πασῶν ὑπερέχον. τὸ δὲ φρυγίον, ἐκ τόνου καὶ διέσεις καὶ διέσεις, καὶ διέσεις καὶ τόνου, καὶ διέσεις καὶ τόνο. ἡμῶν δὲ καὶ τοῦτο τέλειον διὰ πασῶν. τὸ δὲ ἰατίον, σωματίδισαν ἐκ διέσεις καὶ διέσεις καὶ διέσεις, καὶ γρημιτόνου καὶ τόνο. ἡμῶν δὲ τὰ τοῦ διὰ πασῶν ἐλλείπιν τόνο. τὸ δὲ μολυβδίον, ἐκ δύο διέσεων κατὰ τὸ ἕξαι κρημένον, καὶ τόνο καὶ τόνο, καὶ διέσεις καὶ γρηιὸν τόνο. ἡμῶν δὲ καὶ τὸτο τέλειον σύστημα. τὸ δὲ λεγόμενον σάτυρον λυδίον, ἡμῶν διέσεις καὶ διέσεις καὶ διέσεις καὶ γρημιτόνου. Δίεσιν δὲ γυνεπὶ πάσαν ἀκουσίων, τῶν ἑναμμένων.

which means: "They have composed the Lydian span<sup>215</sup> of a diesis<sup>216</sup> and a wholetone and a wholetone, and of a diesis and a diesis, <and> of a wholetone and a diesis; and this is a perfect system.<sup>217</sup> But the Dorian they composed of a wholetone and a diesis, and of a diesis and a wholetone, and of a wholetone and a diesis, and of a diesis and a major third,<sup>218</sup> and this surpassed the octave by a wholetone. The Phrygian then they composed of a wholetone and a diesis, and of a diesis and a major third and a wholetone, and of a diesis and a wholetone; and this was a perfect octave. But they composed the Iastian of a diesis and a diesis, of a major third and a wholetone-and-a-half

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cont.

and of a wholetone, and it was short of an octave by one wholetone. The Mixolydian then they composed of two dieses placed one after the other, and of a wholetone and a wholetone, and of a diesis and three wholetones, and this was a perfect system. But that which was called Syntono Lydian<sup>219</sup> was composed of a diesis and a diesis, and of a major third and a wholetone-and-a-half. But the diesis in all of those should be understood as that of the enharmonic [genus]."

For this reason, from the words of Aristides we can understand that the modes (according to his opinion) differed not only in their intervals but also in the number of their notes, although Boethius in chapter 4 of Book IV of Music proposed only eleven notes in the Lydian, and in chapters 14 and 15 he proposes for each mode fifteen notes, to which he adds the Synemmenon.<sup>220</sup> But according to that which we can understand from the words of Euclid<sup>220a</sup> and Gaudentius, cited above,<sup>221</sup> each of the modes when perfect was comprised of one species of the octave, that is, of eight notes.

And this usage exists among the moderns, for <they place the first and eighth modes within the fourth species of the octave, D and d;<sup>222</sup> the third and tenth modes, within the fifth species of the octave, E and e; likewise the fifth mode, within the sixth species of the octave, F and f; and the seventh mode,<sup>223</sup> within the seventh species of the octave, G and g. They place the ninth and second modes within

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cont.

the first species of the octave, A and a, or a and aa; and the fourth mode, within the second species of the octave, B-flat and b-flat. Lastly they accommodate the eleventh and sixth modes within the third species of the octave, C and c, or c and cc,<sup>a</sup>) as we shall see further down. And the modes are twelve in number, not only among  $\langle$  Ecclesiastics but also among practicing composers,<sup>b</sup>) although they are considered to be less than twelve by many people. I intend to discuss them in detail<sup>228</sup> and to show in what manner each of them is used at present.

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- a  $\langle$ we<sup>224</sup> shall place the first and eighth modes within the first species of the octave C and c (to follow the way which I have taken with reason in the Fifth Discussion of Dimostrazioni concerning the demonstrations of the modes<sup>225</sup>), the third and tenth modes within the second species of the octave D and d, similarly the fifth and twelfth modes within the third species of the octave E and e, and the seventh mode within the fourth species of the octave F and f. The ninth and second modes within the fifth species of the octave GG and G, or G and g, and the fourth mode<sup>226</sup> within the sixth species of the octave A and a or a and aa. Lastly we shall place the sixth mode within the seventh species of the octave B-natural and b-natural, $\rangle\rangle$
- b  $\langle$ practic  
Ecclesiastics, 227  $\rangle\rangle$

That the Hypermixolydian of Ptolemy is  
not that which we call eighth mode<sup>229</sup>

There have been some modern practitioners who ⟨have held<sup>a</sup>⟩ as certainty that the modern eighth mode, which we use, ⟨was<sup>b</sup>⟩ the Hypermixolydian of Ptolemy, placed in the eighth place of his order. But really these people are mistaken to a large extent because the eighth mode (as we shall see) is contained within the fourth species of the octave, D and d, or between Lychanos Hypaton and Paraneite Diezeugmenon, divided arithmetically,<sup>230</sup> whereas the Hypermixolydian is contained within the first species of the octave, a and aa, namely, from Mese to Nete Hyperbolaeon, as Boethius shows clearly in chapter 17 of Book IV of Music.<sup>231</sup> Hence together one can see the difference that exists between one and the other, and the error that these people commit.

And although some others have had the opinion that between the Hypodorian, which is lower than any other mode, and the Hypermixolydian, which is placed in the high part, there is not any difference

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a    ⟨maintain⟩

b    ⟨is⟩

except of pitch because both are contained within the same species of the octave, nevertheless it seems to me (according to my judgment) that these people are in great error, for it would be like saying that Ptolemy reproduced above that which was placed below, without differentiating the harmony. But this is not credible because so great a philosopher as Ptolemy was would not have been so lacking in judgment as to multiply a thing unnecessarily,<sup>232</sup> as was here the case -- much more so because this was a great inconvenience among philosophers. It is necessary then to say that these modes differed from each other  
 307 not only in place but also in nature, by means of the melody which was different, and that Ptolemy had so intended when he proposed the above-mentioned Hypermixolydian.

Some others have wanted to call it Aeolian, and that really seems to me to be done without any reason, because in chapters 1 and 15 of Book II of Harmonics Ptolemy makes mention of the Aeolian, naming it Aeolian harmony. Some could perhaps ask for what reason Ptolemy did not add a collateral, or placal,<sup>233</sup> to the Hypermixolydian, nor placed the Aeolian in this order, nor the Ionian, which he calls Iastian harmony. But because everyone reading chapter 3 of the above<sup>234</sup> will be able to find a sufficient reply to this doubt or proposed question, therefore it does not seem to me necessary to repeat it here.

In what manner the ancients indicated  
the notes of their modes

When it occurs to me that I have never found in the writings of any author, either Greek or Latin, even one example from which one can understand in what manner the ancients made many parts sing together -- unless they had a way of writing the notes of their modes or compositions separately and of indicating in what proportion they placed the voices apart from each other -- it all the more confirms my belief that they never used (to have many parts sing together, as<sup>a</sup>) I have shown in chapter 4<sup>235</sup> of Part II and in chapter 79 of Part III.<sup>236</sup>

Furthermore it is manifest that they did not use in their compositions those figures or characters, nor those lines and spaces shown in chapter 2 of Part III,<sup>237</sup> which we use at present. Thus (as Boethius\* says) they had some signs which they used to put above the

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a    «music otherwise than what»

\*Musicae     [De Institutione Musica, Book IV, chapter 3.]  
lib. 4. c. 3.

syllables of their verses and by means of which they understood in what manner they had to sing, moving the voice down or up. It is very true that these signs were placed in double lines, one above the other. And Boethius says that the signs placed on top were the notes or characters of diction, namely, of words, and those placed below were those of rhythm, wanting to infer (as I believe) that the former demonstrated pitch<sup>238</sup> and the latter the long or short beat, although they could learn which was short and which was long from the syllable, either long or short, placed in the verse. These signs then were different from each other, because one had assigned a particular sign to each note, in a manner that the sign of Proslambanomenos was different from that of Hypate Hypaton and from the others, and similarly the sign of Proslambanomenos of the Dorian mode was different from the sign of Proslambanomenos of the Phrygian mode,<sup>239</sup> and so the others.

But these signs were discarded because John Damasceno, *sainted Doctor*<sup>240</sup> «(as the modern Greeks claim)», discovered other new characters which he adapted to ecclesiastical Greek compositions so that they do not signify notes, as did the above-mentioned characters or signs, but rather demonstrate the interval<sup>241</sup> to be sung «ascending or descending». Hence every singable interval has its sign, in a manner that just as the sign of the whole tone differs from that of

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cont.

the semitone, and the sign of the minor third differs from that of the major third, and so the other ascending [intervals], so also those signs of a wholetone, semitone, and other descending intervals differ «among themselves and» from the signs of ascending intervals. To all these one adds their meter<sup>242</sup> in a way that by means of these characters, or signs, every composition can be reduced and made much shorter than in our notation, as I can show in many of my compositions. (And one can accommodate in this [notation] every one of those accidentals which occur in his composition, be it what it may, for I have put every diligence in accommodating all of them,<sup>a</sup>) as they are needed.

But we should note, in order not to be led astray, that if we should consider the words of Boethius, placed in chapters 14 and 16 of Book IV of Music,<sup>243</sup> which deal with the subject of the modes, we shall be able to understand two things from which, according to my judgment, two great inconveniences issue. The first is that we shall not be able to find any difference in intervals from one mode to another, for he claims that all the notes of the Hypodorian, in the manner in which they are arranged, are moved higher by a wholetone, so that

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a «in which all those accidentals which occur in similar compositions, be they what they may, are accommodated»

one has the Hypophrygian mode, and that all the notes of this mode are in the same way moved higher by another whole-tone in order to have the notes of the modulation<sup>244</sup> (as he says) of the Hypolydian. Hence if all these notes are moved higher by a semitone, he claims that from that comes the Dorian, and so he continues to say the same about the other modes.<sup>245</sup> Thus if one must proceed in this manner in order to obtain the modes, I cannot conceive any difference between them, unless that, if all of them were arranged in order on the same instrument, one would be higher than another by a whole-tone or semitone, but would proceed by the same intervals. But what difference, for heaven's sake, would be found between one mode and another when in the low, middle, and high notes of one mode the same intervals are found as among the low, middle, and high notes of another mode, except that the notes of one mode would be higher or lower than those of the other by whatever distance one wants? For not the pitch but the intervals which make the form of the modes are what makes the difference between them.

The second<sup>246</sup> is that from ⟨the<sup>a</sup>⟩ words ⟨of Boethius⟩ and from his examples, as misinterpreted, we shall be able to understand that modern musicians speaking on similar subjects are very much

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a    ⟨his⟩

mistaken, because they believe that the modern  $\langle$ fifth mode<sup>a</sup> $\rangle$  is the ancient Lydian, and they make it lower by a wholetone than the seventh mode,<sup>248</sup> which they call Mixolydian, for they propose that their Lydian is contained within the sixth species<sup>249</sup> of the octave, F and f; and the Mixolydian, within the seventh species of the octave, G and g. These are distant from each other by a wholetone, whereas Boethius clearly shows that the ancient Lydian is distant from the Mixolydian by a semitone. Likewise he claims that the Dorian is a wholetone away from the Phrygian, which Ptolemy also claims, and that the Phrygian is another wholetone away from the Lydian; and yet the moderns claim that the first mode is the ancient Dorian, the third mode is the Phrygian, and the fifth mode is the Lydian. This comes to be completely in contrast to what the ancients maintain, because the first mode is distant from the third mode by a wholetone, and the third mode is distant from the fifth mode by a semitone. Thus we can say that they are in great error when they call the first mode Dorian, the third mode Phrygian, and so the others in order, according to the way in which they are placed by Ptolemy and Boethius.

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a  $\langle$ seventh mode,<sup>247</sup> according to our order  
which we maintain, $\rangle$

Now if they would want to name the modes by these names (assuming modern modes similar in some way to ancient modes), they should call the eleventh mode Dorian, the first mode Phrygian, and the third mode Lydian,<sup>a</sup> rather than otherwise, because <then they would be<sup>b</sup>> distant from each other by the intervals that Ptolemy and Boethius maintain.<sup>251</sup> This has been really one reason besides others (so that nobody be surprised) that I do not call the modes either Dorian, Phrygian, Lydian, or by other similar names, but rather first [mode, ] second, third, and the others in order,<sup>c</sup> for I saw that naming them in this<sup>253</sup> manner<sup>d</sup> was not good. And although Franchino Gafori in his Theorica<sup>\*</sup> maintains another <manner<sup>e</sup>> of placing the modes one higher or lower than the other, nevertheless he does not propose that the intervals of one mode differ from those of another, but he only places the same intervals higher, sometimes by a

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a <as we do<sup>250</sup>>

b <<in this way they are>>

c <<and in arranging them one after the other I have maintained another manner than that which all our moderns, and also the ancients, have maintained,<sup>252</sup>>>

d <<and ordering them in another way>>

\*Lib. 5. c. 8. [Theorica musicae, Book V, chapter 8.]

e <<order>>

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cont.

wholetone and sometimes by a semitone, and does not otherwise vary the modulation.<sup>254</sup>

This I have wanted to say, not just in order to speak against some of the ancients, nor against the modern writers, for whom I have always had and will always have the greatest respect, but rather in order that the readers be warned and consider well this thing with all diligence so that they may make judgment and in things of music always know good from bad and true from false. I do not believe that it would be a great inconvenience if someone would want to say that although Boethius has been most learned in the speculative things of music, it might be that in the practical things he was not so knowledgeable.<sup>255</sup> This can truly be confirmed with what is said above<sup>256</sup> and with what I have shown in chapter 13 of Part III when I discuss the four species of the diapente.<sup>257</sup> Nor should we be surprised at it, because everyone, inasmuch as he is human, may be mistaken in his own opinion. But let us remember that which Horace writes in the Epistle of Ars Poetica, when he says:

Verum opere in longo fas est obrepere somnum.<sup>258</sup>

For this could be an excellent excuse for this most serious author,<sup>259</sup> and also for everyone else who writes at great length.

## Chapter 9

In what manner the octave should be  
harmonically or arithmetically divided

And because I have said above<sup>260</sup> that the twelve modes come into being from the division of the seven species of the octave, done sometimes harmonically and sometimes arithmetically,<sup>261</sup> therefore before going further I want us to see in what way the octave should be split, or divided, in one way or the other.

It should be noted that the octave, which is the first consonance (as I have shown elsewhere\*), is first divided by an intermediate note into its principal parts, which are the diapente and the diatessaron. These parts (being often combined, sometimes with the larger and sometimes with the smaller below) yield two conjunctions, or unions. One of them is not entirely «and completely» good, the other becomes very sonorous and sweet. And this sweetness comes into being when the diapente is placed below the diatessaron; because

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\*1. Partis      [Istitutioni, Part I, chapter 13; Part II,  
cap. 13.      chapter 39; Part III, chapter 3.<sup>262</sup>]

2. Par. c. 39.

Et 3. partis  
cap. 3.

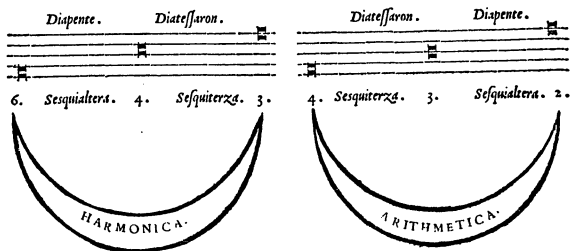
being joined and united in this manner, the extreme notes of the octave become divided by an intermediate note which is the upper limit of the diapente and the lower limit of the diatessarion. For this reason, such a division, or rather conjunction, is called harmonic because the terms of the proportions which give form to the diapente and the diatessarion and which are 6. 4. 3., stand in harmonic proportion<sup>263</sup> to each other, namely, so that the intermediate note divides the two extremes in the required way, as I have shown in Chapter 39 of Part I.<sup>264</sup>

The other division, which is less good because it really is not so sonorous, the consonances in it not being located in the proper places, is called arithmetic.<sup>265</sup> It is created when the above-mentioned parts<sup>266</sup> are united by an intermediate note in the opposite manner, namely, when the diatessarion occupies the low part and the diapente the high part. And because the terms of the proportions that form the diatessarion and the diapente and which are 4. 3. 2., are placed in arithmetic division, namely, so that the middle term, which is 3, divides the extremes 4 and 2 in a way which marks such a division, as shown in chapter 36 of Part I,<sup>267</sup> therefore it is deservedly called arithmetic.

And the first union is much better than the second, because the order of the consonances placed in it is such that all the notes are

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cont.

in their proper and natural place,<sup>268</sup> according to the nature of the forms of the consonances contained in it; whereas in the second order the consonances are placed in a manner that could be called accidental rather than natural. Therefore whenever we find any octave divided in the first way one can say that it is divided harmonically, and when it is divided in the second way one can say (for the above-mentioned reasons) that it is divided arithmetically; which we shall be able to say also concerning the diapente, when dividing it into a major third and a minor third,<sup>269</sup> but let us give some examples.<sup>270</sup>



## Chapter 10

That the modern modes are necessarily twelve,  
and in what manner it may be proved<sup>271</sup>

If, as practitioners claim, the modern modes come into being from the union or composition of the diapente and the diatessaron, we can now show that these modes necessarily amount  $\langle$ up $\rangle$  to the number of twelve.<sup>272</sup> They cannot be less, no matter how many ancient modes there were, because these do nothing or very little any more to our purpose, especially because now we use modes (as we have said<sup>273</sup>) in another manner very different from the ancient manner. And to show this thing we shall take as a foundation that which we assumed above, namely, the union of the four species of the diapente with the three species of the diatessaron, shown in chapters 13 and 14 of Part III.<sup>274</sup> Thus as many as there are ways in which we can unite these parts<sup>275</sup> conveniently, such is also the number of the modes.

Starting then in order: if we take the first species of the diapente, placed between D & a,<sup>276</sup> and add above it the first species of the diatessaron, contained within a & d, we shall undoubtedly get from this union or conjunction what we now call first mode, contained within the fourth species of the octave,<sup>277</sup> placed between D & d.

Similarly, if we take the same first species of the diapente and add below it the first species of the diatessaron, placed between D & A,<sup>278</sup> the result will undoubtedly be the first species of the octave, placed between a & A, which will contain what we call second mode. Now if  
 310 we take the second species of the diapente, contained within E & b-natural and add above it the second species of the diatessaron, placed between b-natural & e, we shall have what we call third mode, contained within the fifth species of the octave, E & e. And if below the above-mentioned diapente we add the above-mentioned diatessaron, placed between E & B-natural we shall have the second species of the octave, b-natural & B-natural, which yields a mode different from the first three modes and which we call fourth mode. Let us now take the third species of the diapente, placed between F & c, and above it the third species of the diatessaron, placed between c & f, and we shall have within the sixth species of the octave, F & f, what we call fifth mode. If we now take the same diapente and add below it the diatessaron F & C, we shall have the third species of the octave<sup>a</sup> and with it that mode which we call sixth.

And in this manner we shall have six unions or conjunctions, namely, those of the first species of the diapente with the first species

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a 《b-natural & B-natural<sup>279</sup>》

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cont.

of the diatessaron, below as well as above; and those of the second species of each, similarly below and above; in the same manner, those of the third species placed below and above; and in this way we shall have six modes.

It remains now to match the fourth species of the diapente with the first species of the diatessaron, which can be done conveniently. Hence it should be noted that all the species of the diatessaron can again be adapted and matched with the diapente in three ways: for the first species of the diatessaron can be matched with the fourth species of the diapente, the second species of the diatessaron with the first species of the diapente, and the third species of the diatessaron with the fourth species<sup>280</sup> of the diapente. Nor can these species be joined together conveniently in any other way, as is clear to anyone moderately exercised in music.<sup>281</sup>

Taking then the first species of the diapente, placed between G & d, we shall match it with the first species of the diatessaron, d & g, and within the extreme notes of the seventh species of the octave with its intermediate notes we shall have the mode called seventh. Thus again if we take the diatessaron placed between G & D and place it below the «above-mentioned» diapente we shall have within the octave d & D, fourth species, the mode called eighth. We shall now add the second species of the diatessaron, placed between

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cont.

e & aa, above the first species of the diapente, placed between a & e; that done, within the first species of the octave, a & aa, we shall have another mode which, for being different from the shown eight modes, we shall call ninth mode. Below this diapente we shall add the same diatessaron, between a & E, and we shall have within the fifth species of the octave what we rightly call tenth mode. Lastly, if we match the third species of the diatessaron, contained within g & cc and placed above, with the fourth species of the diapente, placed between c & g,<sup>282</sup> we shall have within the third species of the octave the mode called eleventh. Thus if we match the above-mentioned species in the other direction, placing the diatessaron in the low part between the notes c & G, we shall have the last mode, called twelfth, contained within the seventh species of the octave, g & G, as seen here in the example.

Primo modo.    Secondo modo.    Terzo modo.    Quarto modo.    Quinto modo.

Sesto modo.    Settimo modo.    Ottavo modo.    Nono modo.    Decimo modo.

Undecimo modo.    Duodecimo modo.

And in this manner we shall have no more and no less than twelve modes, because these species cannot be matched with each other in any other  $\langle$ manner, <sup>a</sup> $\rangle$  except with great inconvenience, as is manifest to anyone who has good sense.

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## Chapter 11

Another way of demonstrating the  
number of twelve modes<sup>283</sup>

We can also show that the modes amount to the number of twelve in another way, which is the division of the octave according to both harmonic and arithmetic divisions.  $\langle$ And so as not to become confused, we shall keep the same order as the moderns. Thus we shall start with the fourth species of the octave<sup>b</sup> $\rangle$  and then proceed to the others  $\langle$ in order $\rangle$ , dividing them first harmonically and then arithmetically.

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a  $\langle\langle$ way $\rangle\rangle$







b  $\langle\langle$ And in order to observe a good order,<sup>284</sup> we shall start with the first species $\rangle\rangle$

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cont.

Now if we take the fourth species of the octave, contained within D & d, and divide it harmonically into two parts by the note a,<sup>285</sup> there is no doubt that below we shall have between D & a the first species of the diapente, and between a & d the first species of the diatessaron,<sup>286</sup> which, joined together as seen above,<sup>287</sup> constitute the first mode. Taking then the fifth species of the octave,  $\langle$ placed $\rangle$  between E & e, and dividing it by the note b-natural, we shall have the diapente E & b-natural, second species, and the second species of the diatessaron, b-natural & e, which, joined together in the way shown, yield the third mode. But taking the sixth species of the octave, F & f, and dividing it in this manner by the note c, we shall have the fifth mode, which, in the same way, comes into being from the conjunction of the third species of the diapente and the third species of the diatessaron, which are F & c and c & f, as said above.<sup>288</sup> Taking then the seventh species of the octave, contained within G & g, and divided harmonically by the note d, we shall have the fourth species of the diapente, G & d, joined to the first species of the diatessaron, d & g, and the seventh mode. Taking then the first species of the octave, contained within a & aa, and divided harmonically by the note e, we shall have the first species of the diapente, a & e, and the second species of the diatessaron, e & aa, which, joined together, yield the ninth mode. We shall  $\langle$ now leave out<sup>289</sup> the second species of the

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cont.

octave, placed between b-natural & bb-natural, because it cannot be divided harmonically,<sup>290</sup> and  $\rangle$  take the third species of the octave, c & cc, and divide it in the above-mentioned way by the note g, from which division stems the fourth species of the diapente, c & g,<sup>291</sup> and the third species of the diatessaron, g & cc, and the eleventh mode, as seen here  $\langle$ below $\rangle$ .

FIGURA DELLI MODI AVTENTICHI, O PARI,					
					
<i>Quarta specie della Diapason D &amp; d.</i>	<i>Quinta specie della Diapason E &amp; e.</i>	<i>Sesta specie della Diapason F &amp; f.</i>	<i>Settima specie della Diapason G &amp; g.</i>	<i>Prima specie della Diapason a &amp; a a.</i>	<i>Terza specie della Diapason c &amp; c c.</i>

$\langle$  All these modes come into being through harmonic division of the species of the octave, <sup>a</sup>  $\rangle$  but through arithmetic division  $\langle\langle$  of six







a  $\langle\langle$  And because according to Proposal 10 of the Fifth Discussion of *Dimostrazioni*,<sup>292</sup> within the seventh species of the octave there is no mean note which can divide it harmonically into two parts, therefore through the division of the first six species only, done above in the shown way, we shall have only six modes,  $\rangle\rangle$

species only» we shall have six more modes. For if we start with the first species of the octave<sup>293</sup> placed between a & A,<sup>294</sup> or with that placed between a & aa -- which does not make any difference except by being lower or higher, «because according to the last Proposal of the Fifth [Discussion] of Dimostrazioni<sup>295</sup> every mode can be transposed up or down by an octave» -- and divide it arithmetically by the note D, taking here the octave a & A, we shall have the first species of the diatessaron, D & A, placed below, and the first species of the diapente, a & D, placed above, which joined together in the manner seen above,<sup>296</sup> yield that mode which we call second. We then take the second species of the octave, placed between b-natural & B-natural, and divide it in the way shown by the note E, and we shall have between E & B-natural the second species of the diatessaron, and between b-natural & E the second species of the diapente, which, joined together, will similarly yield the fourth mode. The third species of the octave, c & C, divided by the note F,  
 312 will yield the sixth mode; for the third species of the diatessaron, F & C, placed below, is joined to the third species of the diapente, c & F, placed above. Now if we take the octave d & D, fourth species, divided arithmetically by the note G, we shall have the eighth mode; for G & D, first species of the diatessaron, is joined below to the fourth species of the diapente.<sup>297</sup> Now we take the fifth species of

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cont.

the octave, e & E, and divide it in the way shown by the note a, and we shall have the second species of the diatessaron, a & E, and the first species of the diapente, e & a, which constitute the tenth mode. Taking finally the octave g & G, seventh species (leaving out<sup>298</sup> the octave f & F, because «according to<sup>299</sup> the twelfth proposal of the Fifth [Discussion] of Dimostrazioni<sup>300</sup>») it cannot be divided in this manner), if we divide it by the note c, we shall have the twelfth mode; for from this division stems the third species of the diatessaron, c & G, joined below to the fourth species of the diapente, g & c,<sup>301</sup> as can be seen here:<sup>302</sup>

*FIGVRA DELLA MODI PLACALI, OVERO IMPARI.*

<i>Prima specie della Diapason a &amp; A.</i>	<i>Seconda specie della Diapason b &amp; B.</i>	<i>Terza specie della Diapason c &amp; C.</i>	<i>Quarta specie della Diapason d &amp; D.</i>	<i>Quinta specie della Diapason e &amp; E.</i>	<i>Settima specie della Diapason g &amp; G.</i>
					

And in this manner we shall arrive at twelve modes: six by harmonic, and six by arithmetic, division, as I have shown.<sup>303</sup> To

be sure, the second species of the octave, B-natural & b-natural, cannot be divided harmonically<sup>304</sup> «as I have said above<sup>305</sup>» because if it were divided by the note F we would

*FIGURA VNIVERSALE DE TVTTI LI MODI.*

(C)	(D)	(E)	(F)	(G)	(A)	(B)
II	III	IIII	IIII	IIII	IIII	IIII
Nono modo nato dalla diuisione harmonica.	Secondo modo nato per la diuisione arithmetica.	Quarto modo diuiso arithmeticamente.	Modo Vndecimo nato per la diuisione harmonica.	Sesto modo nato dalla diuisione arithmetica.	Modo Primo harmonicamente diuiso.	Ottavo modo arithmeticamente diuiso.
IIII	IIII	IIII	IIII	IIII	IIII	IIII
Terzo modo nato dalla diuisione harmonica.	Modo Decimo prodotto dalla diuisione arithmetica.	Quinto modo nato per l'harmonica diuisione.	Modo Settimo prodotto dalla diuisione harmonica.	Modo Duodecimo nato dalla proportionalità arithmetica.	IIII	IIII
IIII	IIII	IIII	IIII	IIII	IIII	IIII

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have the semidiapente<sup>306</sup> B-natural & F below and the tritone F & b-natural above. Nor can the sixth species of the octave, F & f, be divided arithmetically,<sup>307</sup> because if it were divided by the note b-natural, a tritone would be heard below between the notes b-natural & F, and the semidiapente f & b-natural would be heard

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cont.

above. Nevertheless there have been some who have added other modes beyond the twelve shown,<sup>308</sup> like the thirteenth mode according to the first [harmonic] division,<sup>309</sup> and the fourteenth mode according to the second [arithmetic] division.<sup>310</sup> But really there cannot be more than twelve, as we have shown, arranged in the <figure<sup>a</sup>> above, «as we have demonstrated in the fourteenth Proposal of the Fifth and last Discussion of Dimostrationsi harmoniche.<sup>311</sup>»

## Chapter 12

### Division<sup>312</sup> of the modes into authentic and plagal

The modes shown are divided immediately into two groups: for some are called principal, or authentic, and have uneven numbers; and some are called lateral and plagal, or plagal, and have even numbers. To the first group belong the first, third, fifth, seventh, ninth, and eleventh modes; and to the second group belong the second, fourth, sixth, eighth, tenth, and twelfth modes.

The modes of the first group were called principal because honor and preeminence are always given to those things which are

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a «example»

313  
cont.

more noble. Hence the musician considers as principal the consonances produced by the harmonic mean, which are more nobly divided than those divided in another manner, and only then he considers those consonances arrived at by division of another kind. This name [principal] has been deservedly attributed to the modes of the first group, because in them one finds the harmonic mean between the two major parts of the octave, which are the diapente and the diatessaron, the former placed below and the latter above, whereas in modes of the second group the harmonic mean is not found. But some prefer that they [modes of the first group] be called authentic, because they have more authority than those of the second group, or because they are augmentative, considering that they can ascend higher above their finalis than the modes of the second group. They are also called by uneven numbers, because placed with the second group in natural order in the following manner: 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12., they occupy the place of the uneven numbers.

The modes of the second group are called lateral, after the "sides" of the octave, which are (as I have said elsewhere<sup>313</sup>) the diapente and the diatessaron; for when the parts generated by the division of the authentic or principal modes, namely, the diapente and the diatessaron, are placed in the contrary way (the diapente remaining common and stable) the lateral modes come into being.

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cont.

This can be seen in the first and the second of the modes shown, namely, that the diapente D & a remaining stable, by the addition of the diatessaron a & d placed above, the first mode, authentic, comes into being; and by placing the diatessaron below between D & A, the second mode, its collateral, comes into being. The same also happens in the other modes, as can be seen in the shown examples.<sup>314</sup> Some deservedly call them plagii, or plagali, for these names derive from Greek Πλάγιον, which means side, or from Πλάγιος, which means oblique or twisted, as if they were oblique, twisted, or turned, because they proceed contrary to their<sup>315</sup> respective authentic modes which proceed from low to high whereas the plagals proceed from high to low. It is very true that some call them placal, as if they meant placabili,<sup>316</sup> because their tune and harmony<sup>317</sup> are gentler than those of their [respective] principal modes; or because they have (as one says) a nature contrary to that of their [respective] authentic modes, for if the harmony born by the authentic mode disposes the soul to a passion, that of the placal mode pulls it in a different direction.<sup>318</sup> They are further called by even numbers, because in the natural order of the numbers shown above they occupy the place of the even numbers.

But everything, be it natural or artificial, which has had a beginning, just also have an end, which brings the argument of this

matter to an end as behooves a perfect thing. Therefore I want to show in what manner each of the modes should end regularly, demonstrating at the same time the endings of the principal and collateral modes, and how much they may ascend and descend above and below their last note at the end.<sup>319</sup> Thus we shall be able to write compositions with judgment and good order, or judge «and know» the mode and modulation of compositions we see.

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## Chapter 13

On the final note of each mode, and how far  
it is possible to ascend or descend above  
and below the above-mentioned notes

It is easy to know which is the final note of each mode, considering the composition<sup>320</sup> of the mode, namely, the union of the diatessaron with the diapente, or considering its origin from the division of the <octave in the> manners shown above.<sup>321</sup> Thus modern musicians take as the final note of each mode the lowest note of each diapente, «as I have declared in the seventeenth Definition of the Fifth [Discussion] of the Dimostrazioni;<sup>322</sup>» and whether the diatessaron is placed above or below it, makes no difference.

313  
cont.

This can be seen in the first and the second of the modes shown, namely, that the diapente D & a remaining stable, by the addition of the diatessaron a & d placed above, the first mode, authentic, comes into being; and by placing the diatessaron below between D & A, the second mode, its collateral, comes into being. The same also happens in the other modes, as can be seen in the shown examples.<sup>314</sup> Some deservedly call them plagii, or plagali, for these names derive from Greek Πλάγιον, which means side, or from Πλάγιος, which means oblique or twisted, as if they were oblique, twisted, or turned, because they proceed contrary to their<sup>315</sup> respective authentic modes which proceed from low to high whereas the plagals proceed from high to low. It is very true that some call them placal, as if they meant placabili,<sup>316</sup> because their tune and harmony<sup>317</sup> are gentler than those of their [respective] principal modes; or because they have (as one says) a nature contrary to that of their [respective] authentic modes, for if the harmony born by the authentic mode disposes the soul to a passion, that of the placal mode pulls it in a different direction.<sup>318</sup> They are further called by even numbers, because in the natural order of the numbers shown above they occupy the place of the even numbers.

But everything, be it natural or artificial, which has had a beginning, just also have an end, which brings the argument of this

314  
cont.

And because the lowest note of each diapente is common to two modes, as these diapentes also are common to two modes, therefore people usually match the modes two by two; for the lowest note of the first species of the diapente, being placed on D<sup>323</sup> in both the first and second modes, and being common to these two modes, becomes the finalis not only of the first but also of the second mode. By this binding and kinship (if I may say so) found between them, they are united in such a manner that as much as one would like to separate them from each other, one would not be able to do it, so strong is their union, as we shall see when discussing that which has to be done in accommodating the parts<sup>324</sup> in compositions.<sup>325</sup>

Deservedly, then, is the first mode matched with the second mode, the third with the fourth, and so the others in order; for the «lowest note of the first species of the diapente<sup>a</sup> is the» common final note of the first and second modes «and» is D; and the lowest note of the second species of the diapente is the common final note of the third and fourth modes and is F. One then proposes F, the lowest note of the third species of the diapente, as the common [finalis] of the fifth and sixth modes and unites these two modes because, as can be seen,

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a «C & G<sup>326</sup>»

314  
cont.

this diapente is common to both. Having matched these, one matches the seventh mode with the eighth mode, for the fourth species of the diapente is common to both of them, hence the lowest note G becomes the finalis of these two modes. 《Now》 one places the note a as common finalis of the ninth and tenth modes, for it is the lowest note of the first species of the diapente, and one unites these two modes because this diapente is found to be common to both. One places c as the common final note of the eleventh and twelfth modes because it is the lowest note of the fourth species of the diapente, and one matches these two modes together in regard to this diapente common to both.

All these things being understood, there will be no one who, having this concern, would not know how to match the authentic mode with its plagal, especially when knowing that the final note of the first and second modes is D, that of the third and fourth modes is E, that of the fifth and sixth modes is F, that of the seventh and eighth modes<sup>327</sup> is G, that of the ninth and tenth modes is a, and that of the eleventh and twelfth modes is c, as seen here:



314  
cont.

And not only do they have common final notes but, as we shall see,<sup>328</sup> also the places of the cadences are common. But it should be noted that a mode, when perfect, touches the eight notes within its octave range. True, the difference found between the authentic and the plagal modes is that the latter ascend only to the fifth note above their finalis and descend to the fourth [note below their finalis] whereas the former touch only the eighth high note<sup>329</sup> and sometimes descend below their octave by a wholetone or semitone; and the plagal modes similarly ascend above their diapente by a wholetone or semitone, as seen in many ecclesiastical compositions. In this manner the authentic mode is found within eight notes divided harmonically, and the plagal mode within eight notes divided arithmetically, as can be seen in the examples above.

The modes which extend in this way above and below their finalis may be called perfect. Therefore the Introit sung at the Mass of the fourth Sunday in Advent, Rorate coeli desuper, will be called perfect first<sup>330</sup> mode;<sup>a</sup> and the Introit sung at the Mass of the octave of Christmas, Vultum tuum deprecabuntum, will be called perfect second mode.

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<sup>a</sup> perfect third mode, according to our natural order;<sup>331</sup>

But when plagal modes go further down or authentic modes further up,<sup>332</sup> such modes may be called (as Franchino Gafori calls them\*) superfluous, just as they<sup>333</sup> may be called imperfect or diminished when they do not reach the eighth note above, or the first  
 315 note below, their octave.<sup>334</sup> Of the former we have an example in the Introit Iustus es Domine in the first mode, sung at the Mass of the seventeenth Sunday after the Feast of Pentecost. «But» of the latter there are almost infinite examples, among which one finds the Introit Puer natus est nobis in the seventh mode, sung at the third Mass on the most holy day of Christmas.

Here it should be noted once and for all that what I «have» discussed concerning the modes of plainsong, I intend to discuss also concerning the parts of the modes of figured music,<sup>335</sup> even though I do not bring examples of them, for I want that these discussions be applied to both.

But because I have said above that everything should be named by its end, as the most noble thing, therefore we should judge each mode by its final note, in a manner that we shall call that mode which will end on the note D and go up to the note d perfect first mode; and

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\*Pract. lib. [Practica musicae, Book I, chapter 8.]  
 I. cap. 8.

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cont.

when it does not reach it (as I have ⟨shown<sup>a</sup>⟩<sup>336</sup>) we shall call it imperfect; and that mode which will end on the same D and ascend to the note a, also descending to A, we shall call it the same way perfect second mode; and similarly imperfect when it does not reach it. ⟨Similarly<sup>b</sup>⟩ both should be called superfluous, or abundant, when the first goes beyond the eighth note above its finalis and the second goes beyond the fourth note below it.

And this I say when they end on their proper final notes and maintain their proper form; for if they end on the notes called con-finals, or on other notes, and such form is not found in them, then we shall have to make a different judgment, as I am going to show elsewhere.<sup>337</sup>

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a    ⟨said⟩

b    ⟨So also⟩

## Chapter 14

On the common modes, and on the mixed modes

There is also another difference between the modes; for when both the uneven and even modes go beyond their octave, the latter above and the former below, and reach the fourth note,<sup>338</sup> these modes should be called common,<sup>339</sup> because they are composed of the principal mode and its collateral. And the whole composition written in such a mode would be within the eleven notes common to both the authentic and plagal modes,<sup>340</sup> which have the same diapente and diatessaron in common, as can be seen in the example shown above.<sup>341</sup>

And among the compositions of the Ecclesiastics there are many in these common modes, like that Prose, or Sequence (that they so call), which is sung after the Epistle on the most holy day of the Resurrection of Jesus Christ, Son of God, Victimae paschali laudes immolent Christiani,<sup>342</sup> the antiphon Salve regina misericordiae; and the two Responsories sung at Matins, Duo Seraphin and Sint lumbi vestri praecincti. All of these are named after the principal mode, namely, the first,<sup>343</sup> because (as it should be) everything ought to be named after the most perfect, dignified, and noble thing.<sup>344</sup> It is very true that these common modes can sometimes be called imperfect,

315  
cont.

especially when they do not include the above-mentioned eleven notes.

When, however, in any of the modes shown, whether authentic or plagal, perfect or imperfect, superfluous or diminished, and in the common modes also, it happens to be composed in a determined mode, as, for example, in the first or second mode, or in any other mode, and in it one hears repeated many times a diapente or diatessaron used in another mode, as in the third or fourth mode, or in another mode, this mode can be called mixed,<sup>345</sup> because the diapente or the diatessaron of one mode becomes mixed with the melodic line<sup>346</sup> of another, as can be seen in the Introit Spiritus Domini replevit orbem terrarum sung at the Mass of the Feast of Pentecost which, composed in the eighth mode, has at the beginning the first species of the diapente, which is used in the first mode. Repeated many times in the middle of this composition, as can be seen in it, is the third species,<sup>347</sup> which is used only in the fifth and sixth modes.

#### Chapter 15

Another division<sup>348</sup> of the modes; and on that which one should observe in each mode in composing music; «and in what manner the eight Psalms are matched with the modes<sup>349</sup>»

It should be «very emphatically» noted that the modes are considered in two ways. There are those modes in which one sings the

Psalms of David and the New Testament Canticles *«which one calls Psalmodies, as Dante Alighieri calls them at the beginning of the 33rd Canto of Purgatory, when he says:*

Deus venerunt gentes, alternando  
 Hor tre hor quattro dolce Salmodia  
 Le Donne incominciaro lagrimando. 350 »

And there are those [modes] in which one sings Antiphons, Responsories, Introits, Graduals, and other similar things.

The latter can be called varied modes, because they do not have one single tune, nor one single fixed form<sup>351</sup> of singing for each mode in which one has to sing all the Antiphons, Responsories, and other similar things of, for example, the first mode to the same tenor,<sup>352</sup> or aria,<sup>353</sup> as Psalms and Canticles are sung, and to another tenor  
 316 all those of the second mode, and so all those of the other modes; but rather it is varied, as can be seen in many compositions, for one sings to one tenor, or (aria, <sup>a</sup>) the Introit Gaudete in Domine, sung on the third Sunday of the Advent of the Lord, and to another tenor Suscepimus Deus misericordiam tuam, sung on the eighth Sunday after the Feast of Pentecost, although both are composed in the first mode.<sup>354</sup>

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a *«modulation»*

But this does not happen with the former,<sup>355</sup> which may be called stable, because one always sings all the Psalms with their verses, ⟨of the first mode, and so of the other modes, to one tenor, or fixed tune,<sup>a</sup>⟩ without any change; and it is not permissible to vary such a tenor, because confusion would result. And although there are many varied forms of these ⟨Intonations or modes,<sup>b</sup>⟩ as, for example, some called Patriarchine and some Monastiche,<sup>357</sup> nevertheless in each church no more than eight are generally used, called regular; and ⟨the singers⟩ refer them back to the Antiphons contained in the ⟨first eight<sup>c</sup>⟩ modes of the twelve shown; ⟨and these Intonations are sung (as shown) in the Offices. But when the Psalmodies are sung in another mode outside the principal eight, these modes<sup>d</sup>⟩ are

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- a ⟨of whatever Psalmody, under one tenor or determined modulation,<sup>356</sup>⟩
- b ⟨Psalmodies, or ways of singing, however one wishes to call them,⟩
- c ⟨eight middle<sup>358</sup>⟩
- d ⟨leaving aside the four extreme modes, namely the first, second, eleventh, and twelfth, in this manner: They always sing the first Psalmody after those Antiphons which are contained in the third mode, the second Psalmody after those Antiphons which are contained in the fourth mode, and the third Psalmody they intone after each Antiphon which is in the fifth mode. And they do the same with the eight Psalmodies in order, in a manner that the

[continued]

called irregular; and these Intonations are different for each mode,

eighth Psalmody is sung after those Antiphons which are composed in the tenth mode.

They have this rule in order that they know how to apply these Psalmodies well to the said Antiphons, and that regarding their end<sup>359</sup> and the beginning of the SEUOUAE,<sup>360</sup> which immediately follows them and which contains the vowels of the words Seculorum Amen, they have knowledge of the whole. Because to that composition which ends on D and the beginning of the SEUOUAE of which is on a, they apply the first Psalmody, and when the end of the composition is on D and the beginning of the SEUOUAE is on F, they apply to it the second Psalmody. Hence applying the third Psalmody to that composition which ends on E and the beginning of the SEUOUAE of which is on c, and the fourth Psalmody to that composition whose end is also on E and the beginning of the SEUOUAE of which is on a, they go on applying these Psalmodies to the other Antiphons in order.

And so that everyone can more easily remember what we have said, these rules are contained in the following verses, which show what end and what beginning of the above-mentioned<sup>361</sup> are called for by each of the tenors, or forms, of the eight mentioned Psalmodies. However, contenting myself with just presenting the following verses, I shall not make any other discussion of them.

Psalmody Primam Re La, Re Faque Secundam,  
Per Sextam Mi Fa ternam praebent, & Mi La Quartam  
Fa Fa dant Quintam, Fa La ostendunt tibi Sextam,  
Ut Sol Septenam, Ut Fa demonstrantque Octavum.

But so that one can more easily remember the beginnings of the forms, or Intonations, of the said Psalmodies, they will also be summarized in these four other verses which follow.

Psalmody retinent Primam, Sextamque Fa Sol La,  
Ut Re Fa Octavum, sic Ternam, Sicque Secundam:  
La Sol La Quartam, Fa Re Fa dant tibi Quintam,  
Septenam vero Fa Mi Fa Sol tibi monstrant.

[continued]

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cont.

although the tenor of the first  $\langle$ mode, a $\rangle$  to which one sings one Psalm, is not different from that to which one sings another Psalm of the same first mode.

And while one does not hear these variations in singing various Psalms in the same  $\langle$ mode, b $\rangle$  still there is another difference; for the Ecclesiastics have two sorts of Psalmody,  $\langle$ namely, $\rangle$  festive and ferial,<sup>365</sup> and this happens because they sing the ferial Psalms in a different and shorter manner than the festive ones, although there is but little difference between one and the other. Nor is there any difference between the  $\langle$ modes, c $\rangle$  both festive and ferial, to which one sings the New Testament Canticles and those to which one sings the

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Hence, helped by means of these verses, everyone can easily know what Psalmody has to be intoned and in what tenor or form it should be sung. Eight then are the Psalmodies or Intonations which the Ecclesiastics use (as shown<sup>262</sup>) in their Divine Offices, and if it happens that they sing some Psalmody in another tenor which is outside the above-mentioned eight forms called principal, as is that Psalmody brought further down in chapter 28,<sup>363</sup> which is in the eleventh mode and is used in the Psalm In exitu Israel de Aegypto, as we shall see in due course, these Psalmodies<sup>364</sup> »

- a     $\langle\langle$ manner, $\rangle\rangle$
- b     $\langle\langle$ tenor, $\rangle\rangle$
- c     $\langle\langle$ Psalmodies, $\rangle\rangle$

316  
cont.

Psalms, except that in the festive ⟨modes⟩ of the New Testament Canticle Magnificat anima mea Dominum one may somewhat vary the beginnings of some modes, like those ⟨of<sup>a</sup>⟩ the second, seventh, and eighth modes, as can be seen in the first book of Practica<sup>366</sup> of Franchino Gafori, from chapter 8 to the end of the book,<sup>367</sup> and in Recanetto di Musica<sup>368</sup> in chapters 59 and 60 ⟨of the first book⟩, where one can also see in how many manners the Ecclesiastics usually end ⟨their modes<sup>b</sup>⟩.

And although in the ⟨modes<sup>c</sup>⟩ to which one sings the Psalm verses in the Introit of the Mass and their Gloria patri there are some forms ⟨or tenors⟩ which are somewhat different from those sung in the Psalms of Vespers and the Canonical Hours, as can be seen in ⟨chapter 62 of⟩ the above-mentioned Recanetto, nevertheless even they are always sung to one fixed tenor, without any change. ⟨The same is also observed in the Versets of the Responsory which are sung at Matins, for they must be sung in a modulation which is not changed, except in some places, because of the shortness and

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a ⟨used in⟩

b ⟨these Psalmodies⟩

c ⟨tenors⟩

316  
cont.

length of the words sung in them. But their Gloria Patri is always sung according to a prescribed tenor, taken from the above-mentioned Versets,<sup>369</sup> as can be seen in chapter 64 of Recanetto.

All this I have wanted to say in order that if it should occur to a composer to write any composition, «wanting to follow the order of these modes,» he will know what he has to do. For if he will want to compose on the words of the New Testament Canticle mentioned above,<sup>370</sup> which is sung at Vespers, it is necessary that he should follow the ⟨mode<sup>a</sup>⟩ and the Intonation sung to fixed chants of that Canticle, «which was gracefully observed by Morales the Spaniard.<sup>371</sup>» The composer should do the same when composing on the words of any Psalm sung at Vespers or at other Hours,<sup>372</sup> whether this Psalm is composed so that its verses may be sung alternately with another chorus, as Giaches<sup>373</sup> and many others have composed; whether the verses are sung entirely by one chorus, as Lupo<sup>374</sup> composed the Psalms In convertendo Dominus captivitatem Syon and Beati omnes qui timent Dominum for four voices in the eighth mode<sup>375</sup> «of the Psalmody»; or whether the verses are composed for two choruses, as are the Psalms Laudate pueri Dominum and Lauda Hierusalem Dominum by Adrian,<sup>376</sup> and many others which are indicated: "for

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<sup>a</sup> «Psalmody»

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cont.

divided choir."

But when writing other compositions, like motets or other similar things, the composer does not have to follow the chant, or tenor, of these Psalmodies, for he is not obligated to do it. On the contrary, if he did that, it might be considered a shortcoming and be attributed to a lack of power of invention. Nor should he for any reason do what some composers do who, composing some of their compositions (to give an example) in the eighth mode, do not know how to depart from the end of  $\langle$ its<sup>a</sup> $\rangle$  Psalmody, which they also do in the other modes, so that it seems that they want one always to sing the SEUOUAE placed in the Antiphonary at the end of each Antiphon. When he then will want to write any compositions outside the Psalmodies, he will be free and able to find an invention which will prove more convenient for him.

But in his modes he should frequently sound the members of the octave in which the mode is composed, which are the diapente and diatessaron. I say "its own" [diapente and diatessaron] and not those of another mode, as some do who from the beginning to the end of some of their compositions proceed through one mode,<sup>377</sup> touching frequently its diapente and diatessaron in every part,<sup>378</sup> but when they arrive

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a  $\langle\langle$ the eighth $\rangle\rangle$

at the end they enter irrelevantly into another mode, which makes for a very sorry effect.

And I see that some differentiate little between the procedure of a principal mode and that of its collateral, and use in the latter the same movements<sup>379</sup> that they use in the former, so that one hears no variation of concentus, and there is little difference between them. Therefore the composer who wants to do everything with reason will  
317 also take care to lead back down (when convenient) the movements of the principal modes when they go up more than allowed, especially those of the diapente and the diatessaron; and [to lead back up] the movements of the collateral modes, which go the other way, namely, downward, especially those which proceed in the above-mentioned two species.<sup>380</sup> This is necessary, because they are placed in an opposite way in the modes, namely, the diapente placed below and, proceeding beyond, the diatessaron placed above in the principal mode, and in its collateral the diapente placed above and the diatessaron below. This is really justifiable, the collateral having (as I have said<sup>381</sup>) a contrary nature to that of its principal, so that being different by nature, they should also be different in tempo,<sup>382</sup> inasmuch as the difference comes from these members<sup>383</sup> and also from the fast or slow tempo.

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cont.

Hence if we attribute upward motion<sup>384</sup> to the principal mode and downward motion to its collateral, everything will be done with reason, mainly because the principal mode is higher than its collateral by a diatessaron. Therefore slow tempo which (as said other times\*) makes for gravity, is suited for the collateral; and fast tempo, from which high pitch is generated, is suited for the principal modes. Thus using slow tempo in the collateral, and fast tempo in the principal, modes, we shall accommodate everything in its proper place.<sup>386</sup> I consider it completely out of place that some have at times used the lower parts<sup>387</sup> of their compositions with too fast and very diminutive movements, and the higher parts with movements which are too slow, namely, which hardly move, even though I do not censure it if sometimes one puts slow movements high and fast movements low, when the material calls for it, but in everything one should use judgment, without which little good can be done.

And enough is said about these subjects, because before I go on to other matters I want us to see a mistake<sup>388</sup> found among some who are not experts in music. After showing this mistake, we shall go on to a detailed discussion of each of the above-mentioned twelve modes.

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\*2 Partis      [Istitutioni, Part II, chapter 11.<sup>385</sup>]  
cap.II.

317  
cont.

## Chapter 16

If by removing the tetrachord Diezeugmenon<sup>389</sup> from any composition and putting in its place the Synemmenon<sup>390</sup> while the other notes remain immovable, one mode can be changed into another<sup>391</sup>

There have been some to whom it had seemed that, taking any species of the diapente or of the diatessaron which contains among its essential notes the tetrachord Diezeugmenon, and removing the said tetrachord, putting in its place the Synemmenon, such a change would not have power to change the mode, for they say that the tetrachord Synemmenon is not natural but accidental and has no power to transform one mode into another in this manner.

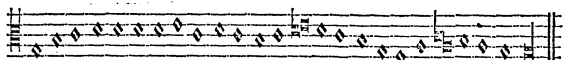
I shall not argue whether this tetrachord is natural or accidental, but I shall say that if what they say were true, it would follow that the semitone is superfluous in music and has no power to vary the species of the consonances. How true this is can be seen in Part III in many places,<sup>392</sup> where I have shown that it is thanks to the semitone that in the said species there is variety created by the transposition of the semitone from one place to another.

It is very true that removing a tetrachord from a composition and putting in it another tetrachord can be done in two manners. First, when only in one part<sup>393</sup> of the composition, let us say in the

partbook of the tenor,<sup>394</sup> or of another part (but not in all of them), one puts once or twice between the Mese and the Paramese the note b-flat, that is, the Tritē Synemmenon. And in this case we may say that removing the tetrachord Diezeugmenon, which begins on the note b-natural, that is, on Paramese, and replacing it with the Synemmenon, which begins on the note a, namely, putting in the above-mentioned b-flat, do not have power to transform one mode into another, and that this tetrachord placed in the composition is not natural but accidental, and in this case they<sup>395</sup> are right.

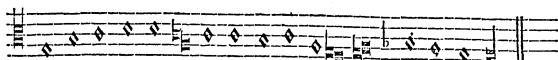
But the second way is when throughout the whole composition, that is, in every part,<sup>396</sup> we use the tetrachord Synemmenon in place of the Diezeugmenon, and instead of singing the said composition according to the property of b-natural we sing it according to that of b-flat. Thus when it is done in the second manner, they<sup>397</sup> are not right, because this tetrachord is not placed accidentally in the composition, but is natural, and the mode is said to be transposed, as we shall see further down, and this tetrachord has the power to transform one mode into another. And by a suitable example we shall be able to  
 318 know easily that this is true.

Let us put the following tenor in the seventh mode,<sup>398</sup> contained within its natural notes, that is, in their proper and natural places, within the seventh species<sup>399</sup> of the octave:

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cont.


*Infan Eli ta te fer ui a mus Domi no, & li be ra bit nos ab i ni mi cis no stris.*

I say that if in this tenor, or in a similar one, the note b-natural were changed only once or twice into b-flat, it would not cause this mode to be transformed, except in that small part in which it is placed, and it would not have power to change the mode. For although the note b-flat placed in this  $\langle$ way<sup>a</sup> $\rangle$  is necessary in order to regulate the modulation, nevertheless, being accidental, it does not change the form of the mode to the extent that it would not be recognized as the seventh, as can be seen in this example:



*Ampli us la ua me Do mi ne ab in iu sli ti a me a.*

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a  $\langle$ manner $\rangle$

318  
cont.

But if we put at the beginning of these tenors the sign b-flat, which indicates that throughout the whole composition we should proceed through the notes of the tetrachord Synemmenon, I say that then the note b-flat will be inherent and not accidental and will have power to change the seventh mode into the first mode;<sup>400</sup> for it changes the species of the diapente, which before was the fourth species, between G and d, and creates the first species of the diapente, between the same notes, as shown here:<sup>401</sup>

*In san cti ta te ser ui a mus Do mi no, & li be ra bit nos ab i ni mi cis nos tris.*

It is very true that the mode is not in its regular notes,<sup>402</sup> for it is transposed up by a diatessaron. Thus if one puts it in its proper place, one would find it arranged in this manner:

*In san cti ta te ser ui a mus Do mi no, & li be ra bit nos ab i ni mi cis nos tris.*

It is not absolutely true, then, that putting in a composition the tetrachord Synemmenon in place of the Diezeugmenon does not have power to change that mode in which it is placed into another mode, but it is very true<sup>403</sup> when it is placed according to the way shown.<sup>404</sup> We shall say then that if a change of tetrachord is followed by a change of octave,<sup>405</sup> and a change of octave brings about a change of mode, then proceeding from the first to the last we shall say that a tetrachord placed in the second way shown<sup>406</sup> has «power<sup>407</sup>» to change one mode into another. In this manner Jean Mouton changed the mode in the Mass that he composed on the Antiphon Argentum, & aurum non est mihi, which is in the seventh mode; but nonetheless by transposing the tetrachord, or changing it, he made it of the eleventh mode.

We shall conclude then that any time we put in a composition the note b-flat in place of b-natural, this note will always cause the mode to change;<sup>408</sup> and the same is true for its opposite, namely, putting the note b-natural in place of b-flat, as experience shows.

On the transposition of modes

If it is then possible (according to what has been shown<sup>409</sup>) that by changing one note into another, namely, by putting the note b-flat

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cont.

in place of b-natural, or, to say it better, by transposing the semitone, one can change one mode into another and cause the first mode<sup>410</sup> to become the seventh mode, and the seventh mode the first mode, then there is no doubt that any mode, be it the first, second, third, fourth, or any of the others, can be transposed up or down, as pleases us, with the help of any note that changes one octave into another.<sup>411</sup>

And how convenient this can become at times, I shall leave to the judgment of each one who has sense, for these transpositions are {useful and<sup>a</sup>} extremely necessary to every expert organist, who accompanies choral music, and likewise to players of other sorts of instruments, so that they may accommodate the sounds of their instruments to the voices, which sometimes cannot ascend or descend as is called for by the proper places of the modes accommodated on the said instruments. And these transpositions are now in use among modern musicians, as they were also among the ancients, Okeghem and his disciple Josquin, and infinite others, as can be seen in their compositions.

When it then will happen that by necessity or any other accident it becomes necessary to transpose the mode contained in any composition, musicians should be warned above all to arrange it in such

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<sup>a</sup> 《not only useful but also》

319  
cont.

manner and place that, ascending and descending, one can have all those notes necessary for the constitution of this mode, namely, which yield the wholetones and semitones necessary for its essential being.

And composers should observe this especially when they want to compose for an instrument; for when they want to compose for voice only, it would not be a great mistake if they would mark with some accidentals a few notes not found on the instrument, especially the clavichord, such as enharmonic notes available on a few artificial instruments.<sup>412</sup> And I have said this because the voice can be made high and low, or can be used in any other manner, according to the will of the singer, but this cannot be done so freely with instruments.

Now in order to show in what manner any composition can be conveniently transposed away from its natural notes, we shall take only the third and fourth examples given in the preceding chapter,<sup>413</sup> for they will be able to show in the best way in what manner every composition which proceeds through the note b-natural can be transposed up by a diatessaron with the help of the note b-flat, or vice versa, namely, when the melodic line proceeds through b-flat, in what manner it can be conveniently transposed down by the same interval with the help of b-natural.

But because sometimes musicians, not simply out of necessity but

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cont.

rather as a joke and caprice, or perhaps because they want to entangle the brain (so to say) of the singers, transpose the modes further up or down by a wholetone or another interval, using not only chromatic but also enharmonic notes in order to be able, when necessary, to transpose conveniently the wholetones and semitones to their places according to the proper form of the mode, therefore I want to show in what way they are usually transposed.

And although musicians generally transpose modes in more than two manners, nevertheless I shall discuss here only the two most common transpositions, done in the first mode, from which everyone will be able to understand the manner to be adhered to in the other modes; and they will be the following.

The first transposition is done with the help of notes marked by a flat, and the second with the help of those marked by a sharp.

*IN san cti ta te ser ui a mus Do mi no, & li be ra bit nos ab ini mi cis no stris.*

*IN san cti ta te ser ui a mus Do mi no, & li be ra bit nos ab ini mi cis no stris.*

320 It must be noted that the moderns call these transpositions "modes transposed by false music," which (according to what they declare) they claim to be a transposition of figures from their own place to another (meaning, however, a transposition of the whole order found in each mode).

I leave now to everyone expert in music to judge how useful this knowledge can be to every organist not so well instructed in music, inasmuch as he will be able, from the above-shown examples, to see and know what to do when transposing a composition while playing a church service in which various choral compositions are sung, not only at Mass and Vespers but also in the other Hours,<sup>414</sup> both diurnal and nocturnal.

But this should be known above every other thing, that although I have given examples of the first mode only, these transpositions can be done in other compositions written in other modes, which (I have not shown<sup>a</sup>) because I want to be brief.<sup>416</sup>

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a «I have clearly shown in the twenty-fifth [Proposal] of the Fifth [Discussion] of Dimostrationsi,<sup>415</sup> hence I shall not speak further about this thing»

A detailed discussion of the first mode;<sup>417</sup> its  
nature, its beginnings, and its cadences

I shall now start the discussion of each mode separately, beginning with the first mode. To this end let us proceed in order. I shall first show that it is in use not only among <Ecclesiastics but also among the whole school of musicians.<sup>a</sup>> Then I shall show where<sup>419</sup> one can regularly start this mode and where (as much in this one as in each of the other modes) one can make the cadences. <Having done that, I shall<sup>b</sup>> discuss to some extent its nature <&and property, as I shall deem appropriate>>.

<I say then that the first mode, as I have shown,<sup>420</sup> is that<sup>c</sup>> contained within the fourth species of the octave, found between the

- a <<the whole school of musicians but also among the Ecclesiastics.<sup>418</sup>>>
- b <<not neglecting to>>
- c <<In order to observe what should be observed with all reason, we shall discuss at present the third mode, which until now has been placed by the community of musicians, with little reason, in the first place, and now (for the reasons adduced in the Fifth Book<sup>421</sup> of Dimostrations<sup>422</sup>) deservedly possesses the third place. This mode is>>

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cont.

two extreme notes D and d, divided harmonically. Regarding this division, practical musicians say that this mode is ⟨composed of<sup>a</sup>⟩ the first species of the diapente, D and a, and the first species of the diatessarion, a and d, placed above ⟨the<sup>b</sup>⟩ diapente.

In this mode there are infinite ⟨ecclesiastical⟩ compositions, «which are found in ecclesiastical books,» such as Introits, Graduals, «Allelujas,» Antiphons, Responsories, «Prosae,<sup>423</sup>» and other similar things. Among other musicians,<sup>424</sup> ⟨compositions written in this mode are also almost infinite and include<sup>c</sup>⟩ Masses, Motets, Hymns, Madrigals, and other «sorts of» vocal music «in Latin and in the vernacular composed in the modulations of this mode». Among these are the motets Veni sancte spiritus ⟨and Victimae paschali⟩ composed for six voices and the madrigal Giunto m'ha Amor ⟨composed⟩ for five voices, all by Adrian. I, too, wrote ⟨in this mode⟩ many ⟨compositions, among which are two motets<sup>d</sup>⟩ for five voices,

---

a «contained within»

b «that same»

c «one cannot number the»

d «things, among which are the motets Hodie Christus, natus est, Victimae paschali and Salve regina miseridiae, for six voices, and one»

〈O beatum pontificem and〉 Nigra sum sed formosa. There are also many other compositions 〈by many excellent musicians<sup>a</sup>〉 which, for the sake of brevity, I shall not name.

And although the true and natural beginnings, <sup>425</sup> not only of this but also of 〈every<sup>b</sup>〉 other mode, are on the extreme notes of their diapente and diatessaron and on the middle note which divides the diapente into a major third and a minor third, nevertheless there are many compositions that begin on other notes, none of which I shall mention in order to be brief. «But I shall say only that» the Ecclesiastics observed in their compositions some intermediate endings at the end of each clausula, or period, and of each complete sentence. These they called cadences, which are very necessary for distinguishing the words that indicate that the sense of the sentence is complete. And he who wishes to know what these cadences are, can read chapter 〈53<sup>c</sup>〉 of Part III, <sup>427</sup> for I have sufficiently discussed this matter there, and he will then have full knowledge of them.

Thus it will suffice to say here, once and for all, that cadences are «found to be» of two sorts, namely, regular and irregular. The

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a «written by other musicians»

b «whatever»

c «51<sup>426</sup>»

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cont.

regular are those which are always made on the extreme sounds, or notes, of the modes, and on the middle note by which the octave in each mode is meant or divided harmonically or arithmetically; and these are the extreme notes<sup>428</sup> of the diapente and diatessaron «into which the octave is divided». [The regular cadences are] also where the diapente is divided by a middle note into a major third and a minor third. To say it better, [regular cadences are made on] the true and natural beginnings of each mode; and the other cadences made on whatever other notes are called irregular. The regular cadences of «the first<sup>a</sup>» mode, then, are those made on the notes D, F, a, and d; and the irregular are those «made<sup>b</sup>» on the other notes.

But so that what has been said may be more easily understood, I shall present an example «composed» for two voices, whereby one will be able to know the proper places of the regular cadences and to see the manner that should be adhered to in «composing» their modulations. I shall do so not only when discussing the first mode but also the others, as «we shall see below.<sup>c</sup>»

- 
- a «this»  
b «placed»  
c «follows.»

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Handwritten musical notation system 1. The top staff is in treble clef with a key signature of one flat (B-flat) and a 4/4 time signature. The melody consists of quarter and eighth notes. The bottom staff is in bass clef and contains rests for the first two measures, followed by a half note and two quarter notes in the third measure.

Handwritten musical notation system 2. The top staff continues the melody from system 1. The bottom staff contains rhythmic notation: a quarter note followed by three eighth notes in the first measure, and a quarter note followed by three eighth notes in the second measure.

Handwritten musical notation system 3. The top staff continues the melody. The bottom staff contains rhythmic notation: a quarter note followed by an eighth note in the first measure, and a quarter note followed by a sharp sign in the second measure.

Handwritten musical notation system 4. The top staff continues the melody. The bottom staff contains rhythmic notation: a quarter note followed by a quarter note in the first measure, and a quarter note followed by a quarter note in the second measure.

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cont.

The first system of musical notation consists of two staves. The upper staff is in treble clef and contains a sequence of notes: a quarter note G4, a quarter note A4, a quarter note B4, a quarter rest, a quarter note C5, a quarter note B4, and a quarter note A4. The lower staff is in bass clef and contains a sequence of notes: a quarter note G3, a quarter note A3, a quarter note B3, a quarter note C4, a quarter note B3, a quarter note A3, a quarter note G3, a quarter note F3, a quarter note E3, a quarter note D3, a quarter note C3, a quarter note B2, a quarter note A2, and a quarter note G2.

The second system of musical notation consists of two staves. The upper staff is in treble clef and contains a sequence of notes: a quarter note G4, a quarter note A4, a quarter note B4, a quarter note C5, a quarter note B4, a quarter note A4, a quarter note G4, a quarter note F4, a quarter note E4, a quarter note D4, a quarter note C4, a quarter note B3, a quarter note A3, a quarter note G3, a quarter note F3, a quarter note E3, a quarter note D3, a quarter note C3, a quarter note B2, a quarter note A2, and a quarter note G2. The lower staff is in bass clef and contains a sequence of notes: a quarter note G3, a quarter note A3, a quarter note B3, a quarter note C4, a quarter note B3, a quarter note A3, a quarter note G3, a quarter note F3, a quarter note E3, a quarter note D3, a quarter note C3, a quarter note B2, a quarter note A2, a quarter note G2, a quarter note F2, a quarter note E2, a quarter note D2, a quarter note C2, a quarter note B1, a quarter note A1, and a quarter note G1.

The third system of musical notation consists of two staves. The upper staff is in treble clef and contains a sequence of notes: a quarter note G4, a quarter note A4, a quarter note B4, a quarter note C5, a quarter note B4, a quarter note A4, a quarter note G4, a quarter note F4, a quarter note E4, a quarter note D4, a quarter note C4, a quarter note B3, a quarter note A3, a quarter note G3, a quarter note F3, a quarter note E3, a quarter note D3, a quarter note C3, a quarter note B2, a quarter note A2, and a quarter note G2. The lower staff is in bass clef and contains a sequence of notes: a quarter note G3, a quarter note A3, a quarter note B3, a quarter note C4, a quarter note B3, a quarter note A3, a quarter note G3, a quarter note F3, a quarter note E3, a quarter note D3, a quarter note C3, a quarter note B2, a quarter note A2, a quarter note G2, a quarter note F2, a quarter note E2, a quarter note D2, a quarter note C2, a quarter note B1, a quarter note A1, and a quarter note G1.

The fourth system of musical notation consists of two staves. The upper staff is in treble clef and contains a sequence of notes: a quarter note G4, a quarter note A4, a quarter note B4, a quarter note C5, a quarter note B4, a quarter note A4, a quarter note G4, a quarter note F4, a quarter note E4, a quarter note D4, a quarter note C4, a quarter note B3, a quarter note A3, a quarter note G3, a quarter note F3, a quarter note E3, a quarter note D3, a quarter note C3, a quarter note B2, a quarter note A2, and a quarter note G2. The lower staff is in bass clef and contains a sequence of notes: a quarter note G3, a quarter note A3, a quarter note B3, a quarter note C4, a quarter note B3, a quarter note A3, a quarter note G3, a quarter note F3, a quarter note E3, a quarter note D3, a quarter note C3, a quarter note B2, a quarter note A2, a quarter note G2, a quarter note F2, a quarter note E2, a quarter note D2, a quarter note C2, a quarter note B1, a quarter note A1, and a quarter note G1.





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cont.

It must, however, be noted that the cadences of the Psalmodies «must» always be made where the end of the mediation of their Intonation falls. Hence the cadences of the mediation, or midpoint of the Psalmody, of the first, fourth, and sixth (modes) will be made on a; those of the second, on f; those of the third, fifth, and eighth, on C; <sup>429</sup> and those of the seventh, on e; <sup>430</sup> for these mediations, or midpoints, end there, as can be seen in the «above-mentioned book <sup>431</sup>» Recanetto, <sup>432</sup> «in the Thoscanello, <sup>433</sup>» and in many other (books) which contain similar Psalmodies, or Intonations, however we want to call them. The finals, then, are always placed where each verse of these Psalmodies, or of each Psalm, ends.

We should also always observe to make the cadences principally in the tenor, (inasmuch as <sup>a</sup>) this part is the principal leader of (the modes <sup>b</sup>) in which the composition is written; and from it the composer should take the invention of the other parts. (But <sup>c</sup>) these cadences are «also» made in the other parts of the composition (when it <sup>d</sup>) is more convenient.

- 
- a «because»  
 b «each mode»  
 c «It is very true that»  
 d «and this according to what»

«The true and natural beginnings of this mode are on the notes D, F, a, and d, similarly its regular cadences, as seen in the above example.<sup>434</sup> Yet not only irregular beginnings but also irregular cadences are made on the other notes,<sup>435</sup> as seen in many compositions, not only ecclesiastical but others as well.»

This mode has a very close kinship, «so to say,» with the ninth mode,<sup>a</sup> because musicians write in its ⟨proper location their compositions<sup>b</sup>⟩ of the ninth mode, ⟨outside its natural notes,⟩ transposing it up by a diatessaron ⟨or down by a diapente⟩, leaving 322 «aside» the note b-natural and replacing it with b-flat, «which belongs to the tetrachord Synemmenon.» Morales the Spaniard did so in the motet Sancta et immaculata virginitas, «and Giaches in the motet Spem in alium, both» for four voices.<sup>437</sup>

And because the first mode has a certain effect midway between sad and gay, on account of the minor third heard in the concentus above the extreme notes of the diapente and diatessaron,<sup>438</sup> and of the absence of the major third in the lower part,<sup>439</sup> «therefore» its nature is «known as» somewhat sad.<sup>440</sup> ⟨Thus<sup>c</sup>⟩ we can best

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a «which is contained between the notes a and aa.<sup>436</sup>»

b «notes their songs»

c «Hence»

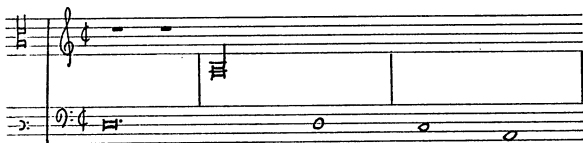
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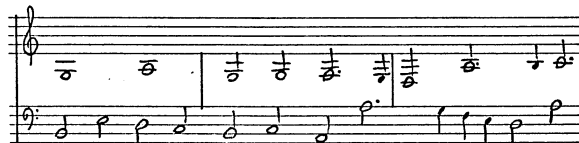
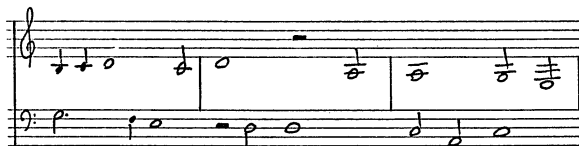
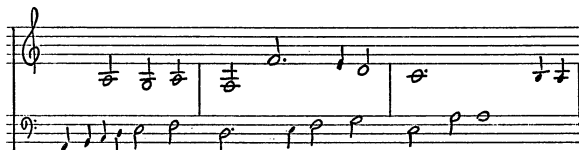
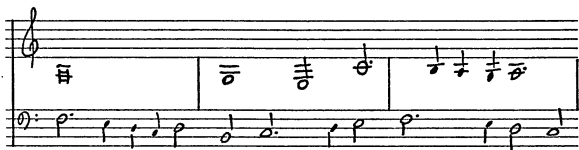
accommodate it to words full of gravity and dealing with high and meaningful things, so that the harmony is suited to the subject matter contained in them.<sup>441</sup>

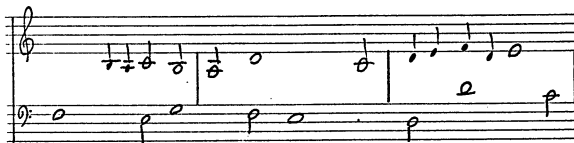
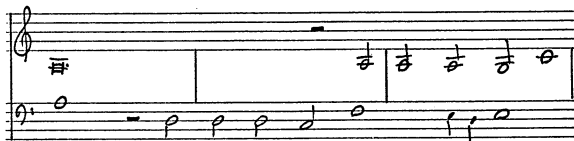
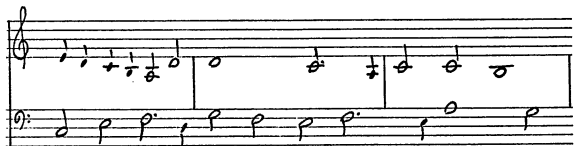
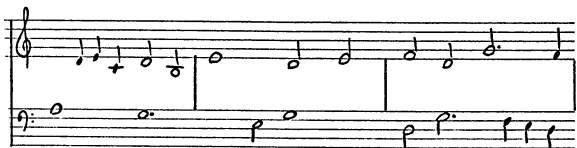
## Chapter 19

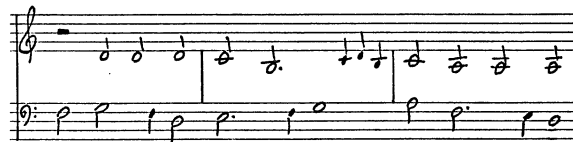
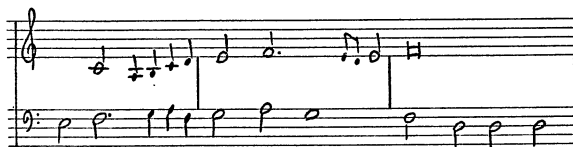
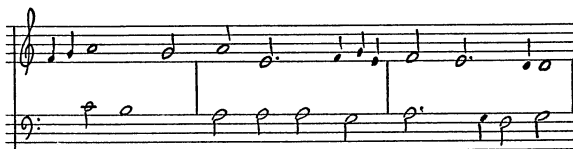
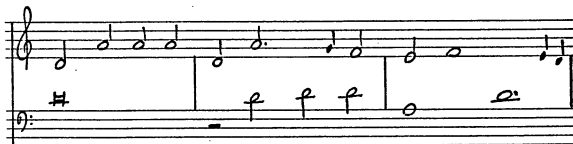
On the second mode

Some claimed that the second mode contains a certain severe, not flattering, gravity, and that its nature is tearful and humble, so that moved by this opinion they called it a lamenting, humble, and deprecating mode. Hence one sees that the Ecclesiastics, holding this as true, used it for sad and lamenting things, as for Lent and other fast days. They<sup>442</sup> say it is a mode fit for words which represent weeping, sadness, loneliness, captivity, calamity, and every kind of misery. It is very much in use in their chants.

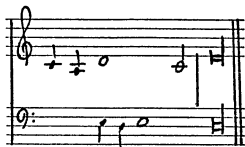


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323 Its principal and regular cadences (this mode being not very different from the first as both are composed of the same species<sup>443</sup>) are placed on the notes named above, which are a, F, D, and A,<sup>444</sup> and which are seen in the example. The other cadences, then, which are placed on other notes, are all irregular. Practitioners say that this mode is composed of the first species of the diapente, a & D, placed above, and of the first species of the diatessarion, D & A, placed below. They call it collateral or plagal of the first mode.

There are many compositions in the second mode, composed by many ancient and modern musicians. Among them is the motet Praeter rerum seriem, composed for six voices by Josquin and for seven voices by Adrian. Also the madrigal Che fai alma, similarly for seven voices, the motet Avertatur obsecro Domine, and the madrigal Ove ch'i posi gli occhi, both for six voices, «by the said Adrian,» together with many others. I, too, have composed in this

323  
cont.

mode the Sunday prayer Pater noster, the Angelic Salutation Ave Maria, for seven voices, and the motets Ego rosa Saron and Capite nobis vulpes paruulas for five voices. There are also many other compositions written by various composers, which are not mentioned here because they are almost infinite.

In figured music this mode is rarely found in its proper notes, but is found transposed up by a fourth<sup>445</sup> most of the time, as may be seen in the above-mentioned motets. This occurs because it can be transposed, as can be also the first mode, with the help of the note Tritē Synemmenon. And just as there is a close concurrence between the first and ninth modes, so it truly exists between this and the tenth mode.<sup>446</sup>

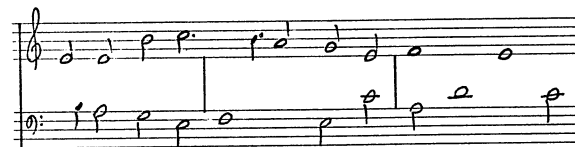
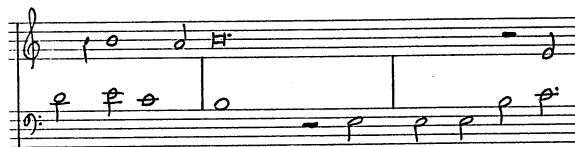
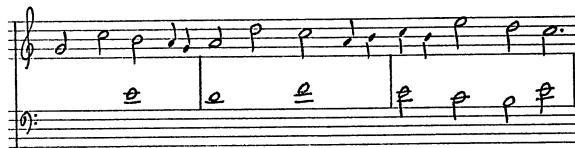
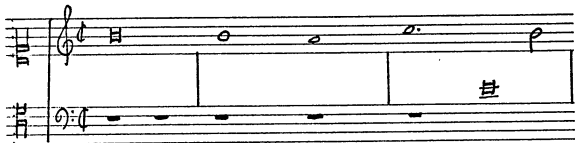
## Chapter 20

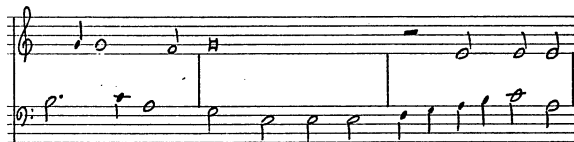
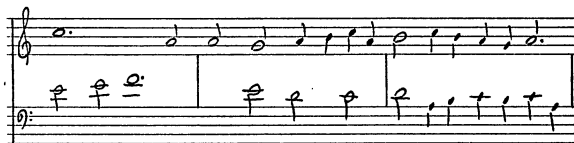
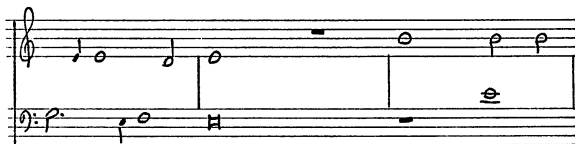
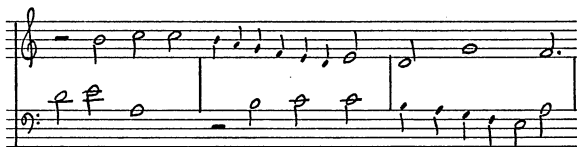
### On the third mode

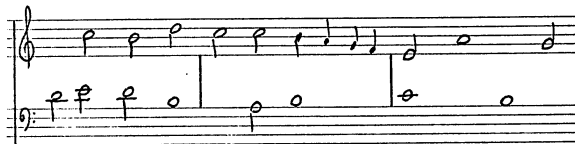
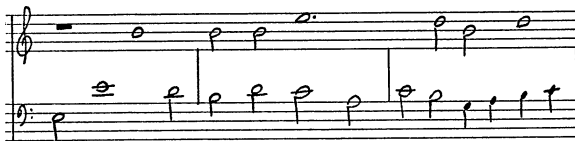
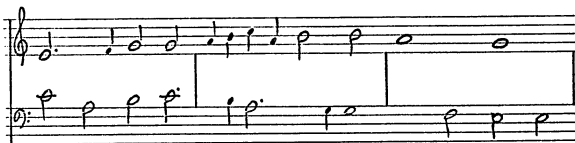
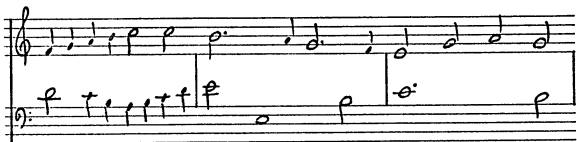
The third mode comes into being from the fifth species of the octave, divided harmonically by the note b-natural; or from the union of the second species of the diapente, E & b-natural, placed below, with the second species of the diatessaron, b-natural & e, placed above. This mode has its final note E in common with the fourth (mode), and the Ecclesiastics have infinite compositions in this

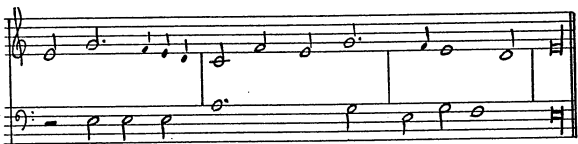
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mode, as may be seen in their books.



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324 Its principal cadences are made on the notes of its regular beginnings, namely, the notes E, G, b-natural, and e, which are the extremes of its diapente and diatessaron, and the middle of the diapente. The others, then, which are irregular,<sup>447</sup> can be made on other notes. But because once the regular cadences are known, the irregular ones can be easily recognized, therefore (we shall give an<sup>a</sup>) example of the former so that we shall recognize the latter.

It should, however, be noted that in this mode, as in the fourth, seventh, and eighth modes, the cadences are regularly made on the note b-natural; but because this note does not have a correspondence for a fifth<sup>448</sup> above, nor for a fourth<sup>449</sup> below, therefore this note sounds somewhat hard. Yet this hardness is tolerated in compositions written for more than two voices, because they are kept in

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a « I have given the »

324  
cont.

such an order that they make a good effect, as may be seen among the cadences presented in chapter 61<sup>450</sup> of Part III.<sup>451</sup>

There are many compositions written in this mode, among which are the motet O Maria mater Christi, for four voices, by Isaac; the motets Te Deum patrem, Huc me sydereo, and Haec est domus domini, composed by Adrian for seven voices; and the madrigal I mi rivolgo indietro, composed by the same Adrian for five voices. To these I shall add Ferculum fecit sibi rex Salomon, which I have composed, together with many others (in this mode), similarly for five voices.

If this mode were not mixed with the ninth mode,<sup>452</sup> and were heard by itself, its harmony would be somewhat hard; but because it is tempered by the diapente of the ninth mode and by the cadence made on a, which is very much in use in it, therefore some were of the opinion that its nature moves one to weeping. Hence they accommodated to it words tearful and full of laments.

This mode concurs greatly with the above-mentioned ninth mode, because the second species of the diatessaron is common to both of them. And modern musicians often transpose it up by a diatessaron,<sup>a</sup>

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<sup>a</sup> « within the octave F and f, »

away from its natural notes, with the help of the note b-flat, even though most of the time it is placed in its proper and natural location.

## Chapter 21

### On the fourth mode

Following this is the fourth mode contained within the second species of the octave, b-natural & B-natural, divided arithmetically by its final note E. This mode is composed of the second species of the diapente, b-natural & E, placed above, and the second species of the diatessaron, E & B-natural, placed below.

This mode, too, according to their opinion,<sup>453</sup> accommodates itself marvelously to lamentful words which contain sadness or supplicant lamentation, such as matters of love and those expressing languor, quiet, tranquility, adulation, deception, and detraction. Because of this effect some called it a flattering mode. This mode is somewhat sadder than its principal, especially when proceeding in contrary motion, namely, downward,<sup>454</sup> «and» in slow tempo.

I believe that if it were used simply, without mixing in it the diapente and the cadence placed on a used in the tenth mode, it would be somewhat more virile than when mixed in this way. Nevertheless, mixed in this manner, it is very much used, so that there are many

324  
cont.

compositions written in this mode. Among them are the motet De profundis clamavi ad te Domine for four voices by Josquin, the motet Peccata mea Domine, the madrigals Rompi dell'empio cor il dura scoglio and «In qual parte del ciel, composed» by Adrian; all (composed) for six voices, (and the madrigal Laura mia sacra, composed for five voices.)

I, too, composed many compositions in this mode, among which are, for six voices, the motet Miserere mei Deus miserere mei «and also Misereris omnium Domine,» and a Mass, without using the osservanze shown in Part III.<sup>455</sup> And this I did for no other reason than to show everyone who would like to compose without departing from the given rules that when one wants to do so, one can compose easily without these osservanze, and much better than what some do who do not know them.<sup>456</sup>

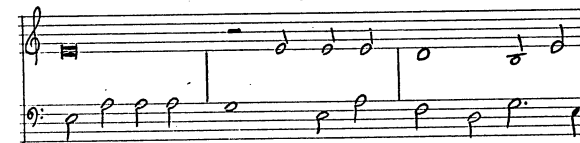
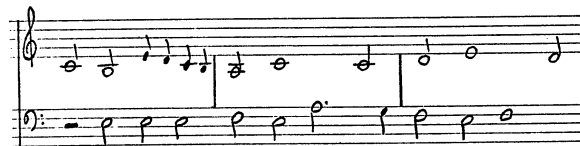
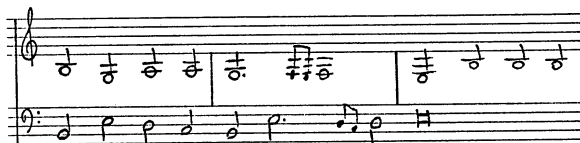
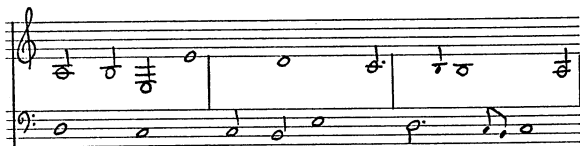
There are almost infinite ecclesiastical compositions in this mode, in which very rarely (even if I said "never," I should not be mistaken) the note b-natural is touched. It is very true that it rises to the note c in a manner that the semitone normally heard below is heard above, and so the extremes of this mode come to be the notes c & C.

Its irregular beginnings, according to the Ecclesiastics, are found in many places, but the regular ones are only on the notes

B-natural, E, G, and b-natural,<sup>457</sup> as are also its regular cadences, which are shown below, although there are many irregular ones.

Most of the time practitioners transpose it up by a diatessaron, putting the note b-flat in place of b-natural, as may be seen in infinite compositions. This thing is also done (as I have said<sup>458</sup>) in the other modes.

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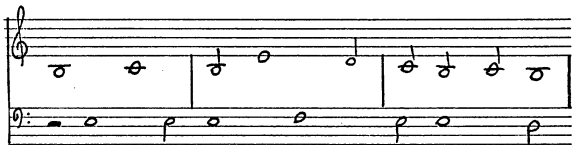
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First system of musical notation. The treble clef staff contains a sequence of notes: a half note G4, a quarter note F#4, a quarter note E4, a quarter rest, a quarter note D4, a quarter note C4, a quarter note B3, a quarter note A3, a quarter note G3, and a quarter note F3. The bass clef staff contains a sequence of notes: a half note G2, a quarter note F#2, a quarter note E2, a quarter note D2, a quarter note C2, a quarter note B1, a quarter note A1, a quarter note G1, and a quarter note F1.

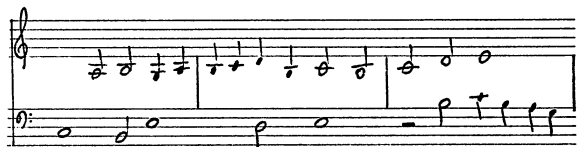
Second system of musical notation. The treble clef staff contains a sequence of notes: a half note G4, a quarter note F#4, a quarter note E4, a quarter note D4, a quarter note C4, a quarter note B3, a quarter note A3, a quarter note G3, and a quarter note F3. The bass clef staff contains a sequence of notes: a half note G2, a quarter note F#2, a quarter note E2, a quarter note D2, a quarter note C2, a quarter note B1, a quarter note A1, a quarter note G1, and a quarter note F1.

Third system of musical notation. The treble clef staff contains a sequence of notes: a half note G4, a quarter note F#4, a quarter note E4, a quarter note D4, a quarter note C4, a quarter note B3, a quarter note A3, a quarter note G3, and a quarter note F3. The bass clef staff contains a sequence of notes: a half note G2, a quarter note F#2, a quarter note E2, a quarter note D2, a quarter note C2, a quarter note B1, a quarter note A1, a quarter note G1, and a quarter note F1.

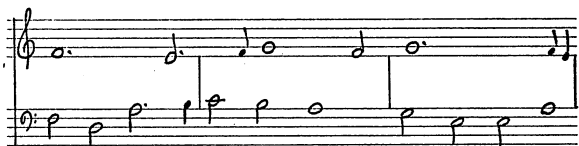
Fourth system of musical notation. The treble clef staff contains a sequence of notes: a half note G4, a quarter note F#4, a quarter note E4, a quarter note D4, a quarter note C4, a quarter note B3, a quarter note A3, a quarter note G3, and a quarter note F3. The bass clef staff contains a sequence of notes: a half note G2, a quarter note F#2, a quarter note E2, a quarter note D2, a quarter note C2, a quarter note B1, a quarter note A1, a quarter note G1, and a quarter note F1.

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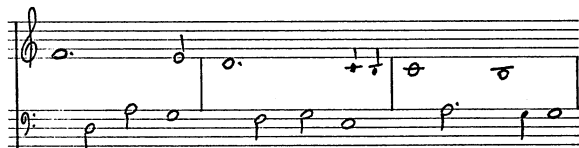
The first system of musical notation consists of two staves. The upper staff is in treble clef and contains three measures of music with notes on the second, third, and fourth lines. The lower staff is in bass clef and contains three measures of music with notes on the first, second, and third lines.



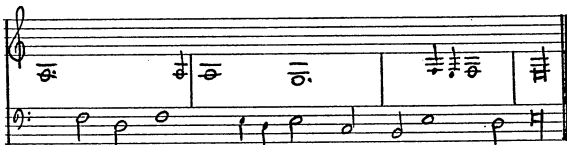
The second system of musical notation consists of two staves. The upper staff is in treble clef and contains three measures of music with notes on the second, third, and fourth lines. The lower staff is in bass clef and contains three measures of music with notes on the first, second, and third lines.



The third system of musical notation consists of two staves. The upper staff is in treble clef and contains three measures of music with notes on the second, third, and fourth lines. The lower staff is in bass clef and contains three measures of music with notes on the first, second, and third lines.



The fourth system of musical notation consists of two staves. The upper staff is in treble clef and contains three measures of music with notes on the second, third, and fourth lines. The lower staff is in bass clef and contains three measures of music with notes on the first, second, and third lines.

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## Chapter 22

On the fifth mode

The fifth mode is contained within the sixth species of the octave, F & f, meant harmonically by the note c. Practitioners say that it is composed of the third species of the diapente, F & c, and of the third species of the diatessaron, c & f, placed above the diapente. The note F is the common final note of this mode and the sixth mode, its collateral. Of this octave species we have only this mode, because it cannot be divided other than harmonically.<sup>459</sup>

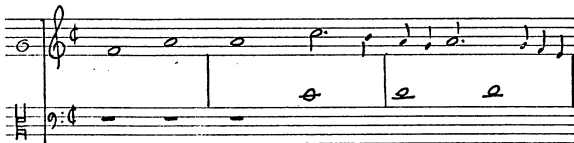
Some claim that, in singing, this mode brings modesty, happiness, and elevation to the spirit from annoying cares. Yet the ancients used to accommodate it to words, or subject-matters, containing some victory; hence because this some called it a joyous, modest, and

pleasing mode.

And although its natural beginnings are placed on the notes F, a, c, and f, because they are regular notes, nevertheless among the Ecclesiastics there are other beginnings on various other notes, as may be seen in their books. The regular cadences of this mode are made on the above-mentioned four notes, as seen in the example; and the irregular cadences, when one wants to use them, are made on the other notes.

Many compositions in this mode are found in ecclesiastical books, although it is not much in use among modern composers, for they consider it harsher and more unpleasant than any other mode. Nevertheless there are many compositions written in it, such as the Hymn of Saint Francis, Spoliatis aegyptiis, by Adrian; and two madrigals by Cipriano de Rore, Di tempo in tempo mi si fa men dura and Donna che ornata sete; and that of Francesco Viola, Fra quanti amor, all composed for four voices; and many more which do not come to my mind.<sup>467</sup>

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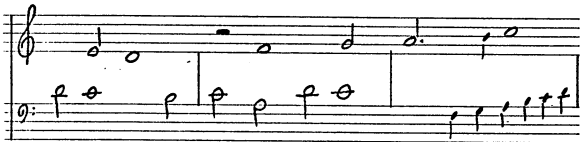
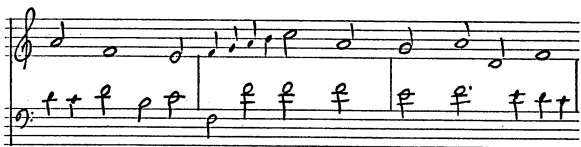
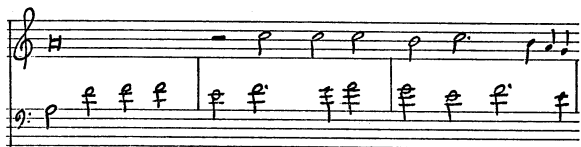
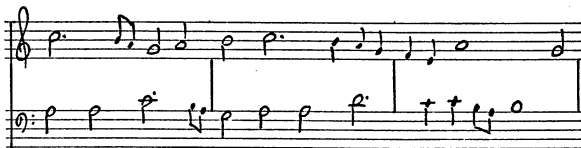
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Handwritten musical notation for the first system, measures 1-3. The treble clef staff contains a melody of quarter notes: C4, D4, E4, F4, G4, A4, B4, C5, B4, A4, G4, F4, E4, D4, C4. The bass clef staff contains chords: F4 (measure 1), F4, G4, A4, B4 (measure 2), F4, G4, A4, B4, C5 (measure 3), F4, G4, A4, B4, C5 (measure 4), F4, G4, A4, B4, C5 (measure 5), F4, G4, A4, B4, C5 (measure 6), F4, G4, A4, B4, C5 (measure 7), F4, G4, A4, B4, C5 (measure 8).

Handwritten musical notation for the second system, measures 4-6. The treble clef staff contains a melody of quarter notes: D4, E4, F4, G4, A4, B4, C5, B4, A4, G4, F4, E4, D4, C4. The bass clef staff contains chords: F4, G4, A4, B4, C5 (measure 4), F4, G4, A4, B4, C5 (measure 5), F4, G4, A4, B4, C5 (measure 6), F4, G4, A4, B4, C5 (measure 7), F4, G4, A4, B4, C5 (measure 8), F4, G4, A4, B4, C5 (measure 9), F4, G4, A4, B4, C5 (measure 10), F4, G4, A4, B4, C5 (measure 11).

Handwritten musical notation for the third system, measures 7-9. The treble clef staff contains a melody of quarter notes: E4, F4, G4, A4, B4, C5, B4, A4, G4, F4, E4, D4, C4. The bass clef staff contains chords: F4, G4, A4, B4, C5 (measure 7), F4, G4, A4, B4, C5 (measure 8), F4, G4, A4, B4, C5 (measure 9), F4, G4, A4, B4, C5 (measure 10), F4, G4, A4, B4, C5 (measure 11), F4, G4, A4, B4, C5 (measure 12), F4, G4, A4, B4, C5 (measure 13), F4, G4, A4, B4, C5 (measure 14).

Handwritten musical notation for the fourth system, measures 10-12. The treble clef staff contains a melody of quarter notes: F4, G4, A4, B4, C5, B4, A4, G4, F4, E4, D4, C4. The bass clef staff contains chords: F4, G4, A4, B4, C5 (measure 10), F4, G4, A4, B4, C5 (measure 11), F4, G4, A4, B4, C5 (measure 12), F4, G4, A4, B4, C5 (measure 13), F4, G4, A4, B4, C5 (measure 14), F4, G4, A4, B4, C5 (measure 15), F4, G4, A4, B4, C5 (measure 16), F4, G4, A4, B4, C5 (measure 17).

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Cont.

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cont.

First system of musical notation, measures 1-2. The treble clef staff contains notes: quarter, quarter, eighth, eighth, quarter, quarter, quarter, quarter, quarter, quarter. The bass clef staff contains notes: quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter.

Second system of musical notation, measures 3-4. The treble clef staff contains notes: quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter. The bass clef staff contains notes: quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter.

Third system of musical notation, measures 5-6. The treble clef staff contains notes: quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter. The bass clef staff contains notes: quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter.

Fourth system of musical notation, measures 7-8. The treble clef staff contains notes: quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter. The bass clef staff contains notes: quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter, quarter.

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The first system of music consists of two staves. The upper staff is in treble clef and begins with a whole rest, followed by a half note, and then a sequence of quarter notes. The lower staff is in bass clef and contains a sequence of notes and rests, including a half note and several quarter notes.

The second system of music consists of two staves. The upper staff is in treble clef and begins with a half note, followed by a sequence of quarter notes. The lower staff is in bass clef and contains a sequence of notes and rests, including a half note and several quarter notes.

The third system of music consists of two staves. The upper staff is in treble clef and begins with a quarter note, followed by a sequence of quarter notes and a whole note. The lower staff is in bass clef and contains a sequence of notes and rests, including a half note and several quarter notes.

This mode can be transposed down by a diapente with the help of the note b-flat, leaving out b-natural, as done in the other modes when transposed up; and its final note is b-flat,<sup>461</sup> as everyone can see.

## Chapter 23

On the sixth mode

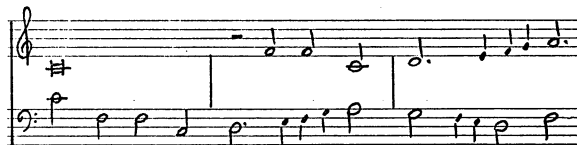
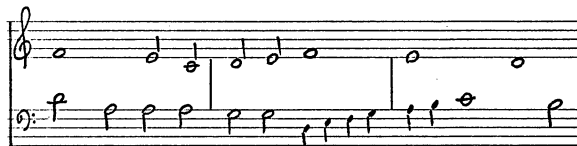
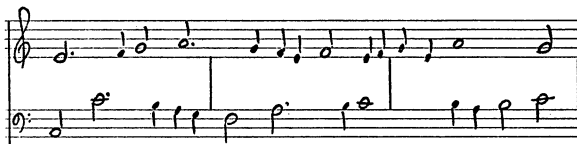
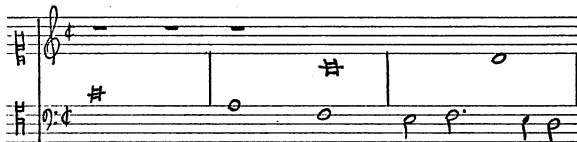
After the fifth mode follows the sixth, contained within the third species of the octave, c & C, divided arithmetically.<sup>462</sup> Practitioners say that this mode is formed and comes into being by the conjunction of the third species of the diapente, c & F, placed above, with the third species of the diatessaron, F & C, accommodated below; and that the note F is its final note.

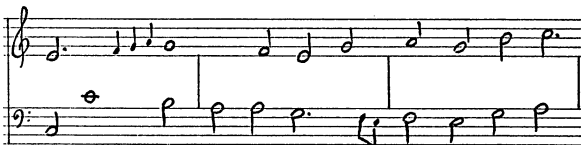
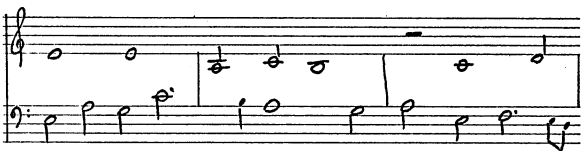
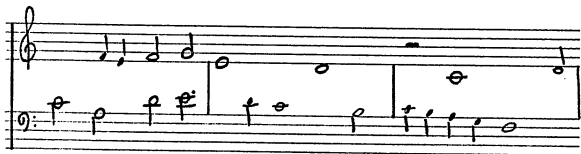
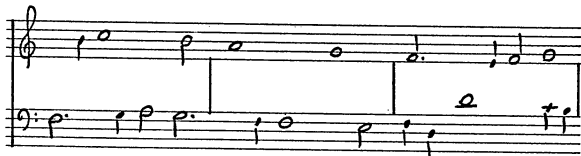
This mode was used very frequently by the Ecclesiastics, just as its principal mode was also very frequently used. Thus in their books<sup>463</sup> there are many compositions written in this mode which, they say, is not very gay nor very elegant. And therefore they used it in serious and devout compositions containing commiseration, and accompanied with it subject matters containing tears; and so they called it a devout and tearful mode, unlike the second mode, which is more funereal and calamitous than anything else.

The regular beginnings of this mode and its regular cadences  
 327 are made on the notes c, a, F, and C; the irregular ones, then, are made on the other notes. When the former are known, it is easy to know the latter. Therefore it will not be inappropriate to give an example of them<sup>464</sup> so that one may know the whole thing more easily,

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and it will be placed below.



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cont.

I remember having seen many compositions written in this mode, but at present only the following come to my mind: a motet by Mouton for four voices, Ecce Maria genuit nobis Salvatorem; and a Psalm for two divided choirs<sup>465</sup> by Adrian for eight voices, In convertendo Dominus captivitatem Syon, «composed on the sixth Psalmody. 466»

This mode can also be transposed up by a fourth<sup>467</sup> with the help of the note b-flat, as the others are transposed; and how easy this is everyone will be able to know from the above-mentioned two compositions.

#### Chapter 24

##### On the seventh mode

The seventh mode is contained within the seventh species of the octave, G & g, divided harmonically. This mode (as the moderns say) comes into being from the conjunction of the first species of the diatessaron, d & g, with the fourth species of the diapente, G & d, the latter placed below and the former above.

The words, or subject matter, appropriate to this mode (according to what one says) are those which are lascivious or which deal with lasciviousness; words which are gay and said with modesty; and those

which include threat, perturbation, and anger.

Its regular beginnings and its principal and regular cadences are placed on the notes G, b-natural, d, and g, as seen here.

328

The image displays two systems of handwritten musical notation. The first system consists of two staves: a treble clef staff and a bass clef staff. The treble staff begins with a whole rest, followed by a half note G. The bass staff begins with a half note G, followed by a quarter note B-natural, and a quarter note D. The second system also consists of two staves. The treble staff begins with a quarter note G, followed by an eighth note B-natural, an eighth note D, and a quarter note G. The bass staff begins with a quarter note G, followed by an eighth note B-natural, an eighth note D, and a quarter note G.

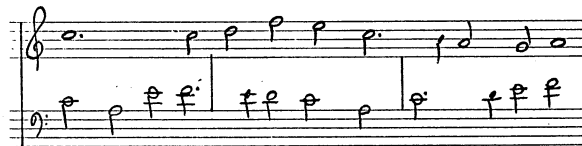
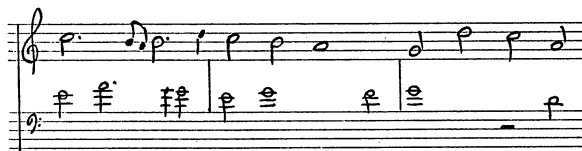
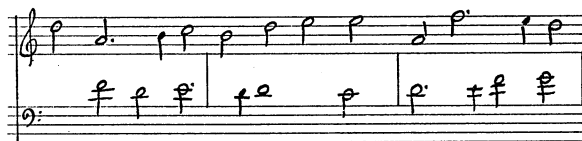
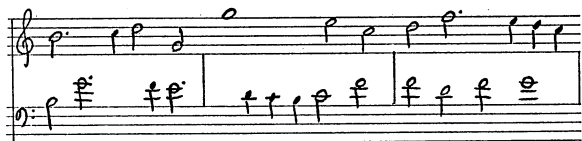
328  
cont.

First system of musical notation. The treble clef staff contains a whole rest, followed by a half note, and then four eighth notes. The bass clef staff contains three measures of chords: the first measure has a quarter note and a triplet of eighth notes; the second measure has a quarter note and a pair of eighth notes; the third measure has a quarter note and a triplet of eighth notes.

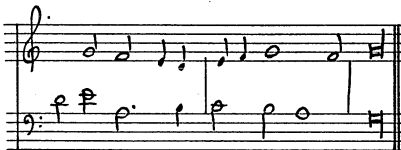
Second system of musical notation. The treble clef staff contains four eighth notes, followed by a quarter note, two eighth notes, a quarter note, and a half note. The bass clef staff contains three measures: the first has a quarter note and a triplet of eighth notes; the second has a quarter note and a pair of eighth notes; the third has a quarter note and a triplet of eighth notes.

Third system of musical notation. The treble clef staff contains four eighth notes, followed by a quarter note, a pair of eighth notes, a quarter note, and a half note. The bass clef staff contains three measures: the first has a quarter note and a pair of eighth notes; the second has a quarter note and a pair of eighth notes; the third has a quarter note and a pair of eighth notes.

Fourth system of musical notation. The treble clef staff contains a quarter note, a pair of eighth notes, a quarter note, a pair of eighth notes, and a half note. The bass clef staff contains three measures: the first has a quarter note and a triplet of eighth notes; the second has a quarter note and a pair of eighth notes; the third has a quarter note and a pair of eighth notes.

328.  
cont.

328  
cont.



But the irregular ones are placed on the other notes.

There are many compositions written by musicians in this mode, among which are Pater peccavi and I piansi hor canto by Adrian for six voices. This mode is much in use among the Ecclesiastics, and in the compositions of other musicians it is found most of the time within its natural notes. But many times, with the help of the note b-flat, it is transposed down by a diapente without any inconvenience.

## Chapter 25

### On the eighth mode

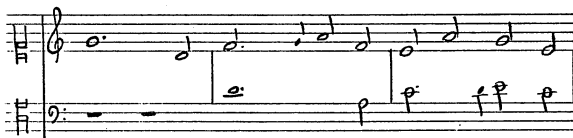
The seventh is followed by the eighth mode, contained within the fourth species of the octave, d & D, divided arithmetically by the note G, and (as one says) generated by the conjunction of the fourth species of the diapente, d & G, placed above, with the first species of the

diatessaron, D & G, placed below.

This mode has the final note G in common with the seventh mode; and practitioners say that it contains a certain natural softness and abundant sweetness which fill the spirit of the listeners with joy combined with greatest gaiety and sweetness; and they claim that it is completely removed from lasciviousness and every vice. Hence they accompanied with it tame, civilized, and grave words, or subject matters, containing profound, speculative, and divine things, such as those suited for entreating the grace of the Lord.

In the ecclesiastical books there were many compositions in this mode, which has its regular beginnings on the notes d, b-natural, G, and D; but the irregular beginnings are on the other notes; and its regular cadences are placed similarly on the four notes shown above, as may be seen in the example placed below.

329







329  
cont.

The image displays three systems of musical notation. Each system consists of a treble clef staff and a bass clef staff. The first system shows a melodic line in the treble staff and a bass line in the bass staff. The second system continues the melody and bass line, with a sharp sign (#) above the treble staff. The third system shows the final notes of the piece, also with a sharp sign (#) above the treble staff.

But the irregular cadences are placed on the other notes.

In the writings of the other musicians<sup>468</sup> there are many compositions, among which are the motets Benedicta es coelorum regina by Josquin, Audite insulae, for six voices, Verbum supernum prodiens and the madrigal Liete & pensose, accompagnate & sole Donne, all by Adrian, for seven voices, and many, (almost infinite,) others.

329  
cont.

This mode can be transposed, like the others, away from its natural notes, moving it up by a diatessaron with the help of the note b-flat, because otherwise transposition would be impossible. «Here, however, I want to warn about one thing, for the place demands it. The Ecclesiastics usually applied the Psalmody of the Psalm In exitu Israel de Aegypto,<sup>469</sup> found in the following chapter, to all those Antiphons in this mode that begin on the notes C or D and end on its finalis G, such as Nos qui vivimus, Martyres Domini, and many similar others found in the old antiphonaries, as their SEUOUAE shows. Hence in order not to leave out anything pertaining to the musician, I wanted to mention it, so that one will not be surprised if one happens to see such a thing. For one can truly say that this Psalmody is more appropriate than the eighth, which is applied to the other Antiphons in this mode, because its modulation confirms greatly with the modulations of the already-mentioned Antiphon. But let us now discuss the next<sup>470</sup> mode.<sup>471</sup> »

## Chapter 26

### On the ninth mode<sup>472</sup>

The ninth mode (as practitioners say) comes into being from the conjunction of the first species of the diapente, A & E,<sup>473</sup> or a & e

(whatever one prefers<sup>474</sup>), with the second species of the diatessaron, E & a, or e & aa. Better said, it is contained within the first species of the octave, A & a, or a & aa, divided harmonically by the note E, or by e.

One can never truly say that this is a new mode, but rather it is very ancient, even though until now it has been deprived of its name<sup>475</sup> and of its proper place, for some have placed it among some of their modes which they call irregular, as if it were not subject to that same rule to which the other modes are subject, and as if its octave were not divided harmonically, as that of the other modes, but in some other strange manner. True (as I have said elsewhere<sup>476</sup>), for the  
 330 Intonations of the Psalms, «or Psalmodies, however we wish to call them,» the Ecclesiastics have indicated only «the first eight modes,<sup>a</sup>» as can be seen in their books; but simply because of this one cannot say that this mode is irregular, inasmuch as the «Psalmody or» Intonation of the Psalms is one thing, and the modulations found in different modes, in plainsong as much as in figured music, are another thing. «I do not want to<sup>b</sup>» believe for anything that at any time

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a «eight modes, namely, the third, fourth, fifth, sixth, seventh, eighth, ninth, and tenth, <sup>477</sup>»

b «One should not»

330  
cont.

there was some Antiphon composed in any of these ⟨last four modes<sup>a</sup>⟩ to which one could not apply one of the above-mentioned eight Intonations ⟨or Psalmodies⟩; especially because each one of them has different endings, as is manifest to all who are experienced in this thing.<sup>b</sup>

Some have called this mode open and terse, very suitable for lyrical verses; hence one can accompany with it words containing gay, sweet, soft, and sonorous subject-matters, because (as they say) it has in itself a pleasant severity, mixed with a certain gaiety and moreover sweet softness. A very well known thing to all experts in music is that this mode and the first mode conform with each other; for the first species of the diapente is common to both of them, and one can pass from one to the other easily, as can also be said about the third and eleventh modes.

In this mode there are many ecclesiastical compositions, referring to which would be very long. Among them is the chant<sup>479</sup> of

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a ⟨modes: first, second, eleventh, or twelfth⟩

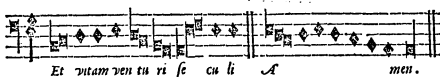
b ⟨Because the fifth Psalmody can be matched with the first mode, the sixth Psalmody with the second mode, the first Psalmody with the eleventh mode, and the second Psalmody with the twelfth mode,<sup>478</sup> proceeding by those species of the diapente and diatessarion which call for the above-mentioned four modes.⟩

330  
cont.

the Sunday prayer, Pater noster, which<sup>a</sup> ends on the note A in a manner seen in some correct ancient copies.



Also in this mode is the Nicene Creed, Credo in unum Deum, of which the Intonation begins on the note D and comes to an end (as may be seen in the correct copies) on the same note A,<sup>480</sup> and not, as <one does,<sup>b</sup>> on B-natural, or on E transposed up by a diatessaron with the help of the note b-flat.



This chant when transposed should end on the note D, but it has been spoiled and made incorrect by the ignorance of the scribes, as happens also in other things of major importance. And not only the endings of

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a «is contained within the sixth species of the octave, A and a, and»

b «seen in their books,»

330  
cont.

the shown chants are away from their proper and natural notes but also those of other chants, which are spoiled and corrupted in such manner that it would be too long a thing to show if one wanted to give a particular example of each.

But how easy it is to transform ecclesiastical chants from one mode to another, varying only the final note or transposing it down or up, without the help of the note b-flat, this is easy to see for all experienced in music if they want to examine closely modulations and procedures. This would not be very difficult to show if one wanted to spend a little time on it.

Composed in this mode is the Antiphon Ave Maria gratia plena<sup>481</sup> which, in the ancient books, ends  $\langle$ in this way<sup>482</sup> $\rangle$  within its natural notes,  $\langle$ as seen here, $\rangle$  whereas in the modern [books] it is written lower by a diapente,  $\langle$ and its Psalmody is the first one, beginning on the note C. $\rangle$

*A ve Ma ri a gra ti a plena Dominus te cum be ne di ctus tu in mu li e-*

*ribus & be ne diclus fructus ventris tu i.*

And that this is true we may understand from the fact that Pierre de la Rue composed the Mass for four voices on this Antiphon in the true and essential notes of this mode, in which also the Introit Gaudeamus omnes in Domino is composed. No one should be surprised at it, especially seeing that the Psalmody (of the Psalm) which follows is in the first (mode) ; for (as I have already said<sup>483</sup>) it is not inconvenient to adapt each of the four (last modes<sup>a</sup>) to the Intonation of each of the above-mentioned eight Psalmodies. And if the note b-flat, put in place of B-natural, has the power to change one mode into another, there is no doubt that the above-mentioned Introit,<sup>484</sup> being  
 331 placed within the fourth species of the octave and sung with b-flat, is also in the ninth mode, as may be clearly seen by examining all I have said above in chapter 16.<sup>485</sup>

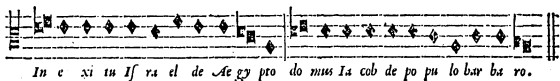
But if one wanted to bring it back to its true and natural notes, transposing it up by a diapente, it would be placed within the first species of the octave, a & aa, as did (the learned) Josquin who, composing the Mass for four voices on this Introit, took it back, as may be seen, to its natural notes. Thus I now remember that some were not wrong when they judged that the Intonation of the Psalm In

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<sup>a</sup> « modes mentioned just before »

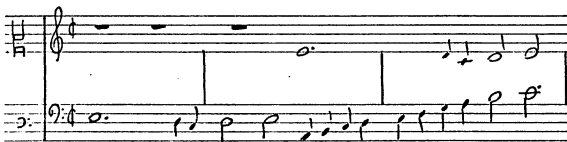
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exitu Israel de Aegypto, placed below, was <in the ninth mode;<sup>a</sup>>



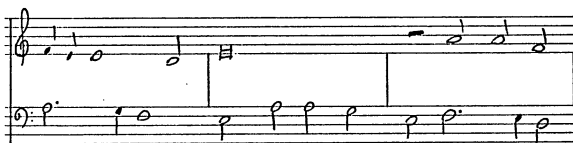
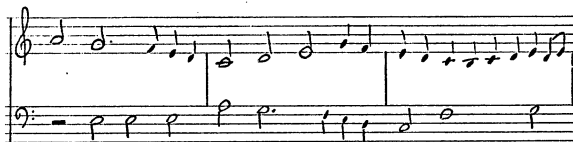
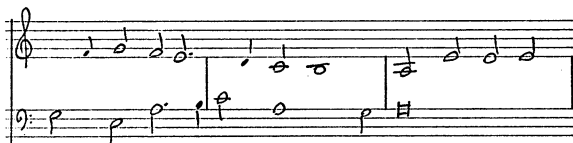
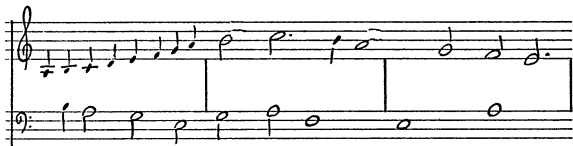
for they claim that the Antiphon Nos qui vivimus benedicimus Domi-  
num has been spoiled and transposed away from its place by some  
scribe who wanted to show himself more clever<sup>486</sup> than the others,  
just as they have also done to «many» others.<sup>487</sup>

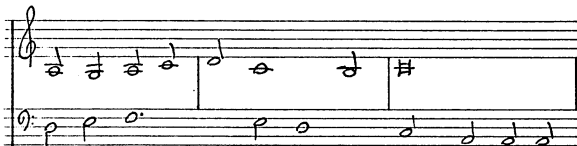
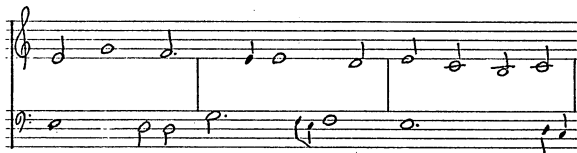
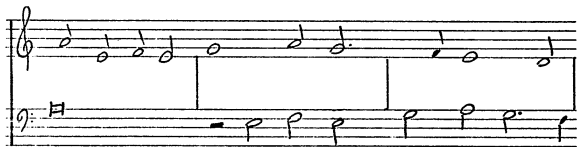
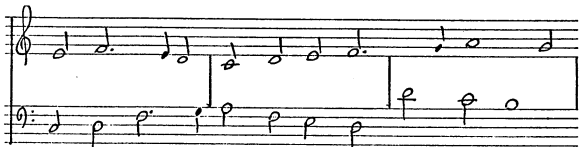
This mode has, like the other modes, regular and irregular  
beginnings and cadences. The regular beginnings are those placed  
on the notes A, C, E, and a, as are also the cadences, as seen in  
this example.




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a «the ninth Psalmody;»

331  
cont.

331  
cont.

The image displays three systems of musical notation. Each system consists of two staves: a treble clef staff on top and a bass clef staff on the bottom. The first system shows a melodic line in the treble staff and a bass line in the bass staff. The second system continues the melody and bass line. The third system shows a shorter melodic phrase and bass line, ending with a double bar line.

332 But the irregular beginnings and cadences are placed on the other notes.

In this mode there are various compositions, among them the motets Spem in alium nunquam habui by Giaches and Sancta & immaculata virginitas by Morales the Spaniard, both composed for four voices,<sup>488</sup> and the two Masses mentioned above.<sup>489</sup> I, too,

332  
cont.

composed in this mode the motet Si bona suscepimus de manu Domini, the madrigal I vo piangendo il mio passato tempo, for five voices, «the Mass on the motet Benedicam Dominum by Jean Mouton, for six voices,<sup>490</sup>» and also other things, which I do not name.

This mode, like the other modes, can be transposed down by a diapente with the help of the note b-flat.

## Chapter 27

### On the tenth mode

It would take a very long time if one wanted to show all the compositions in the ecclesiastical books<sup>491</sup> written in the ⟨ninth mode and also in the tenth mode and in the other two that follow.<sup>a</sup>⟩ They are for the most part Graduals, Offertories, Postcommunions, and similar others.<sup>493</sup> And by people not so well instructed in music, they are not so easily recognized ⟨as those modes which have Intonations of some verses or Psalms of Gloria patri after them, such as Antiphons, Responsories, and Introits. From the ending of such compositions and from the beginning of some figures<sup>494</sup> placed over

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<sup>a</sup> «first and second modes, and also in the tenth<sup>492</sup> and twelfth.»

332  
cont.

SEUOUAE,<sup>495</sup> which are the vowels of Seculorum amen, we know easily in what mode they are composed.

Thus one has this rule, that when the composition ends on D and the beginning of its SEUOUAE starts on a, one knows that this composition is in the first mode. When the end of the composition is placed on D and beginning of SEUOUAE is placed on F, one knows that it is composed in the second mode; but when the end of the composition is placed on E and the beginning of SEUOUAE is on c, one says that it is in the third mode. Similarly one says that a composition is in the fourth mode when it ends on E and SEUOUAE begins on a. One knows also that a composition is written in the fifth mode when it ends on the note F and SEUOUAE begins on the note c, just as one knows that a composition is in the sixth mode when it ends on the note F and SEUOUAE begins on that same note or on a. One further says that a composition is in the seventh mode when it ends on the note G and SEUOUAE begins on the note d; and a composition is in the eighth mode when it ends on G and has the beginning of the end of the Psalm verse (for it is no other than the said SEUOUAE) on c.<sup>496</sup>

In this manner by these rules one can easily recognize the modes and then know in what manner to intone the said verse, or Psalm, which follows that Antiphon; for these compositions are written in the

332  
cont.

first eight modes.<sup>497</sup> But those that do not have such Intonations<sup>498</sup> are free and can be composed in whatever mode one prefers, and they are not not so easily recognizable as are those mentioned above. Therefore it is no wonder that some have not had perfect knowledge of these four last modes, for these cannot be recognized in such a manner.

Wanting then<sup>a)</sup> to have perfect knowledge <thereof, <sup>b)</sup> one should note <(returning to the discussion of the tenth mode<sup>501</sup>)> that this mode is contained within the notes of the fifth species of the octave, E & e,<sup>502</sup> divided arithmetically by the note a; and therefore some say that this mode is composed of the first species of the diapente, e & a, placed above, and of the second species of the diatessaron, a & E, placed below, joined at the note a, the finalis of this mode.

We may say that the nature of this mode is not very far from that of the second and fourth modes, if such judgment may be made from the harmony arising from it; for it uses the diapente common to it and to the second mode, and the diatessaron used also in the

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a «but I shall leave aside this issue,<sup>499</sup> and shall follow my principal purpose. And I shall say only that wanting»

b «of the twelfth mode, which is the last one of the twelve,<sup>500</sup>»

fourth mode.

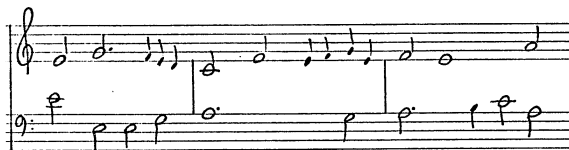
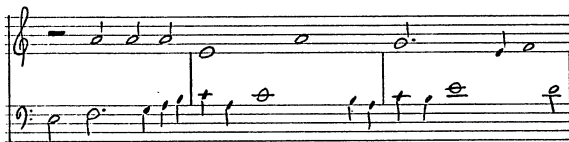
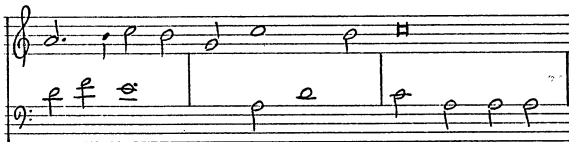
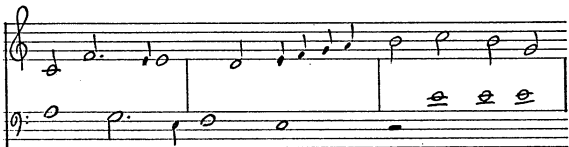
Its regular beginnings are on the notes e, c, a, and E, and so are its cadences. But because knowing the regular cadences one can easily know on which notes the irregular ones are made, therefore I shall give an example of the former only, which will be placed below.

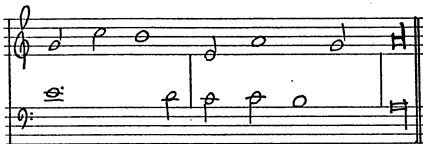
There are many compositions in this mode, such as Gabriel archangelus locutus est Zachariae by Verdelot, likewise Flete oculi, rorate genas by Adrian, both for four voices, and many others.

This mode is transposed down by a diapente with the help of the note b-flat, without which there would be very little that would be good «and stay good».

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cont.

333  
cont.

## Chapter 28

On the eleventh mode

The eleventh mode comes into being from the third species of the octave, C & c, (which is) meant harmonically by the note G. (Hence) practitioners (claim<sup>a</sup>) that this mode is composed of the fourth species of the diapente, C & G, placed below, and of the third species of the diatessaron, G & c, placed above.

This «mode (as they say)» is by its nature very suitable for dances and balls, therefore we find that most (dances<sup>b</sup>) heard in Italy are played in this mode.<sup>503</sup> Hence it has happened that «in our times» some (have called<sup>c</sup>) it a lascivious mode.

- 
- a «say»  
b «of those»  
c «call»

333  
cont.

There are many compositions in this mode in the ecclesiastical books, such as the Mass called De Angeli, and the Antiphons Alma redemptoris mater and Regina coeli laetare Haleluiah. This mode is so much in use and loved by the moderns that, induced by its sweetness and beauty, they have changed into the eleventh mode many compositions written in the fifth mode by adding the note b-flat in place of b-natural.

Its regular beginnings are placed on the notes, C, E, G, and c, and so also its cadences. And its irregular beginnings and cadences are placed on the other notes.

Musicians have written many compositions in this mode, among them Stabat mater dolorosa by Josquin for five voices; O salutaris hostia, Alma redemptoris mater, and Pien d'un vago pensier by Adrian; and Descendi in ortum meum by Giaches; all composed for six voices. Also in this mode are the motets Audi filia & vide by Gombert and Ego veni in hortum meum,<sup>504</sup> which I <composed many years ago,<sup>a</sup>> both for five voices, and infinite others, <which it would be a long time to enumerate.<sup>b</sup>>

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a «also composed,»

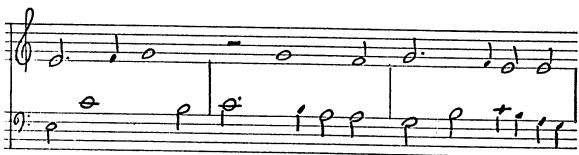
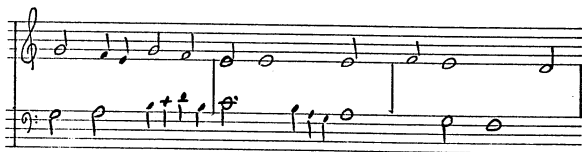
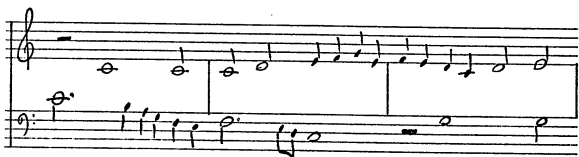
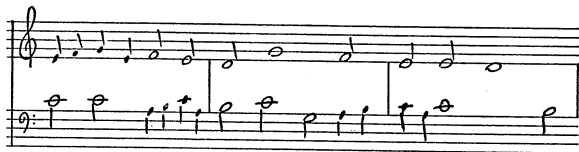
b «referring to which one by one would be impossible.»

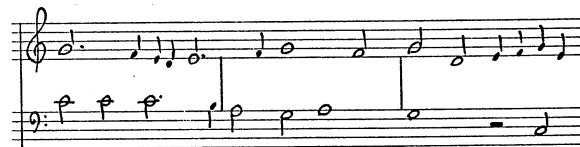
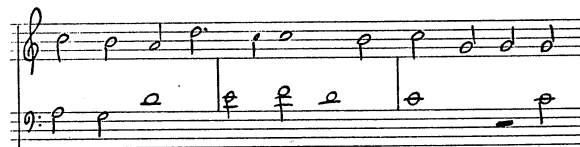
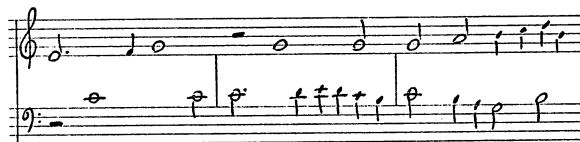
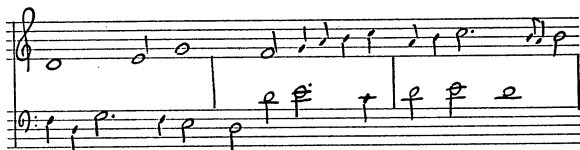
This mode is transposed away from its natural notes up by a diatessaron (or down by a diapente with the help of the note b-flat,<sup>a</sup>) passing through the notes of the tetrachord Synemmenon, «in which the note b-flat is found, as may be seen in all those compositions I have mentioned above.»

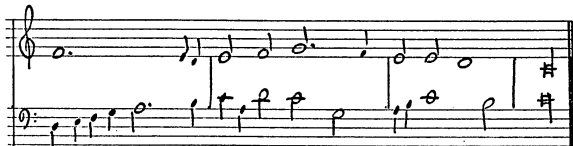
334

The image displays three systems of musical notation, each consisting of a treble clef staff and a bass clef staff. The notation is handwritten and includes various rhythmic values (quarter, eighth, and sixteenth notes) and accidentals (sharps, flats, and naturals). The first system shows a melodic line with a series of quarter notes and a bass line with a sequence of notes including a flat. The second system continues the melodic line with more complex rhythmic patterns and a bass line with a series of notes. The third system shows a melodic line with a series of notes and a bass line with a sequence of notes, including a flat.

<sup>a</sup> «within the octave F and f,»

334.  
cont.

334  
cont.

334  
cont.

## Chapter 29

On the twelfth mode

〈 The last of the twelve mode is the twelfth, <sup>a</sup>〉 contained within the seventh species of the octave, g & G, <sup>505</sup> divided arithmetically by the note c, its finalis. This mode (as 〈they<sup>b</sup>〉 say) comes into being from the conjunction of the fourth species of the diapente, g & c, placed above, with the third species of the diatessaron, c & G, placed below.

Among the Ecclesiastics, in ancient times, this mode was little in use «in its natural notes, as may be seen in their ancient books<sup>507</sup>»:

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a «Immediately following the first is the second of the twelve modes, which is »

b «practitioners»

334  
cont.

but the ⟨more⟩ moderns have changed into the twelfth mode most of their compositions which were in the sixth mode, with the help of the tetrachord Synemmenon, namely, with the note b-flat. They<sup>508</sup> have also written new compositions in this mode, among which is the Antiphon Ave regina coelorum, and many others.

This mode, «as far as its Psalmody, which is the sixth, is concerned,» is suitable ⟨for<sup>a</sup>⟩ things of love containing lamentful things; ⟨for in plainsong it is a lamentful mode and, according to their opinion,<sup>509</sup> has some sadness. Nevertheless<sup>b</sup>⟩ every composer wishing to write a composition that is gay does not depart from ⟨it. c⟩

Its regular beginnings are placed, together with its regular cadences (as shown in the example), on the notes g, e, c, and G.<sup>511</sup> The irregular ⟨beginnings and cadences, then, are placed⟩ on the other notes.

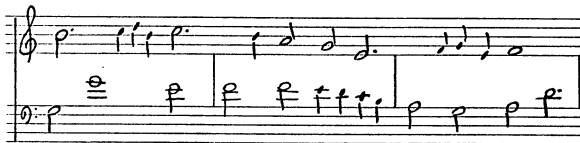
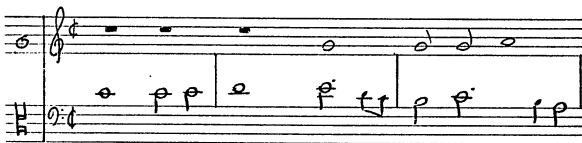
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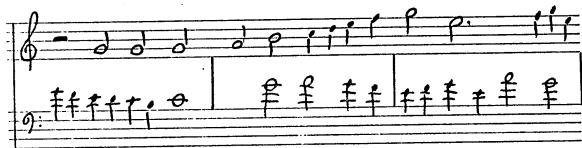
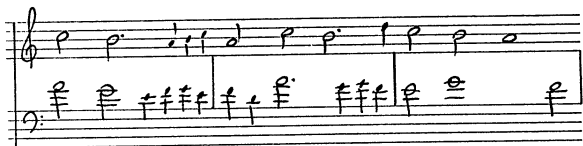
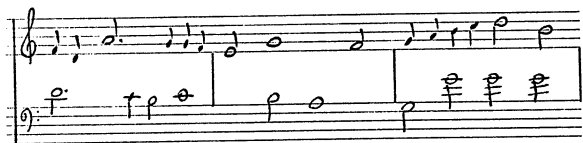
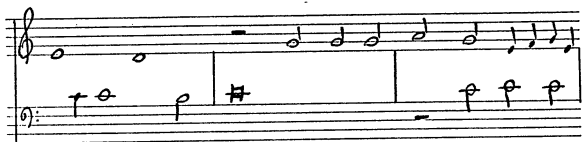
a «to express»

b «hence it is called a lamentful mode, because it contains (according to the opinion of musicians) a somewhat sad and languid modulation.<sup>510</sup> Nevertheless, considered as the second mode in its proper form, it is a gay mode, and this can be known from the fact that»

c «this mode.»

In this mode there are innumerable compositions<sup>512</sup> written by many practical musicians, among which are the motet Inviolata integra & casta es Maria by Josquin for five and by Adrian for seven voices; the motet Mittit ad virginem for six voices and the madrigals Quando nascesti Amor for seven voices, I vidi in terra angelici costumi for six voices, and Quando fra l'altre donne for five voices, all composed by Adrian. To these are added the motet by Giaches  
 335 for five voices, Decantabat populus, and the motets <Nemo venit ad me for five voices and > O quan gloriosum est regnum for six voices, <which I composed a long time ago, > «and Litigabant Iudei, which I composed to be sung in six voices.»



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cont.





defined, and all confusion is ended.<sup>a</sup> >

< That which the composer should observe when composing  
and in what manner the modes should be judged<sup>b</sup> >

First it should be noted that although there are almost infinite compositions in each of the shown modes, nevertheless there are many composed not in the simple modes but in the mixed modes.<sup>516</sup> Thus we shall find the third mode mixed with the tenth mode, the eighth with the eleventh, and so <forth> with the others, <one with another,> as may be learned from examining the said compositions,

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a 《with the help of the note b-flat of the tetrachord Synemmenon, up by a diatessaron, within the notes of the octave c and C, as can be clearly seen in the greater part of the above-mentioned compositions.

But I hope that what I have said till now about the nature and properties of the modes, and concerning the use, the beginnings, and the cadences of each one, is sufficient, for it is necessary that some other things be discussed and treated now, [things] which will be useful and also necessary to the composer. These seen, we shall talk about the value of some of the musical figures which are bound together.<sup>519</sup> This done (God be willing), we shall end.》

b 《In what manner the modes should be judged, and that which must be observed in composing.<sup>515</sup>》

336  
cont.

especially those of the third mode which, instead of the second species of the diapente, E & b-natural, have the second species of the diatessaron, E & a, below; and instead of the second species of the diatessaron, b-natural & e, have the first species of the diapente, a & e, above.<sup>517</sup>

Even though the said species are thus contained within the same octave, which is E & e, nevertheless one mode is meant harmonically and maintains the form of the third mode, and the other is divided arithmetically and maintains the form of the tenth mode. Since the species of the tenth mode are heard so much and repeated so many times, not only does the greater part of the composition no longer share anything with the third mode, but the whole composition turns out to be composed in the tenth mode. And that this is the truth can be understood from this, that if we join together these two species, namely, the diatessaron E & a and the diapente a & e, placing the latter above and the former below, there is no doubt that we shall have the form of the tenth mode contained within the fifth species of the octave divided arithmetically. In this manner the composition we judge to be in the third mode no longer has anything by which we can judge it to be in the mode, except its finalis, for it ends on the note E.

Although, however, the final note of the mode is that by which (as by its end) we should judge a composition, and not by what precedes

336  
cont.

it, as some want, for everything is rightly judged by its end, still we must not assume that by this note alone we can recognize the mode on which a composition is based.<sup>518</sup> Thus we must not believe that we may judge by the last note alone, but we must wait for the composition to be led to its end and then judge it rightly, inasmuch as the composition is then completed and has its true form from which one takes the occasion to make this judgment.

But it should be noted that the mode of a composition can be judged by two things: first, by the form of the whole composition; second, by its end, namely, by its final note. Since form is that which gives being to a thing, I would judge it reasonable to make such judgment not merely by the final note, as some have wanted, but by the whole form contained in the composition. Hence I say that ⟨if I had<sup>a</sup>⟩ to judge any composition by its form, namely, by its procedure, as is the obligation, it would not be unconventional, leaving aside the final note, for a principal mode to end on the dividing note of its octave meant harmonically; and in a similar way for a collateral mode to end on the extreme notes of its octave divided arithmetically.

How elegantly this can be done may be learned in the motet Si bona suscepimus de manu Domini, composed for five voices by

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a 《having》

336  
cont.

Verdelot; and the madrigal O invidia nemica di virtute, likewise composed for five voices, by Adrian. Although these have from beginning to end the procedure of, respectively, the ninth and the second modes, nevertheless they do not end on their true final notes but on their dividing notes. And what I say about the third and tenth modes can also be shown in the other modes, which I leave aside for the sake of brevity.

For this reason one should not be surprised if one does not hear any difference between a composition<sup>519</sup> which ends on the note E and another which ends on a, for they are composed in mixed modes in the manner described. But if they were composed in simple modes, without any mixing, there is no doubt that one would hear a great difference in harmony between one and the other.

When, then, we have to judge a composition, whatever it be, we shall have to consider it carefully from beginning to end and see in what form it is composed, whether in the form of the first, second, or any other mode, by keeping an eye on the cadences, which throw a great light on this matter, and then judge in which mode the composition is written, even if it does not end on its proper final note but rather on the dividing note,<sup>520</sup> or on some other note which fits the situation.

337 And if «in a composition» we should use such a manner of ending, it will not be out of place, seeing that the Ecclesiastics also have used it in their chants, as may be seen in settings of the *Κύριε ἑλέησον* named For Semidoubles or De Apostolis of which the form (as is clear) is that of the first mode; nevertheless the latter ends on the note a, which they call confinal, and which is the dividing note of the octave D & d that contains the form of the first mode. Then there is the Offertory sung at Mass for the Wednesday after the third Sunday in Lent, Domine fac mecum secundum misericordiam tuam, contained within its extreme notes F & e. There are two other chants, the first of which is Tollite hostias, sung after Communion of the Mass for the eighteenth Sunday after Pentecost and contained within the above-mentioned extreme notes; the second is Per signum Crucis, sung on the solemn feasts of the Finding and Exaltation of the Holy Cross and contained within the extreme notes F & g. These chants maintain the form of the seventh mode, for in them one finds modulation of its diapente, G & d, and of its diatessaron, d & g, and they end on the note b-natural, which is the dividing note of the said diapente.

It is very true that some moderns attribute these chants to the fourteenth mode,<sup>521</sup> as they say, but this I shall leave to the judgment of anyone who has intelligence. In some of the modern books these chants are transposed down by a diapente, out of their natural notes,

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cont.

without the help of the note b-flat, whether through ignorance or carelessness of the scribes, or through presumption of some <others> who understand little. But in the good and correct copies -- of which <to this day> I have with me an old one, written by hand, which may still be seen and examined -- they are contained within the above-mentioned notes.

But it should be noted that what I call the form of the mode are the octave divided into «its» diapente and diatessaron<sup>522</sup> and also these two parts<sup>523</sup> that come into being from harmonic or arithmetic division heard repeated many times in their proper modes.<sup>524</sup>

Thus when we compose, we shall be able to know from the above how to lead the parts<sup>525</sup> of the compositions and how to put the cadences at places suitable for the distinction of the words. And similarly we shall be able to know how to judge a composition, be it composed in whatever manner, in plainsong as well as in figured music.

On the manner to be followed in accommodating the parts<sup>526</sup>  
of a composition and on their range, <and how far the  
highest note of each of those placed above can be  
from the lowest note of the concertus>

Some are at times so indiscreet and of so little judgment in composing and in accommodating the parts in a composition that they sometimes make them go so excessively down or up that they <can hardly be sung.<sup>a</sup>> Therefore, so that all inconveniences that might occur in this art be removed and one compose in such a manner that every composition can be sung comfortably, I shall now show how to accommodate the parts among themselves, and likewise how far they can ascend or descend, and how distant from each other the extreme notes of each composition can be.

I say, then, that whenever a musician proposes to compose any motet, or madrigal, or any other kind of composition, having first «well» considered <the subject matter, namely,> the words of the subject, he must then choose the mode suitable to their nature.<sup>527</sup> This done, he should take care that the tenor proceed regularly

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<sup>a</sup> «cannot be sung, except with great effort.»

modulating through the notes of the mode «which was chosen», making its cadences according to what the perfection of the speech and the end of its sentences demand. And above all he should seek with every diligence to make that tenor all the more regular and beautiful, graceful and full of sweetness, as the composition is usually based on it, so that it becomes the nerve-center and link of all <its<sup>a</sup>> parts.

The parts should be joined together in such a manner and connected in such a way that if the tenor occupies the notes of any authentic or plagal mode, the bass ought to embrace the notes of its  
 338 companion.<sup>528</sup> And even if the tenor goes up or down by one or two notes beyond the notes of the octave containing the mode, this would be of little import; for musicians do not worry whether the tenor and other parts of their compositions<sup>529</sup> are perfect or imperfect or over-abundant, provided that the parts are well accommodated to the modulation<sup>530</sup> so that they make harmony. It would be good that each of them<sup>531</sup> not exceed eight notes and stay gathered within the notes of its octave; but because they do exceed it, which sometimes turns out to be of great convenience to the composer, therefore we shall ascribe this to a certain license taken rather than to the perfection of the thing.

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a «the other»

338  
cont.

But truly since the mode in which a composition is set is established in the tenor, the parts should be arranged in such a manner that if the mode in this part occupies the notes of the authentic, as I have said, the bass will contain in its notes the collateral, or plagal, mode. And so vice versa: if the tenor occupies in its notes the plagal mode, the bass ought to contain the authentic; and when they are so arranged, the others<sup>532</sup> will then be accommodated in the best way without any inconvenience to the composition.

Hence composers should be warned not to make the extreme notes of the bass more distant from the extremes of the tenor than by a diatessaron or a diapente, although it will not be an error to exceed the above by another note, inasmuch as thus placed they will come to be «arranged in such a way» as said above, namely, that one will occupy the notes of the authentic mode and the other those of its plagal. The tenor and the bass being then linked in this way, it will be easy to put the other parts in their place and arrange them in the composition. Thus the extreme notes of the soprano will be distant by an octave from the extremes of the tenor; and so the soprano as well as the tenor will sing in the notes of the authentic mode. Similarly the notes of the alto will be placed <in the same mode> as those of the bass, distant from them by an octave; and these parts will be arranged in such a manner that they occupy the notes of the plagal mode.

338  
cont.

All these parts «then» being so arranged, the soprano will hold the highest place of the composition; and the bass, the lowest. And (then) the tenor and alto will be the middle parts, with this difference, however, that the notes of the alto will be higher than those of the tenor by a diatessaron, a little more or a little less. And the extreme notes of the soprano will be as distant from those of the alto as the notes of the tenor are from those of the bass. And although (as I have said<sup>533</sup>) these parts can be extended at times down and also up by one note, and also by two and more (if necessary) beyond their octave, nevertheless one should take care so that the parts can be sung comfortably and not exceed in their extremes the tenth or eleventh note, for then they would become forced, tiring, and difficult to sing, because of their ascent and descent.

In addition to this, one should note that the bass ought not extend much below the notes of the octave containing its mode, nor ought the soprano do the same above, because this would make the composition extreme, hence causing great inconvenience for the singers. In computing the lowest note of the bass in the composition and the highest note of the soprano, the composer should thus take care not to exceed the nineteenth note, although it would not be very inconvenient if one arrived at the twentieth note, but not beyond that. This being observed, the parts will remain within their limits and will be singable

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cont.

without any effort.

And because sometimes one composes without soprano -- and this manner of composing is called by practitioners composing for altered voices<sup>534</sup> or, if it is only for tenor and bass, they call it composing for equal voices<sup>535</sup> -- therefore I want it known that in the former compositions<sup>536</sup> the contralto is taken in place of the soprano, and the other part<sup>537</sup> becomes contained within the same notes of the contralto, or within the notes of the tenor, so that such a composition will be set for two contraltos or three tenors.

It is very true that one has respect for the part taken for the soprano, because it is always somewhat higher than that taken for the alto, the latter proceeding in a somewhat more humble manner. But be it as it may, one must set the parts of the composition in such a way that their extremes do not exceed fifteen notes, including the lowest and the highest notes.<sup>538</sup>

Other parts beside the above-mentioned four cannot be added except by doubling one of the four, and they would be called second tenor or second bass, and so with the others. And always the part consistently high rather than low and reaching higher than the others, can truly be called soprano. But it should be noted that in all the modes one writes clefs for sopranos and tenors as shown «above» in the examples for each mode; and those of the basses are

accommodated so that their notes may be (as I have said<sup>539</sup>) distant by a diatessaron or a diapente from those of the tenors; and I say the same concerning sopranos from the contraltos.

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And it should be noted that in the beginning of the second section of a composition, the parts which begin to sing alone take up their modulations on a note of any regular beginning of the mode on which the composition is based, or on any other note, provided that it is a natural note of that mode; for it is not commendable that at the end of any first section the contralto or tenor or soprano should conclude on the note b-natural, for example, and in the second section begin on the note b-flat, or vice versa. The composer, then, will be warned of such a thing, so that his composition be purged of every error and inconvenience and he gain a reputation as a good and perfect musician.

## Chapter 32

### In what manner the harmonies are accommodated to the given words

It remains now to be seen (because time and place require it) in what manner one should combine the harmonies with the given words. I say "to accommodate the harmonies to the words" for this reason; although in Part II<sup>540</sup> ( <declaring> in accordance with Plato's opinion

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cont.

(of what melody is\*) I have said that «melody» is a compound of speech, harmony, and number, and apparently in such a combination none of these things is prior to another, nevertheless Plato places speech (before the others) as the principal thing, and the other two as subservient to it. For after he has shown the whole by means of the parts, he says that harmony and number should follow speech (but speech should not follow number nor harmony). And so must it be. For if in speech, whether by way of narrative or imitation (things found in it<sup>541</sup>), one can deal with subject matters that are gay or sad or grave, and also with subject matters that lack gravity and that may be honest or lascivious, it is necessary that we make a choice also of harmony and of number in accordance with the nature of the subject matter contained in the speech, in order that from the combination of these things, put together with proportion, a melody<sup>542</sup> results suited to the purpose.

And really we should note what Horace says in the Epistle of the Art of Poetry, when he says:

Versibus exponi Tragicis res Comica non vult.<sup>543</sup>

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\*De Repub. [The Republic, Book III.]  
3.

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cont.

For <just as<sup>a</sup>> poets are not permitted to write a comedy in tragic verse, so «also» it is not permissible for a musician to combine unsuitably these two things, namely, harmony and words. It will not be appropriate, then, if for gay subject matter we use sad harmony and grave numbers,<sup>544</sup> nor is it permitted to use gay harmony and light or rapid numbers, call it what we may, where funereal matters are treated. On the contrary, one should use gay harmonies and rapid numbers for gay subject matters, so that everything may be done with proportion.

I think that everyone will know how to do it in the best way when he will have studied what I have written in Part III<sup>545</sup> and considered the nature of the mode in which he wishes to write the composition. And «as much as he can» he should take care to accompany each word in such a manner that, when it denotes harshness, hardness, cruelty, bitterness, and other things of this sort, the harmony will be similar to them, namely, somewhat hard and harsh, yet in a manner that does not offend. Similarly, when any of the words express complaint, sorrow, grief, sighs, tears, and other things of this sort, the harmony will be full of sadness.

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a «if»

Wishing to express effects of the first kind,<sup>546</sup> one will do best to accustom oneself to arranging the parts of the composition so that they proceed with movements that are without the semitone, such as those of the whole tone and those of the major third. One should allow the major sixth or thirteenth,<sup>547</sup> which by nature are somewhat harsh, to be heard above the lowest note of the concentus; also accompanying them with the syncope<sup>548</sup> of the diatessaron<sup>549</sup> or eleventh above this part,<sup>550</sup> with somewhat slow movements, among which the syncope of the seventh may also be used. But when wishing to express effects of the second kind,<sup>551</sup> in that case one should (in observance with the given rules) use movements which proceed by the semitone, by the minor third and similar others, often using above the lowest note of the composition minor sixths or thirteenths, which are by nature sweet and soft, especially when combined in the right ways and with discretion and judgment.<sup>552</sup>

But it should be noted that the cause of these expressions is attributed not only to the aforesaid consonances, but <it is attributed> also to the movements the parts make in singing, which are of two sorts, <namely,> natural and accidental. The natural movements are those made between the natural notes of the composition where no sign or accidental note intervenes. These movements have more  
 340 virility than those made by means of the accidental notes, indicated

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cont.

by these signs «# & b», which are really accidental and somewhat languid. From the accidental movements analogously comes into being a kind of intervals called accidental, whereas from the natural movements those intervals come into being which are called natural. Thus we should note that the natural movements make the composition somewhat more sonorous and virile, and the accidental movements make it sweeter and somewhat more languid. For this reason the former can serve to express effects of the first kind,<sup>553</sup> and the latter movements can serve for the other effects.<sup>554</sup> So that combining the intervals of the major and minor consonances with the natural and accidental movements which make up the parts, with some judgment, one will succeed to imitate the words with a well-understood harmony.

Then as to the observance of numbers, the primary consideration should be the subject matter contained in the speech. If it is gay, one should proceed with powerful and swift tempi, namely, with figures that carry in themselves swiftness of tempo, such as minim and semi-minim. But when the subject matter is tearful, one should proceed with slow and lingering tempi, as Adrian has shown in expressing both ways in many compositions. Among them are I vidi in terra angeli costumi, Aspro e selvaggio, Ove ch'i posi gli occhi, all composed for six voices; Quando fra l'altre donne «and» Giunto m'ha amor, for

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cont.

five voices; and infinite others, together with infinite motets I do not name in order to be brief.

And this should be observed not only concerning numbers -- although the ancients understood this thing in another manner than the moderns do, as is clearly seen in many places in Plato -- but we should also take care to accommodate the words of the speech to the musical figures<sup>555</sup> in such a manner and with such numbers that one does not hear any barbarism, such as when in a vocal piece a syllable that should be short is made long, or vice versa, when a syllable that should be long is made short, which is heard every day in infinite compositions and is really a shameful thing. Nor is this vice found only in figured music but also in plainsong, as is obvious to all who have judgment. Indeed few are those [chants] which are not full of similar barbarisms and in which one does not repeatedly hear length of time given to the penultimate syllable of the words Dominus, Angelus, Filius, Miraculum, Gloria, and many others which pass quickly. Correcting this would be a very commendable thing and so easy that by a very small change the composition would adjust itself. Nor would its original form change by this, for [the difficulty] lies only in a ligature of many figures, or notes, placed under the said

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cont.

short syllables <which make them<sup>a</sup>> inappropriately long, when one single figure would have been sufficient.

In order that the sense of the words be complete, one should likewise take care not to separate from each other by rests any parts of the speech as long as a clause, or any of its parts, is not finished, as done by some of little intelligence. Furthermore, one should not make a cadence, especially one of the principal ones, nor put rests larger than those of the minim, unless the period, or the perfect sense of the speech, is completed. Nor should a rest of a minim be placed in intermediate points, for this is really a vicious thing; and although it is practiced by some little-repentant practitioners, everyone wishing to put his mind to this thing will be able to see and know it with ease.

This matter being of great importance, the composer should open his eyes and not keep them closed, so that he may not gain a reputation as ignorant in a thing so necessary. He should take care to put the rest of a minim or semiminim (whichever suits him) at the head of the intermediate points of the speech,<sup>556</sup> because they will serve there as commas. But at the head of the periods he should put

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<sup>a</sup> «made»

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cont.

whatever quantity of rest is convenient for him, for it seems to me that when the rests are placed in such a manner one can best distinguish the members of the period from one another and hear without any discomfort the perfect sense of the words.

## Chapter 33

The manner to be followed in placing  
the musical figures under the words<sup>557</sup>

Who will ever be able to tell the bad order and lack of grace that many practitioners maintain and have maintained, and what a confusion they have caused in accommodating the musical figures to the words of the proposed speech? Certainly this can be done, but with <great> difficulty. Yet when I reflect that a science which has given laws and good order to «the» other sciences is at times so confused in some things as to be barely tolerable, I cannot pretend that it does not <sadden me.<sup>a</sup>>

It is really astonishing to hear and see compositions <that exist> in which one not only hears in the declamation of the words confused

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a «cause me pain,<sup>558</sup>»

341 periods, incomplete clauses, inappropriate cadences, singing without order, infinite errors in applying the harmonies to the words, little regard for the modes, badly accommodated parts, passages without gracefulness, number without proportion, movements without purpose, «figures badly numbered in time and prolation, and infinite other disorders,» but one also finds in them musical figures accommodated to the words in such a manner that the singer cannot determine or discover a convenient way of performing them. Now he sees many figures under two syllables, and now many syllables under two figures. Now a singer hears another part sung in which at some place, as the words require it, the vowels are cut off or elided; and wishing to do the same in his own part, he will miss the beautiful and elegant way of singing by placing a figure that carries with itself length under a short syllable, and vice versa. Then he will hear in the other parts a syllable made long which in his own part must necessarily be short, so that hearing so much diversity, he does not know what to do and remains completely bewildered and confused.

And because everything depends on accommodating the musical figures to the given words; and in composition it is required that the notes be described and notated by the musical figures so that the sounds and the voices can be performed in every modulation; and because it is by means of such figures that we perform the number,

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cont.

namely, length and brevity of the syllables contained in the speech; and under these syllables are often placed not only one, two, or three, but even more of the above-mentioned figures; therefore, in order that no confusion may arise in accommodating the figures to the syllables of the given words, and wishing to remove (if I shall be able to) all this disorder, I shall now -- besides the many rules given in various places, in accordance with the requirements of my materials -- propose these rules, which will serve not only the composer but also the singer; and they will be to our purpose.

The first rule, then, will be always to place under a long or a short syllable a corresponding figure so that no barbarism will be heard; for in figured music each musical figure which is separated not in ligature (⟨except⟩ the semiminim and all those that are smaller than the semiminim<sup>a</sup>) carries with itself its own syllable. This rule is observed in plainsong, too; for to each square figure a syllable of its own is accommodated, except sometimes to the middle notes, which are performed like minims and also like semiminims, as one learns in many chants, and especially in «the chant of the Nicene Creed,» Credo in unum Deum, called the Cardinalesco.

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<sup>a</sup> ⟨excepted⟩

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cont.

The second rule is to accommodate no more than one syllable to the beginning of each ligature of several figures or notes, whether in figured music or in plainsong.

The third, that no syllable be accommodated to the dot placed next to the figures of figured music, although singable.

The fourth, that generally one places only rarely a syllable above a semiminim or above those figures smaller than the semiminim, or above the figure which immediately follows it.

The fifth, that it is not customary to accommodate any syllable to the figures which immediately follow the dot of the semibreve and the minim when the following figures are of less value than these dots, as is the semiminim after the dot of the semibreve or the chroma after the dot of the minim, and the same is true of figures which immediately follow these.

The sixth, when a syllable «out of necessity» is placed above a semiminim, one may also place another syllable above the following figure.

The seventh, that any figure, whatever it may be, placed at the beginning of the composition, or in the middle after any rest, will by necessity carry with it the pronunciation of a syllable.

The eighth, that in plainsong no word or syllable is ever repeated, although one sometimes hears some who do it, a thing

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cont.

truly reprehensible. But in figured music such repetitions are tolerable; I do not mean repetition of a syllable or of a word, but of some part of the speech of which the sense is complete. And this may be done when there are figures in such quantity that they may be repeated conveniently, although repeating something many times (according to my judgment) is not very good unless done in order to emphasize words that have in them some serious sense and are worthy of consideration.

The ninth, that when all the syllables that are in one sentence or in one part of the speech have been accommodated to the musical figures and only the penultimate and last syllables remain, the penultimate syllable may have below it several small figures -- two, three, or some other quantity -- provided, however, that this penultimate syllable be long and not short;<sup>559</sup> for if it were short, a barbarism would be committed.<sup>560</sup> The reason for this is that singing in this way<sup>561</sup> there arises what many call neuma, which occurs when many figures are sung to one syllable; and these figures so placed offend against the first given rule.

The tenth and last rule is that the last syllable of the speech must end, in observance of the given rules, on the last figure of the composition.

But because one may find infinite examples of this matter by examining the learned compositions of Adrian and of those who have truly been and are his disciples «and observers of the good rules», therefore, without showing another example, I shall move on to discuss ligatures, which are made from several musical figures and serve our task.

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## Chapter 34

Of the ligatures<sup>562</sup>

Ligatures are really necessary in figured music for many reasons, because they are useful to composers not only for accommodating figures and singable notes<sup>563</sup> to the syllables of the proposed speech, but also because composers sometimes take as a subject <some<sup>a</sup>> Antiphon of plainsong in which<sup>564</sup> there are many tied figures. Wanting to base their composition on this Antiphon and to imitate it, they must necessarily use these ligatures in the same way. Not all of them, however, because it sometimes proves to be inconvenient, but only some of them, and not even with the same figures

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a «an»

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cont.

but with different ones, according to what seems right to the composer. Therefore, in order to have full knowledge of this thing and to know in what manner ligatures should be written and which figures should be tied and what their value should be, we shall presently deal with these things. But first one must see what a ligature is.

Practitioners say that the ligature is a certain tying-together, or conjunction, of simple «singable» figures, made with suitable features or lines, in which each figure that can be tied has a square or oblique shape. And these ligatures are made with three sorts of figures, (namely,) with the maxim, the long, and the breve.<sup>565</sup> The two extremes of these, (namely,) the maxim and the breve, change their value according to the different ways in which they are tied «and to the various accidentals which they receive». (Because<sup>a</sup>) the maxim is a passive figure, (hence it is) subject to diminution of its value and it can never be augmented; and the breve is likewise passive, inasmuch as it can be augmented and diminished, according to the way in which it is written and the place it holds within the ligature. «But» the long, (then,) is not subject to this thing, for it does not receive any augmentation or diminution, and this because it is always

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<sup>a</sup> «Thus»

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cont.

written in the ligature without any variation of its form, no matter in what part of the ligature it is placed.

⟨But⟩ every ligature is considered in two manners; first, when the subsequent figure is placed higher than the preceding one;<sup>a</sup> and second, on the contrary, when the preceding figure is placed higher than the subsequent one. ⟨When the figures are placed in the first way, such ligature is called ascending; but when they are placed in the second way,<sup>b</sup> it is called descending. True, one may make a ligature, as we shall see, of which the figures are tied both ascending and descending.<sup>566</sup>

Thus one should note that the maxim is written in the ligature in two manners: first, ⟨it is written⟩ according to its true form, namely, with a long straight body; second, ⟨it is written⟩ with a long oblique, or slanted, body, whatever we want to call it. When not oblique, it is written in two manners: ⟨either<sup>c</sup>⟩ with the tail, or leg, however we want to call it, on the right side, or without it. And written in these manners,<sup>567</sup> ⟨whether or not tied to other

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a ‹‹hence it is called ascending,››

b ‹‹and››

c ‹‹first››

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cont.

figures, > whether at the beginning, in the middle, or at the end of the ligature, it always keeps its value, namely, it is worth «two longs or» four breves. Then <when> it is oblique, it is «similarly» written in two ways: either ascending from below, that is, from its first part, the one placed on the left side, to its second part, the one placed on the right side; or descending from above, that is, from left to right.

And [of oblique ligatures] there are two kinds, namely, with a leg [stem] on the left, or without a stem. If written with the stem, the stem goes either down or up. When the stem goes down and the ligature is oblique and descending, both its first and second parts are each worth one breve; and the same is true when it is oblique and ascending,<sup>568</sup> although this is <not<sup>a</sup>> in use <now>.<sup>569</sup> But when its stem is turned upward and the ligature remains oblique, whether descending or ascending<sup>570</sup> (although the latter is not used<sup>571</sup>), its first and second parts are always worth one semibreve each. Then when an oblique ligature does not have a stem, if its second part goes down,<sup>572</sup> the first part is worth one long, and the second part one breve; but when the second part goes up (which musicians do not use any more<sup>573</sup>), both the first and the second parts are worth one breve

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a «little»

each.<sup>574</sup> And this applies when they are not accompanied by, or tied to, other figures;<sup>575</sup> for when they are accompanied by, or tied to, other figures, there are other considerations.

As for the breve, I say that it is placed in the above-mentioned ligatures<sup>576</sup> in two ways, namely, without a stem and with a stem. When it has a stem, we find it written in two manners, <namely,> with the stem on the left turned downward, and with the stem turned upward. If thus placed in the ligature there is another consideration; for in the ligature one can place each tied figure in three ways, namely, at the beginning, middle, and end; and so by beginning, middle, and end, one knows the value of the parts of each ligature.

Desiring then to have perfect knowledge of the value of each [part of the ligature], one gives many rules. The first of these is <that> -- except for the maxim with or without stem -- every figure without stem placed at the beginning of a ligature, be it square or oblique, provided the second figure is not oblique descending, such  
 343 figure,<sup>577</sup> or first part of any such figure, will always have the value of one long.<sup>578</sup>

The second rule is <that> every first figure, or first part of any figure, be it square or oblique, with the stem on the left turned downward, always has the value of one breve.<sup>579</sup>

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cont.

The third, when any figure without stem is placed at the beginning, and the second figure, which follows it, ascends, such figure<sup>580</sup> will always have the value of one breve.<sup>581</sup>

The fifth,<sup>582</sup> <that> every figure placed at the beginning of any ligature, be it square or oblique, with the stem turned upward on the left side, the second figure ascending or descending,<sup>583</sup> both the first figure and the following one always have the value of one semibreve each, as may be seen.<sup>584</sup>



And these rules concern the first figures; but concerning the middle figures there is another consideration, because all middle figures, whether square or oblique, except for the shown semibreves,<sup>587</sup> always have the value of one breve.

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cont.

The final figures, when square and descending,<sup>588</sup> will all have the value of one long.<sup>589</sup> And when placed after the second part of any ascending or descending oblique figure, if they themselves ascend they will always have the value of one breve;<sup>590</sup> and if they descend, of one long.<sup>591</sup>

But <two<sup>a</sup>> things must be noted. First, that the discussion of these figures was about the form of their body and not about other things.<sup>593</sup> Second, that any figure placed in the above-mentioned ligatures is subject to the same contingencies<sup>594</sup> to which simple, untied figures are subject, although some have maintained the opposite. «But the third is that each ligature contains wholly is tempora, as represented, whether they are subject to perfect or imperfect tempus, provided that their nature is not altered by some contingency. Thus in perfect tempus, if the note placed first in the ligature is worth a semibreve, the other will always be interpreted as altered. But the middle notes will always be worth a perfect breve, and the last note also will always be perfect, provided that they are not made imperfect by some other contingency.»

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a «three<sup>592</sup>»

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cont.

And because these ligatures (as I believe) have been so arranged by their first inventor and given a certain quantitative value according to the various ways in which the figures in them are written and according to the different placements of the figures, as seemed right to him, therefore everybody should content himself with what I have said about them, not seeking to find why the inventor wanted to give «in this way» more value to one than to another, and to put these ligatures in order in one manner rather than in another, for this <is<sup>a</sup>> a vain «and superfluous» thing. «Moreover it matters little whether we know it or not, but no more of this.»

## Chapter 35

What anyone desiring to arrive at  
some perfection in music must know

Now that I realize I have <already> arrived, with divine help, at the desired end of these my efforts, before concluding this discussion, I want us to consider two things. One of them is to show the things required for him who desires to arrive at the ultimate step of

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a «would be »

this science. The other, to say that in making judgment in musical matters we must not ⟨surrender it<sup>a</sup>⟩ to the senses, for they are misleading, but rather accompany them with reason. Whenever these two parts [sense and reason] are concordantly joined together, there is no doubt that no error can be committed, and perfect judgment will be made.<sup>595</sup>

Beginning then with the first,<sup>596</sup> I say ⟨that⟩ he who desires to arrive at that perfection in musical matters which one can achieve and to see all that is permitted in this science, must have in himself many things, so that he can easily arrive at a knowledge of these matters, which are hidden from many in this area without help from somebody else. When one thing is missing, one cannot hope to arrive at the designated goal.

Hence it should be known that music is a science subordinate to arithmetic, as I have stated in chapter 20 of Part I,<sup>597</sup> because the  
 344 forms of consonances are contained within definite proportions comprised of numbers. In order to have the reason for all contingencies that may befall them, it is necessary to be well instructed in things of arithmetic, in the handling of numbers and proportions; or, desiring

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<sup>a</sup> ‹‹ascribe such judgment››

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cont.

to learn from these my efforts those things which alone are necessary for this business, at least to know the handling of shopkeeper numbers, so that arriving at the use of proportions, one can have easily what he desires.

And because the reasons for sounds cannot be known except by means of sonorous bodies, which are quantity that can be divided, and which really are what gives matter to the consonances, therefore it is necessary to be instructed in things of geometry, or indeed to know at least to operate well the compass or sextant in dividing a line; and to know that which concerns a point, a line, be it slanted or straight, an area, or a body, and other similar things which appertain to continuous quantity; so that, in one's speculations, one can more easily have the help of this science in dividing whatever sonorous quantity.

One should also, if not perfectly, at least fairly, know how to play the monochord or the harpsichord; and the latter, because it is more stable and perfect in chords than any other instruments. Thus from it one can have knowledge of «consonant» and dissonant sonorous intervals, and be able sometimes to reduce to practice and to prove those things which every day one finds out anew, in order to know how to investigate, proof in hand, the passions of the sonorous numbers.

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cont.

But this presupposes that one knows how to tune perfectly such an instrument, and that one has perfected one's hearing; so that desiring to investigate (as happens at times) many differences of intervals, one can make perfect judgment, without committing an error; and desiring to tune any other instrument, one will know what should be done.

It is also necessary to be instructed especially in the art of singing and in the art of counterpoint or composing, and to have good knowledge of it, thus to know how to carry out everything that occurs in music and to judge whether it is successful or not. For bringing to life things of music is really nothing else but leading them to their ultimate end, or perfection, as happens also in the other arts and sciences that contain these two parts, (namely,) the speculative and the practical, like medicine.

I shall not discuss now, for the sake of brevity, how convenient for one the knowledge of other sciences can be. First, grammar, through which one has perfect knowledge of «long and short syllables, by means of the rules that the grammarians give, and knowledge of» languages, (in order to be able to understand<sup>a</sup>) distinctly the authors

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<sup>a</sup> «by means of which one understands»

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cont.

who deal with <it and to satisfy one's desire to write something about it; moreover, sometimes one reads<sup>a</sup>> stories in which one «occasionally» finds many things which are of great help and give much light, precisely when one wants to have knowledge of things of this science.

<Then of great advantage is dialectics in enabling one to debate and<sup>b</sup>> discuss it [music] with good foundations, «and to arrive at demonstrations, without which no or little good is done; for music is a mathematical science, which uses demonstrations, as may be seen in all the five Discussions of Dimostrazioni harmoniche.»

I shall leave to everyone who has a bit of judgment to judge how useful rhetorics can be to scholars of our science by permitting them to express their <concepts<sup>c</sup>> in order; and the instruction in things of natural science. For, as I have declared elsewhere, \* [music] is subordinate not only to mathematical science but also to natural

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a «music, and also»

b «Besides this, wanting to write about it, dialectics is very necessary, for by means of it one can»

c «thoughts»

\*Cap. 20. [Istitutioni, Part I, chapter 20. 598]  
Prīmę par  
tis

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cont.

philosophy. And «not only these but» also other sciences [are useful to the musician] <because> really they cannot but help one. And although the aim «of music» consists in the operation, that is, in being put in practice; and although hearing, when purified, cannot be easily cheated by sound -- nevertheless at times some things can happen so that man (being deprived of the above-mentioned [sciences]), which are very useful for knowing the reasons for those things) is left <greatly<sup>a</sup>> deceived.

Desiring then to acquire perfect knowledge of music, it is necessary to be equipped with all these things;<sup>599</sup> for whenever in need of any, the greater one's ignorance in the above-mentioned things, which are of major importance and very necessary, so much the less will one be able to arrive<sup>600</sup> at the desired level, and with so much more difficulty will one be able to arrive at it. «But because I have dealt with this extensively in the book entitled The Perfect Musician,<sup>601</sup> therefore touching on, and merely hinting at, these few things, will suffice at present. For he who desires to see more minutely the necessity of this thing will be able to satisfy himself fully by reading it. But let us now come to the end.»

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<sup>a</sup> «to a large extent»

## Chapter 36

On the fallacy of the senses, and that judgment  
should not be made solely by their means but  
should be accompanied by reason<sup>602</sup>

And although among philosophers the proposition is very famous that sense never errs concerning its proper perception, or its own object, nevertheless if this proposition were understood<sup>603</sup> simply and literally, it would sometimes be false. For one takes the proper object in two manners. First, for that which is not understood by another sense, and by itself affects the sense, and contains all those things which by themselves are understood only by that sense. Color,  
345 for instance, or any visible thing, is the proper object of seeing; and sound, the proper object of hearing; and so with the others, as I have said in chapter 71 of Part III.<sup>804</sup> Second, for that which affects the sense alone, and cannot be felt or understood by another sense.<sup>605</sup> Thus the species contained in the proper object taken in the first way is called proper perception -- just as whiteness and blackness «are the proper objects of seeing», because they change <seeing, <sup>a</sup>>

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<sup>a</sup> «it,»

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cont.

imprinting on it their species -- (and it<sup>a</sup>) is not understood by itself if not by (seeing;<sup>b</sup>) and this applies similarly to the species of sounds and of other things. Hence although the sense does not err concerning the proper object in the first way, it can very well err in the second,<sup>606</sup> especially when those conditions which are needed do not exist, namely, that the sense be suitably close to the object, that the organ be suitably disposed, and that the medium be pure and not spoiled.

And although sense would not err (as the Philosopher<sup>607</sup> understands) concerning the proper object in the second way, given the conditions already stated, it can nevertheless err concerning the subject<sup>608</sup> of the perceived objects proper, namely, concerning the location and where it is placed; for this does not belong to external but to internal sense,<sup>609</sup> like virtue or cognitive power, the most noble among sensitive powers for being closer than any other to intellect.

And this I have wanted to say because many believe that, since the sciences have originated in the senses, we should trust them<sup>610</sup> more than any other thing, for they cannot be deceived concerning

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a «which species»

b «it:»

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cont.

their own objects. But these men who believe that [senses] cannot err are really very far from truth, for although it is true that every science has had its beginning in them, nevertheless it is not through them that science has acquired its name, and it is not through them that one has had the certainty of what is researched in <science<sup>a</sup>>, but rather through reason and through demonstrations made by way of internal senses,<sup>611</sup> that is, through the work of the intellect which is reasoning power. And if the intellect can sometimes err in reasoning, as it really does, how much more can the senses err? Hence I say that neither sense without reason, nor reason without senses, can give good judgment of any scientific object «whatever», but rather these two parts joined together.

And that this is true we can easily know (to give a «convenient» example) from the fact that wishing to divide anything into two equal parts solely by means of sense, we shall never be able to divide it perfectly.<sup>612</sup> And even if it happened that, the division made, they turned out to be equal, this would be done by chance and we could never be certain of such thing unless other proof were made. And every division done in this way<sup>613</sup> will grow more difficult with the

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<sup>a</sup> «it»

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cont.

number of parts into which a thing will have to be divided. <And although (as I have also said<sup>614</sup>) such divisions will be done as prescribed, nevertheless> the intellect will never be able to accept it until reason shows it to be done well. And this happens because sense cannot recognize the smallest differences that exist between things, getting confused by too much and by too little, and it also becomes corrupted. Concerning sounds, one learns this from the sense of hearing, which is offended by grandezza, <namely, by some great<sup>a</sup>> uproar, and does not grasp picolezza, or minimal quantity.

Therefore deliberate reason is needed for <finding<sup>b</sup>> such differences. For instance, if from a large heap of grain twenty-five or fifty grains were taken away, seeing will not be capable of [distinguishing] this quantity which is imperceptible in respect to the heap, just as one could not make any judgment if the afore-said number of grains were added to this heap. Thus, desiring to know such thing, one would need to proceed otherwise than by way of sense. Indeed the same happens concerning sounds, that is, although hearing cannot err in the first <shown> way in judging consonant from dissonant intervals, nevertheless its function is not to judge how much one is

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a    «of any»

b    «wanting to find»

distant from the other or by what quantity one surpasses the other or is surpassed by it.<sup>615</sup> For if «sense» could not err concerning such things, using the discovered measures and weights and similar other things would really have been in vain. But really they were not discovered in vain, because the ancient philosophers knew very well that sense may be mistaken about this.

Let us say then that although the science of music has had its origin in the sense of hearing, as said in the first chapter of Part I,<sup>616</sup> and its ultimate perfection and end consist in carrying it out and exercising it; and even though sound is the proper perception, or object of hearing -- this function of judging in things of sounds and voices yet should not be given solely to sense, but reason must always accompany it. Nor should one give «this judgment entirely<sup>a</sup>» to reason, leaving aside sense, because the one without the other can always be cause for error.

In order to have perfect knowledge of things of music, it will not suffice to appeal to sense, even if somebody may have the best judgment, but one should seek to investigate and know the whole, in  
346 a manner that reason is not discordant with sense, nor sense with

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a «all the judgment»

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cont.

reason; and then everything will be well.

But just as to make this judgment in things of science it is necessary that these two things concur, so it is necessary that he who wants to judge anything pertaining to art have two parts: first, that he be expert in things of science, namely, of speculation; and then also in those of art, which consists in practice. And it is necessary that he know how to compose, because no one can rightly judge what he does not know;<sup>617</sup> it is really inevitable that, not knowing it, he would judge it badly.

Hence, just as one who is learned only in that part of medicine called theoretical will never be able to make perfect judgment of an illness if he has not had a hand in practice, and he can always err relying solely on science, so the practical musician without speculation, or the speculative without practice, can always err and make bad judgment in matters of music.<sup>618</sup>

Accordingly, just as it would be crazy to rely on a physician who does not have both of the above-mentioned things joined together, so one would be really foolish and crazy to be willing to rely on the judgment of one<sup>619</sup> who was solely practical or had done work only in theory.

This I have wanted to say because there are some of so little judgment and so reckless and presumptuous that although they do not

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cont.

have either of these parts, they want to judge that which they do not know. And there are some others who, because of their mean nature, in order to show that they are not ignorant, condemn as much the good as the bad efforts of everybody. There are some others who, having neither judgment nor knowledge, follow that which pleases the ignorant common people; and sometimes they want to make judgment of someone's adequacy by virtue of his name, birth, country, the servants he takes with him, and his appearance. So if being excellent and unusual in a profession consisted in the name, birth, country, servants, appearance, and other similar things, I am sure that not many years would pass before no ignorant man would be found. For every father would open his eyes to this thing and would do everything possible in order to have sons distinguished in whatever profession, because there is not (as I think) a father who does not have this natural desire that his sons be superior to anyone in whatever science and whatever profession. But in truth the opposite is seen, that where are born men who are great and famous in any profession, rare in number, there are born thousands and thousands of obscure, ignorant, clumsy, and crazy men, as one can see in any discussion.

This I have wanted to say, because at times public scream and public fame, not only among men of some judgment, is so strong that nobody dares to say anything against the common opinion (although it

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cont.

is understood at times to be evidently false); on the contrary, one is silenced and remains indecisive and mute. To give a convenient example of this, I remember that reading once (in the second book of) Il Cortegiano of Count Baldassare Castiglione,\* I discovered that when some verses presented at the court of the Duchess of Urbino went under the name of Sanazaro, everyone judged them to be most excellent and praised them highly. Then it became known for sure that they had been composed by another, and suddenly they lost their reputation and were judged as less than mediocre. Similarly I discovered that a motet sung in the presence of the above-mentioned lady did not please, nor was it ranked among the good, until it became known that the composition was by Josquin, «for then it was immediately ranked according to the name that Josquin had at that time, a rare thing.»

But in order to show also how much the malignity and ignorance of men can sometimes do, I recall now what (I have heard said many times of<sup>a</sup>) the most excellent Adrian Willaert, that a motet for six voices, Verbum bonum & suave, sung under the name of Josquin in

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\*Libro 2. [Il Cortegiano, Book II]

<sup>a</sup> «happened to»

Rome in the Papal chapel almost every holiday of our Lady, was held as one of the beautiful compositions sung in those days. When he [Willaert] came from Flanders to Rome at the time of Leo the Tenth <and found himself at the place where this motet was sung, he saw that it was ascribed to Josquin, and> when he said that it was his own, as it really was, so great was the malignity or (to put it more mildly) the ignorance of those «singers» that they never wanted to sing it again. Of those who are without any judgment, Count Baldassare adds in the same place another example of one who, drinking of one and the same wine, now said that it was most perfect,<sup>620</sup> and now that it was most insipid, as he was persuaded that they were two sorts of wine.

Everybody sees now that judgment is not given to all, and from this one should learn not to be rash in praising or condemning anything, in music as much as in any other science or art; because for divers reasons, as there are many obstacles that may occur and many things of which the reasons cannot be known, judging is a very  
 347 difficult and dangerous thing -- the more so as there are different appetites, so that what pleases one, does not please another; and while this man is delighted by sweet and smooth harmony, another would like it somewhat more hard and harsh. Nor should musicians despair hearing such judgments, even if they hear some such people

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cont.

condemn and say everything bad about their compositions. Rather they should take heart and be comforted, for the number of those who have no judgment is almost infinite, and few are those who do not judge «themselves» worthy of being numbered among prudent and wise people.

Many things can be said beyond this, but because I am aware of having already said about this thing more than perhaps was appropriate, therefore rendering thanks to God, the greatest giver of all blessings, «to these efforts and») to this discussion I shall put<sup>621</sup> an end.

## COMMENTARY

1. In Istitutioni (II, 12) Zarlino gives consonance and dissonance a definition based on subjective impressions, saying that consonance is "a composition of a lower and a higher sound which strikes our ears sweetly and uniformly and has the power to stir the sense . . . consonance comes into being when two different sounds are joined concordantly in one body, and it is contained in one proportion." Dissonance is "a composition of a lower and higher sound which strikes our ears harshly." By contrast, in Dimostrazioni (Second Discussion, Definitions 1, 2, and 3) he gives a definition essentially mathematical though including the subjective element:

Proper consonance is a mixture or composition of a lower and a higher sound which strikes our hearing sweetly and whose form is contained in a manifold or a superparticular proportion actually found within the parts of the first perfect number, that is, of the senario, . . . Commonly accepted consonance is a composition of a lower and a higher sound which, although not completely sweet to our ears, is yet bearable, and its form is contained in a proportion other than manifold or superparticular, actually found within the parts of the senario and the first cubic number. . . . Dissonance is a distance between a lower and a higher sound, which by their nature cannot be blended or united, and strike our ears harshly, not producing any pleasure. It comes into being from proportions of a different denomination than those of the senario and ottonario.

A manifold proportion is a ratio in which the greater term contains the lesser wholly more than once. Zarlino defines it (Istitutioni, I, 22)

and specifies manifold proportions (Dimostrazioni, Discussion I, Definition 4), saying that if the greater term contains the lesser twice, the proportion is called double ( $2/1$  represents the octave); if three times, triple ( $3/1$  represents the twelfth); if four times, quadruple ( $4/1$  represents the double-octave); and so on.

A superparticular proportion is a ratio in which the greater term exceeds the lesser by a unit. Zarlino defines it (Istitutioni, I, 22) and specifies superparticular proportions (Dimostrazioni, Discussion I, Definition 5), saying that if the greater term exceeds the lesser by half of the latter, the proportion is called sesquialtero ( $3/2$  represents the diapente); if by a third, sesquiterzo ( $4/3$  represents the diatessaron\*), and so on.

Senario is the term for the first six numbers. The first cubic number is 8. Ottotario is the term for the first eight numbers.

2. In chapter 4, Part II, of Istitutioni, entitled "Of ancient music," Zarlino recounts some features characteristic of ancient music as distinct from the music of his time, and he expresses surprise over the fact that nobody had ever written about these

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\*According to Zarlino, the fourth (diatessaron) is a consonance. He emphasizes it in Istitutioni, III, 60 and 61.

differences. He says that the compositions of the Greeks were not composed of several parts sounded simultaneously but rather of one sung part accompanied by a solo instrument or of two parts sung in alternation, Zarlino also writes about this matter in chapter 79, Part III, of Istitutioni, entitled "Of things involved in composing in the genera," where he similarly says that the ancient practice was to sing alone accompanied by an instrument. He also mentions the practice of playing a melody above a drone but repeats that the ancients did not sing in many parts in one ensemble.

In addition, Zarlino states (Istitutioni, II, 4) that the ancients did not have many different kinds of instruments, and those they had were different from the contemporary instruments bearing the same name, for example, the piffero. In connection with instruments, he says that each country and region had its own instrument. He mentions further that the poets used to recite and sing their own tragedies and comedies, doing it to the accompaniment of the lyra or the cetera (kithara). He tells about jumping and dancing during the singing.

Zarlino also talks about Greek choral singing in praise of their gods or the winners in the Olympic games, adding that the rustics also used to sing in chorus in front of their altars.

Zarlino's evidence consists of quotations and paraphrases from works by ancient poets (Homer, Horace, Virgil, etc.). The difference

uppermost in Zarlino's mind in this place is obviously that between the monophonic music of the ancients and the polyphonic music of his time.

3. See Harmonia in the Introduction.

4. Already at the beginning of Part IV, Zarlino expresses the view that music is ancillary to words. This attitude is emphasized later in the book.

5. Mediocrità in the original. Zarlino here seems to be influenced by Aristotle.

6. The term "proportion" signifies (as Zarlino has explained in Istitutioni, I, 40) "the relationship of one quantity to another." It should be noted that here, as in the rest of the translation, this term refers to the relationships of string lengths, which create intervals, and not to augmentation and diminution of mensural notation.

7. Even without quoting Horace again, Zarlino obviously continues to think of him and of his famous definition that art should "delight and instruct."

8. That is, order without proportion.

9. In the Proem Zarlino has said that in ancient times musicians, poets, and sages were considered one and the same thing. In chapter 6 of Part II, entitled "What the ancient musicians were," he adds fortune tellers as synonymous with poets, and he further explains that by the word "music" the ancients meant not only the science of sounds but the entire study of humane letters. As Strabo says in Book I of De situ orbis, the musician was not separated from the poet, nor the poet from the musician, the poets of that time being experts in music, and the musicians in poetry. From the writings of Plutarch, Fliny the Elder, Horace, and many others, Zarlino brings further evidence about ancient persons and mythical figures who were both poets and musicians.

10. See Numero in the Introduction.

11. Both poetry and music are subject to laws of proportion.

12. Generi in the original.

13. Namely, words and number.

14. Dithyramb ( $\delta\iota\theta\acute{\upsilon}\rho\alpha\mu\beta\omicron\varsigma$ ) is a choral song to Dionysus.

15. Nomos ( $\nu\acute{\omicron}\mu\omicron\varsigma$ ) is a setting for an epic song, invented by Terpander.

16. Epithalamium (ἐπιθαλαμιον) is a song sung by young men and maidens before the bridal-chamber. It was distinguished from the γαμήλιος which was sung at any festival connected with a wedding, and from the ὕμνειαιος, the processional song which accompanied the newly wed couple to their home. It is described by Homer.

17. I could not find the definition of this term.

18. Zarlino makes this separation just for the sake of the discussion.

19. Zarlino uses the Greek names of the modes only when talking about ancient usage. In all other instances he calls the modes by numbers. Later (IV, 8) he explains why, for the designation of modes, he prefers numbers rather than Greek names.

20. "People" in the sense of "nation."

21. See Oratione in the Introduction.

22. "Their" may refer to the composers, or it may refer to harmony, number, and words or subject matter, in which case "composition" means the composite of these elements.

23. Heroides, no. XV. Sappho to Phaon: "Perhaps, too, you may ask why my verses alternate, when I am better suited to the lyric

mode. I must weep for my love -- and elegy is the weeping strain, no lyre is suited to my tears."

The authorship of this letter has been disputed, but it is generally conceded to be Ovid's. The edition of Harvard University Press reads "requiras" (line 1) and "meas" (line 4). "Meas" is more convincing than "meos."

24. A mistake in the original; the quotation is from Book II, not Book I.

25. "Threicius" in the edition of the Loeb Classical Library.

26. Orpheus mourning the death of Euridice.

27. "Maestitiam" in the edition of the Loeb Classical Library.

28. Meaning "old," a state considered misery by the Romans.

29. "Sibi aetatis" in the edition of the Loeb Classical Library; "etatis sibi" in the 1573 edition of Istitutioni.

30. Metamorphoses, Book IV, "And the sound of Zygia's tibia was changed into the querulous Lydian mode." Zygia is a title of Juno, who was so called from Ζυγος, a "yoke," as presiding over the rites of wedlock.

31. "Thressa" in the edition of the Loeb Classical Library.

32. "Maestos" in the edition of the Loeb Classical Library.
33. "Effeminata" in the edition of the Loeb Classical Library.
34. "Ludius" in the edition of the Loeb Classical Library.
35. See 23 above.
36. Kithara, an ancient Greek stringed instrument, played with a plectrum.
37. Similar to the kithara, but simpler and smaller.
38. Old term for popular wind instruments used by shepherds.
39. Earlier in this chapter (p. 12).
40. If Zarlino does not agree that lyra and cetera were the same instrument, it is strange for him to speak of "this instrument," unless he refers to the latter, the cetera.
41. The lower case "r" in the original was probably meant to signify the number 1.
42. "Phorminx" in the Greek, a Homeric name for the cetera or lyra.

43. "Sonante mixtum" in the edition of the Loeb Classical Library.
44. Zarlino's mistake: the quotation is from ode 9, not ode 7.
45. "Adsuētis" in the edition of the Loeb Classical Library.
46. "Dindymus," also called "Dindyma," a mountain in Phrygia, sacred to Cybele, who is hence called Dindymene.
47. "Remixto" in the edition of the Loeb Classical Library.
48. "Almae" in the edition of the Loeb Classical Library.
49. Town on the southern coast of Sicily, founded in 599 B.C. and taken by the Romans in the first Punic War. If Camarinum (or Camerinum): town in Umbria, subsequently a Roman colony.
50. "Aulos" in the Greek.
51. See 30 above.
52. What has been said in the last three paragraphs, evidenced by quotations from the ancients, is that the Aeolians and Dorians used the cetera or lyra, whereas the Phrygians and Lydians used the piffero.
53. See 20 above.

54. A big cetera (comparable to a bass guitar).
55. Zarlino does not actually say so in Istitutioni, II, 8; he discusses number, rhythm, meter, and verse.
56. Zarlino here obviously means "rhymes."
57. In this instance, "consonance" and "harmony" signify agreement or correspondence.
58. A form of fifteenth-century Italian poetry, consisting of eight-line stanzas in iambic pentameter with the rhyme scheme: ab ab ab cc.
59. A form of fifteenth-century Italian secular song, consisting of several three-line stanzas.
60. Terza rima, Dante's meter in the Divine Comedy.
61. Sestina is a poem of six six-line stanzas in which the line-endings of the first stanza are repeated in the other five stanzas in a different order.
62. Internal rhymes; for example, "misere" rhymes with "dedere" in the first line, "vellatarum" with "antennarum" in the second, and so on in the four following examples.

63. "The Poet" (il Poeta) refers to Virgil (see also chapter 4).

64. In the following quotations from Virgil's Aeneid the Loeb Classical Library reads "velatarum" (line 2), "antemnarum" (line 2), "nequiquam" (line 4), "parantis" (line 4), and "detorsit" (line 5).

65. Zarlino identifies this line as being from the epistle of Helen to Paris, number 8; actually the above-mentioned epistle is number 17. Moreover, the line quoted is from the epistle of Oenone to Paris (which is number 5), in which Oenone bemoans Paris' unfaithfulness and his love for Helen. This may account for Zarlino's confusing Oenone with Helen.

66. "Soleva" rhymes with "m'intendeva," "scorno" with "soggiorno," and so on.

67. Arcadia, Eclogue 1. Ergasto to Selvaggio: "One day leading my lambs beside a river I saw in the midst of those waves a beautiful light that bound me then with two blond tresses and painted in the middle of my heart a face."

The edition of Wayne State University Press reads "presso" (line 1), "trece" (line 3), and "core" (line 4).

68. Meaning: this should not detract from the importance of the

Italian poets. Zarlino's patriotism is evident throughout the work.

69. "Regnavit" in the edition of the Loeb Classical Library.

70. Zarlino's mistake: the quotation is from ode 30, not ode 31.

71. Also called Ofanto, the principal river of Apulia (in south-east Italy), flowing with a rapid current into the Adriatic.

72. Probably Daunia, in the southeast of Italy.

73. "Italian muses" in the original.

74. In the last quotation.

75. A different use of the word "mode," meaning way, manner, or style.

76. In the sixteenth century, in exact opposition to modern concepts, "Italy" was regarded as the region (regione), whereas "Tuscany" was regarded as the country (patria), so that the translations are opposite to the original.

77. In chapter 5 of Istitutioni, II, Zarlino writes about the musical laws of the ancients, saying:

The ancients . . . used to recite their things with a delimited harmony and rhythm. . . . They called

these delimitations laws (Leggi). Thus law in music is no other than a way of singing which contains in itself delimited *concentus* and delimited rhythm and meter. They were so called because no one was permitted to change or innovate anything in them, either in the harmonies or in the rhythms and meters, although there are some who say that they were called laws, because before the civil laws were written they were sung in verse to the sound of the lyra or cetera, in order that the people would remember more easily that which should be observed. . . . But be it as it may, the laws were of three sorts, thus some were called Citharistiche, sung to the cetera or lyra; and some Tibiarie,\* sung to the sound of the pifferi; but those of the third sort were called Communi and were sung to the sound of either sort of the above-mentioned instruments. And although these laws were many, nevertheless each had acquired its name from the people that used it, or from the rhythms and meters, or from the modes, or from the inventors, or from their lovers, or from the arguments.

Zarlino gives examples of specific names of each category, such as Aeolian (named after the people), trochaic (after rhythm and meter), Terpandrian (after the lover or inventor), etc.

78. The sentence is not logical unless understood as praise of Italian poets, plus a concession that the Greeks, too, had several kinds of verse. The verses of fifteen syllables were called "political verses."

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\*In part II chapter 5 the word is Tibiarie, in Part IV chapter 1 it is Tibiali.

79. Chronicle.

80. Canzona designates sixteenth-century Italian secular vocal music, including some types of the frottola and villanella families, and including the villota, a composition of irregular structure, often with a popular or street song incorporated in its texture. The villota is known for its local character.

81. Zarlino writes about the different effects of the Greek modes in chapter 5 of this Part. In Istitutioni, II, 8, he explained how certain elements in music can induce diverse passions in a man (see second paragraph of 162 below). In each of the chapters which are devoted to the individual modes (chapters 18 - 29) Zarlino writes about the properties and effects of each of the church modes.

82. Aristotle writes: "Philoxenos attempted, but failed, to compose a dithyramb, entitled The Mysians, in the Dorian mode; and he was driven by the very nature of his theme to fall back on the Phrygian mode as the more appropriate."

83. Explained in 14 above.

84. "But meanwhile irreparable time flies away." I could not identify this line.

85. See Melodia in the Introduction.

86. Mode; meaning the order, or arrangement, of intervals which create each mode.

87. In Institutioni, III, 12. They can be seen in the chart on pp. 1 - 11.

88. See Arithmetic and harmonic division in the Introduction.

89. Discussed mainly in chapters 9 and 11 of Part IV.

90. This definition of mode is supplemented in the last paragraph of this chapter with a clearer one according to which mode is "a certain form or quality of harmony found in each of the species of the octave." Zarlino later (Dimostrazioni, Fifth Discussion, Definition 11) brings this exact definition and adds that this form is modulated by those species of the diapente and diatessaron that are proper to it. This is very similar to the definition of modes used by Glarean in Dodecachordon, I, 11: "Musical modes are nothing else than consonant arrangements of the octave; they are produced from the different species of diatessarons and diapentes." Gafori says that mode, according to Guido, is defined as a rule by which every modulation can be distinguished (Practica musicae, I, 7).

91. There is some overlapping between chapter 1 and chapter 2 concerning the different terms by which modes were designated. Zarlino mentions three terms in chapter 1 (modes, tropes, and tones) and expands on the subject in chapter 2, adding two terms (harmonies and systematic or entire constitutions). Glarean brings all these names (Dodecachordon, I, 11, and II, 2), but refers to the last one simply as "constitutions." Gafori (Practica musicae, I, 7) mentions the terms "tones," "modes," "constitutions," and "tropes."

92. In chapter 17, entitled "On the transposition of modes," Zarlino says that "by transposing the semitone, one can change one mode into another"; so perhaps he refers here to transposition.

93. In reality, Cleonides. His Introduction was erroneously attributed to Euclid by many writers.

93a. In chapter 18 of Istitutioni, III, Zarlino writes about the large whole-tone (9/8) and small whole-tone (10/9).

94. Glarean, just like Zarlino, says (Dodecachordon, I, 11) that he prefers to use the term "modes." Aron, Finck, Gafori, and Vicentino use the term "tones."

95. Namely, both low and high pitch.

96. See Modulatione in the Introduction.

97. Meaning the notes within the octave or any other tone space,

which are gained by division of the string.

98. Beginning, respectively, on D, E, F, etc.

99. In which Zarlino writes about the seven species of the octave.

100. Meaning, taking into account whether they are divided harmonically or arithmetically, because every octave species (except two, as explained in 103 below) yields two different modes, depending on the dividing note.

101. Each Part of Dimostrazioni is usually referred to as "Discussion" (Ragionamento).

102. Which gives a definition that is like the one that follows, but slightly expanded (see 90 above).

103. The seven species of the octave give only six authentic modes because the octave species B-natural - b-natural cannot be divided harmonically. They give only six plagal modes because the octave species F - f cannot be divided arithmetically.

104. This is the first time that Zarlino implies that the number of the modes is twelve, saying that there are six authentic and six plagal modes.

105. In chapter 12, entitled "Division of the modes into authentic and plagal."

106. See last paragraph of Harmonia in the Introduction. Zarlino uses here the term Harmonie, which is equivalent to the Greek harmoniai.

107. Whether Zarlino means "chapter 94" or "chapters 9 and 4" is not clear; I could not find this matter in any of these three chapters. Pollux talks about music in Books IV and IX of Onomasticon.

108. Concento in the original, translated as *concentus* by Strunk.

109. See Melodia in the Introduction.

110. Zarlino talks about the differences between ancient and "modern" music in Istitutioni, II, 4, and III, 79 (see 2 above).

111. Meaning both vertically and horizontally.

112. "Conversion" in the sense that the diatessaron may be placed above the diapente (in authentic modes) or below it (in plagal modes).

113. Meaning, in this context, intervals.

114. The large semitone is distinguished from the small semitone in Istitutioni, III, 19.

115. Zarlino talks about the finales of the modes in chapter 13 of this Part.

116. See Modulatione in the Introduction.

117. The problem of determining the mode of a composition is discussed at length in chapter 30 of this Part.

118. Ptolemy was also among those who called them tones.

119. "The most perfect" is Zarlino's expression.

120. In chapter 2 of this Part.

121. Both the Greek Dorian (e - E) and Phrygian (d - D) are symmetrical (that is, consisting of two identical tetrachords), and therefore preferred by Plato. The Greek Lydian (c - C), also symmetrical, was outlawed both by Plato and by the church, probably because of its "natural" character, described as "horrible" and "impetuous."

122. The word "Boetrham" in the original is a printing mistake of "Boethum."

123. Also with Aristoxenus.

124. See 93 above.

125. The nature of the Hypermixolydian is the subject of a controversy (see chapter 7 of this Part for Zarlino's opinion, and 232 below for that of Glarean and Gafori).

126. Identical with Ionian. Zarlino himself says later in this chapter (p. 41) that some called the Ionian by the name of Iastian, and in chapter 7 (p. 72) that Ptolemy called the Ionian by the name of Iastian.

127. This is strange, for Plato proposes six modes, and Pollux seven; but Pollux names the Ionian twice (once in masculine form, Ionico, and once in feminine form, Ionica), so perhaps he, too, proposes six modes.

128. The "masculine" modes are apparently associated with high-class music, whereas the "feminine" modes are associated with second-class music. It is noteworthy that the Ionian is mentioned twice, once in masculine form (Ionico) and once in feminine form (Ionica).

129. The "continuous" mode, has otherwise not been described.

130. Same modes as Plato (except the use of the name Iastian as opposed to Plato's use of the name Ionian), but presented in a different order.

131. Lucius talks about the Phrygian, Lydian, Dorian, and Ionian. He does not say that there are four modes.

132. Glarean mentions in this connection only chapter 14 (in Dodecachordon, II, 7).

133. Of De Institutione Musica.

134. This is a spurious work, but Zarlino probably did not know that.

135. In chapter 14 of Istitutioni, III, Zarlino shows the three species of the diatessaron (see chart on pp. lii - liii), created by the different location of the semitone.

136. In order to condense what has been said up to this point and to facilitate comparison of the different theories, I shall present the following summary, according to Zarlino's order, as given in chapter 3 of Istitutioni, IV:

Plato: Mixolydian, high Lydian, Ionian, Dorian, Phrygian.

Aristoxenus: Lydian, Iastian, Phrygian, Dorian, plus the hyper- and hypo- of each of these.

Cassiodorus: Dorian, Phrygian, Aeolian, Iastian, Lydian, \* plus two collateral modes for each of these.

Euclid, Censorinus and Martianus follow Aristoxenus.

Ptolemy: Hypodorian, Hypophrygian, Hypolydian, Dorian, Phrygian, Lydian, Mixolydian, plus Hypermixolydian.

Pollux: Dorian, Ionian, \*\* Aeolian, Phrygian, Lydian, Ionian, \*\*\* plus Continova.

Aristides Quintilianus: Lydian, Dorian, Phrygian, Iastian, Mixolydian, Syntonolydian (high Lydian).

Gaudentius: Mixolydian, Lydian, Phrygian, Dorian, Hypolydian, Common (Locrico, Hypodorian), Aeolian, Hypoaeolian.

Apuleius: Aeolian, Iastian, Lydian, Phrygian, Dorian.

Lucian: Phrygian, Lydian, Dorian, Ionian.

Boethius: Like Ptolemy.

Plutarch: Dorian, Phrygian, Lydian (the principal modes, from which the others are derived).

Pindar: Dorian, Aeolian.

Horace: Ionian, Aeolian, Dorian, Lydian.

137. This is the first time in this book that Zarlino states that the number of the modes is twelve.

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\*Opposite order from Aristoxenus (see 213 below).

\*\*Ionico.

\*\*\*Ionica.

138. See 103 above.

139. Chapter 12 of this Part deals with the division of the modes into authentic and plagal.

140. This is strange, for there was only one Pope by that name.

141. In the Confessions, IX, 7, St. Augustine tells how antiphonal singing came into being. Zarlino, though a churchman, overlooks it.

142. The facts were not clear to Zarlino. Mercury was not Amphion's father but his close friend, who gave him a lyre and taught him to play on it.

143. According to mythology, it was Apollo who sang a paean (usually a battle song) as a song of victory on the grave of Python. But both here and in chapter 5 of this Part Zarlino writes about Olympus making music on the grave of Python, in chapter 5 (p. 58) adding that he sang the Epicedes (see 188 below), citing Aristoxenus in this chapter and Plutarch in chapter 5.

144. The funeral rites of Psyche are not mentioned earlier in Part IV of Istitutioni, nor was I able to find any mention of them in the first three Parts.

145. Zarlino's mistake; it is mentioned in Book III of Stromateis, not in Book I.

146. Namely, Olympus who allegedly played on the piffero the funeral music on the grave of the serpent Python.

147. That is, as funeral music for the funeral rites.

148. There is a parallelism between crossroads or forked-roads and the life of Proserpine, who spent half her life above ground and the other half below it. Both in the image of crossroads and in her life one perceives the idea of reciprocity. The connection of all this to Diana is not entirely clear, but as goddess of the moon, which is seen half the time and not seen the other half, she may represent the same idea.

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149. See 63 above.

150. A shepherd's pipe.

151. "Cera" in the edition of the Loeb Classical Library.

152. "Pluris" in the edition of the Loeb Classical Library.

153. Clement of Alexandria.

154. "Phrygian" is in the plural (Frigie), whereas "Mixolydian"

and "Mixophrygian" are in the singular (Mistalidia, Mista frigia).

155. Namely, the son of Iagne the Phrygian (p. 45).

156. "Lisia" in the original. Could also be Lysis, a philosopher and a follower of Pythagoras (end of sixth century — beginning of fifth century B.C.).

157. Melodie in the edition of 1558, Melopeie in that of 1573 (see the third paragraph of Melodia in the Introduction).

158. In Istitutioni, IV, I, in which Zarlino says that "in ancient times the mode was a certain delimited form of melody, made with reason and artifice, and contained within a delimited and proportioned order of numbers and harmony, adapted to the subject matter contained in the speech."

159. "Composition" in this case may mean the composite of several elements (see 22 above).

160. See 81 above.

161. Namely, such words as virtue and wisdom.

162. In chapter 7 of Istitutioni, II, Zarlino says that certain elements in music can induce diverse passions in a man. In chapter 8

of the same, he explains how they can do it and says that each passion (like anger, fear, etc.) consists of a certain proportion of hot and cold and of humid and dry. These same proportions are found also in music, so that music which has the same proportions of which anger consists, will induce anger, and so on.

163. "Volcani" in the edition of the Loeb Classical Library.

164. This may be a reference to the unfaithfulness of Venus (Aphrodite), the wife of Vulcan (Hephaestus), with Mars (Ares).

165. See 318 below.

166. In chapters 3 and 5 of this Part (pp. 41 and 60).

167. Namely, the Hypodorian. Heraclides Ponticus, whom Athenaeus cites later in this chapter (p. 60), was also of the opinion that the Hypodorian and the Aeolian were the same mode. Cassiodorus attributed to the Aeolian properties similar to those of the Hypodorian.

If we think of these modes in terms of Church modes, it is apparent that both the Aeolian and the Hypodorian are contained within the octave A - a; but if we think of the "hypo" modes as plagal, the

structure of the Aeolian would be A - E - a, and that of the Hypodorian: A - D - a.

168. A printer's error in Zarlino's reference. It should be "Politicians."

169. Zarlino uses the word animo, which, according to the accepted opinion, means "mind," whereas anima means "soul." However, this is not binding, and in this place, as in several others, it seems more appropriate to translate animo as "soul" (Zarlino never uses the word anima). I have sometimes translated it also as "spirit."

170. This is a case of an omission in the edition of 1558. The second part of the sentence, added in 1573, was meant to be there in the first place, as the sentence has no meaning without its completion. It is listed in the errata of the 1558 edition, and is corrected in the 1573 edition.

171. A mistake in the original: the name of the poem is Ibis, not Ibin.

172. In Phrygia, Rhea became identified with Cybele, mother of the gods. In Rome she was called Magna Mater.

173. The Phrygian priests of Cybele mutilated themselves under the influence of wild pipe-music.

173a. Aristotle mentions the Phrygian mode in chapter 7 (not chapter 5); he says that it makes men enthusiastic.

174. In chapter 1 of this Part.

174a. Zarlino's mistake: should be chapter 6, not chapter 1.

175. Marcus Tullius Cicero.

176. Etruscans.

176a. Zarlino's mistake: should be Book V, not Book VI.

177. Josephus Flavius.

178. Annals, Book II, fragment 18. "And the tuba with a terrible sound said taratantara" (a clear use of onomatopoeia).

179. This is unlikely, for Timotheus (446 - 357 B.C.) died the year before Alexander the Great (356 - 323 B.C.) was born.

180. Suidas is a Greek lexicon (c. 970 A.D.). Nothing is known about its author.

181. Legge in the original. Plato's dialogue Normoi is clearly a pun, referring to both "laws" and "melodies." "Orthian" may mean "of Artemis" or "high pitched."

182. I was able to find only one additional place in which Zarlino mentions this matter: Istitutioni, II, 7.

183. Cretans, natives or inhabitants of Crete (also called Candia).
184. Zarlino's mistake: should be Book II, not Book I.
185. Whether Zarlino here means Phrygian or Lydian is not clear. In chapter 4 (p. 44) the Lydian was mentioned in connection with Olympus.
186. See 143 above.
187. See 134 above.
188. An epicede is a funeral song or ode, dirge, or elegy (also called epicedium).
189. Coastal region extending along the Adriatic from Fiume (Rijekav) to Kotor.
190. "Maesta" in the edition of the Loeb Classical Library.
191. In Istitutioni, IV, 1 (see p.14).
192. This opinion has been cited in Istitutioni, IV, 3 and 5 (see pp. 41, 52, and 60).
193. Heraclides Ponticus.

194. Earlier in this chapter (p. 52), the Hypodorian was described as inducing laziness and indolence. If the Aeolian were the Hypodorian, as Heraclides Ponticus claims, it could not be cheerful, open, and clear, as described here.

195. At the beginning of this chapter (pp. 47-48).

196. Dio Chrysostomus.

197. Earlier in this chapter (p. 56).

198. Alexander the Great.

199. It is strange that there are differences between the two editions concerning the order of the ancient modes according to Plato.

200. The order is Hypodorian, Hypophrygian, Hypolydian, Dorian, Phrygian, Lydian, Mixolydian, Hypermixolydian. The "four middle ones" are the modes between the Hypodorian and the Mixolydian, the Hypermixolydian being an "additional" mode, as explained in chapter 3 of this Part (p. 37).

201. Apuleius' order is: Aeolian, Iastian, Lydian, Phrygian, and Dorian.

202. See 93 above.

203. In chapter 3 of this Part (Euclid, p. 37; Gaudentio, p. 38).

204. Zarlino mentions both Aristides and Aristides Quintilianus, but he probably always means the latter, because the citations from Aristides are in keeping with Aristides Quintilianus' writings.

205. The orders proposed by the different scholars are given in 136 above.

206. Zarlino may be referring to Istitutioni, II, 29.

207. From this phrase it is clear that Zarlino looks upon music as one of the sciences. This attitude is evident especially in chapter 35 of this Part.

208. In the teachings of Pythagoras music was linked to mathematics. Music was conceived as ordered by numbers, and intervals were measured by proportion (see 6 above). By contrast, Aristoxenus claimed that the true method of determining intervals is by ear, not by mathematical calculation.

209. To give just two examples from the first chapters of this Part: scholars disagreed on the names and inventors of modes.

210. Ordini in the original, but here it undoubtedly means "systems."

211. See 93 above.

212. Chorde in the original, usually translated as "notes," but here obviously referring to the strings of the monochord.

213. In chapter 29 of Istitutioni, II, Zarlino explains a controversy among the ancients concerning the movement of celestial bodies which, as they believed, produced music. The common premise was that the higher bodies moved faster than the lower, thus producing higher sounds, while others claimed that the lower bodies, being smaller than the higher, produced higher sounds. Zarlino explains that either opinion can be justified, depending on whether diurnal or annual movement is observed.

The relationship between each of these opinions and the placement of the modes is explained by Zarlino in the above-mentioned chapter:

Those who favored the first opinion attributed the note Proslambanomenos to the sphere of the Moon, the planet nearest to us, because it produces a lower sound than any other sphere; Hypate hypaton to that of Mercury; and the other notes in order to the other spheres. . . . But those who had the contrary opinion attributed the note Hypate meson to the sphere of Saturn, because they thought that it produced a lower sound than any other sphere; Parhypate to Jupiter; Lychanos to Mars; Mese to the Sun; and the other notes to the other spheres. . . . And just as they were of different opinions concerning what I have said, so they differed also

in placing the notes in their instruments: for those who had the opinion that Saturn makes a high sound and the Moon a low sound, placed the high notes in the high place, or right part of their instruments, and the low notes in the low place, or left part. And those who were of the contrary opinion did it contrariwise, inasmuch as they placed the low notes in the high part, or right side, and the high notes in the low part, or left side.

The correlation of the notes of the scale with the planets can already be found in Plato's Republic, Book X.

In Istitutioni, IV, 6, Zarlino suggests a possible explanation for Euclid's placement of the Mixolydian in the low part of the monochord, contrary to Ptolemy and Boethius who place it in the high part. Zarlino says that there is a possibility that the high notes were in the left-hand side of Euclid's instrument, as was the practice of those ancients who claimed that the lower celestial bodies produced high sounds than the high bodies. Thus it may be that although Euclid's order was contrary to that of Ptolemy and Boethius, in actuality they meant the same thing.

214. Made of two wholetones and what is left over.

215. Diastema in the original, an interval taken as distance and not as a proportion (r atio).

216. Used here in the sense of "semitone."

217. The span covered by the intervals given above is short of an octave by a wholetone. If this is a perfect system, a wholetone must have been skipped.

218. This and other intervals larger than a wholetone mentioned here stand in opposition to Boethius' statement, cited earlier in this chapter (p. 66), that the distances and intervals found in each mode are only of a wholetone or semitone.

219. Intense or High Lydian.

220. The synemmenon in Greek theory is an additional tetrachord in which there is a b-flat (a - b-flat - c - d). Later the term came to indicate b-flat or any chromatic alteration. In this instance it probably indicates the whole tetrachord. In other places it often means chromatic alteration or, specifically, b-flat.

220a. See 93 above.

221. In chapters 3 and 5 of this Part.

222. Throughout the translation, the modes and interval-species are defined by the numbers of the 1558 edition. The 1573 edition employs the new system of interval-species numbers and the revised mode numbers. I discuss these changes and their significance at length in the section entitled "A comparison of Part IV in the two

different versions of Le Istitutioni harmoniche" under the subtitle "Changes in terminology."

223. Should be: "the seventh and twelfth modes." The twelfth mode has been omitted, probably through forgetfulness.

224. Note the use of the first person here (as opposed to the third person in 1558). The reason for this difference is that this is what Zarlino does, the others do not.

225. The new mode numbers and interval-species designations were introduced in the Fifth Discussion of Dimostrationsi (published in 1571). Note the word ragionevolmente (with reason). Zarlino is still trying to justify his changes.

226. Should be: "the fourth and eleventh modes." The eleventh mode has been omitted, as the twelfth was in the 1558 edition (see 223 above).

227. The statement in the edition of 1573 is the more logical of the two. The twelve modes have been in use in all types of compositions, but it was because of the influence of the Church that four of them were not mentioned in treatises. The statement in the 1573 edition emphasizes the use of these four modes by the Ecclesiastics.

This is an example of the improving done by Zarlino on the text of 1558.

228. Chapters 18 - 29 of this Part are each devoted to a detailed discussion of one of the modes. Information is given concerning the species of the octave, diapente, and diatessaron of which the specific mode is composed; its final, beginnings, and cadences; and its character. Zarlino includes a list of polyphonic compositions (sometimes also chants) for each mode.

229. In the corresponding chapter of the 1573 edition all mode and octave-species numbers are changed. The corresponding numbers can be found in the charts on pp. 1 - li (octave species) and pp. lxi - lxii modes.

230. According to arithmetic proportion (see Arithmetic and harmonic division in the Introduction).

231. That is, of De Institutione Musica.

232. Glarean's opinion is different; he says that Ptolemy's Hypermixolydian is "completely identical in nature" with the Hypodorian (Dodecachordon, II, 2). Gafori, too, says that Ptolemy's Hypermixolydian does not differ from the first octave-species in its internal relationships but only in being an octave higher (Practica musicae, I, 7).

233. Plagal.

234. Namely, of Book II of Harmonics by Ptolemy.

235. In the edition of 1573: "chapter 14," apparently a printing mistake.

236. See first paragraph of 2 above.

237. Chapter 2 of Istitutioni, III, entitled "On the invention of the clefs and written notes," deals with the development of clefs and note values.

238. Chorde, namely, "notes," in the original.

239. According to Ptolemy and Boethius, cited in chapter 6 of this Part (p. 66), Proslambanomenos is the lowest note of each mode. Thus, it is not a fixed note in this context, as opposed to the accepted identification of Proslambanomenos with the note A, added below the lowest tetrachord, e - d - c - B.

240. Doctor of the Church.

241. Zarlino distinguishes in his writings between interval (intervallo) and consonance (consonanza), in accordance with modern usage.

242. Tempi in the original.

243. That is, De Institutione Musica.

244. See Modulatione in the Introduction.

245. According to Zarlino, Boethius' modes are exactly the same in intervallic structure and the only difference between them is that of pitch, each mode being higher than the preceding one by a whole tone or semitone. Thus the different modes are transpositions of one intervallic pattern.

246. Namely, the second of the two difficulties (or "inconveniences," in Zarlino's words) arising from Boethius' De Institutione Musica, Book IV.

247. In the corresponding chapter of the 1573 edition all mode numbers (except those used in general rather than to designate particular modes) are changed. The corresponding numbers can be found in the chart on pp. lxi - lxii.

248. See 247 above.

249. Changes in the edition of 1573 concerning interval-species designations can be of three kinds: 1. The species number is different

but the notes are the same (e.g., 1558: first species of the octave, A & a; 1573: sixth species of the octave, A & a). 2. The species number is the same but the notes are different (e.g., 1558: first species of the octave, A & a; 1573: first species of the octave, C & c). 3. Both species number and notes are different. It is therefore necessary to specify in each case the element that has been changed.

In the corresponding chapter in the 1573 edition the octave-species number is different, but the notes are the same. The corresponding number can be found in the chart on pp. 1 - li.

250. The addition "as we do" in the edition of 1573 refers to the different mode numbers used in that edition.

251. Zarlino tries to solve a discrepancy between ancient and contemporary theory. Ptolemy and Boethius write that the distance between the Dorian and Phrygian modes is a whole tone, and so is the distance between the Phrygian and Lydian modes. The "moderns," interpreting Dorian as the first mode, placed it between D and d.

The following arrangement results:

Dorian	<u>D</u> - <u>d</u>
Phrygian	<u>E</u> - <u>e</u>
Lydian	<u>F</u> - <u>f</u>
Mixolydian	<u>G</u> - <u>g</u>

Accordingly the distance between the Phrygian and Lydian modes is only a semitone. Zarlino therefore suggests that a more suitable arrangement would be to place Dorian on C, Phrygian on D, and Lydian on E, thus keeping the right distance between the modes, according to Ptolemy and Boethius.

It should be noted that Zarlino deals with this problem also in Definition 14 of Dimostrazioni, Fifth Discussion; and that in Definition 8 of the above, Zarlino presents this matter as one of the considerations that prompted him to change the existing order of mode numbers, designating as first mode the one within the octave C - c, thus keeping the accepted association of Dorian with the first mode, and at the same time arranging the ancient modes in accordance with the writings of Ptolemy and Boethius.

Zarlino treated this problem seriously enough to suggest a different arrangement and to use it as an additional consideration in his radical change of mode numbers. He was doubtful, however, of the validity of equating the ancient modes designated by Greek names with the contemporary modes designated by numbers. He expresses his reservation in his parenthetic remark earlier in this paragraph: "Assuming modern modes similar in some way to ancient modes," Zarlino shows a profound understanding by doubting the similarity between ancient and contemporary modes, without knowing much

about the former. He probably did not know that Greek modes were conceived as descending: Dorian within the octave e - E, Phrygian within d - D, Lydian within c - C, and so forth, yet he thought of it as a possibility, as can be seen in chapter 6, when he says that the ancient scholars did not indicate whether the modes were sung "from low to high or from high to low."

252. This is the first time in this book that Zarlino does not merely mention his new order, but says that it is different from everyone else's.

253. Namely, calling them by their Greek names.

254. See Modulatione in the Introduction.

255. In Definition 14 of Dimostrationsi, Fifth Discussion, Zarlino ends his opposition to Boethius' theory on a similar note, saying: "Everyone can be mistaken in things in which he is not very experienced, as perhaps was Boethius."

256. Earlier in this chapter.

257. In Istitutioni, III, 13, Zarlino mentions another mistake of Boethius, saying: "Boethius, in chapter 13 of Book IV of Music, puts the second species of this consonance [diapente] between the notes

Hypate hypaton [B] and Parhypate meson [F]. This is a diminished fifth, for it contains two wholetones and two semitones."

258. Ars Poetica, "Truly in a long work it is natural for sleep to creep up."

259. Boethius.

260. In chapter 1 of this Part (p. 28).

261. Harmonic and arithmetic divisions are explained in the Introduction.

262. The octave, contained within the terms 2 and 1, is presented as the first consonance in Istitutioni four times: I, 13; II, 39; III, 3; and IV, 9. In chapter 3 of Part III, entitled "On the elements that make up counterpoint," it is more emphasized and dwelt on. Zarlino says that the octave is first among intervals and, as Boethius affirms in De Institutione musica, II, 17, the first consonance. Zarlino adds that this is evident from its formation by duple proportion, which is the first unequal one (that is, the first proportion in which enumerator and denominator are not equal). Zarlino says that the octave is "mother and generator, fount and beginning, from which every other consonance and every other interval is derived, inasmuch as that which is first is always the cause of that which follows." In referring

to the octave as "mother," Zarlino, knowingly or unknowingly, follows Plato, who regards the number 2 as feminine and calls it "mother."

263. Defined in the fourth paragraph of Arithmetic and harmonic division in the Introduction.

264. The procedure of harmonic division is explained in the fifth paragraph of Arithmetic and harmonic division in the Introduction.

265. Defined in the first paragraph of Arithmetic and harmonic division in the Introduction.

266. Namely, the diapente and diatessaron.

267. The procedure of arithmetic division is explained in the second paragraph of Arithmetic and harmonic division in the Introduction.

268. Here there is a reaffirmation of Zarlino's conviction that harmonic proportion is superior to arithmetic proportion. See last paragraph of Arithmetic and harmonic division in the Introduction for more details on this point.

269. Arithmetic division of the diapente is dealt with in Istituzioni, I, 36, and explained in the third paragraph of Arithmetic and

harmonic division in the Introduction. Harmonic division of the diapente is dealt with in Istitutioni, I, 39, and explained in the seventh paragraph of the above.

270. Sesquialtero and sesquiterzo are defined in the next-to-last paragraph of 1 above. It is strange that Zarlino did not put a clef in the example in either edition.

271. In this chapter Zarlino demonstrates the number of modes by the possible unions of diapente and diatessaron. This is parallel to chapter 3 of Dodecachordon, Book II, entitled "How twenty-four octave species arise from the connection of the fourth and the fifth, from which twelve are rejected and twelve are accepted." Glarean is concerned more than Zarlino with proving that the numbers of modes is twelve (see 281 below).

272. Note the word "necessarily." Zarlino is about to prove it, but he does not explain the "axioms" of his proof (see 281 below).

273. In chapter 1 of Part IV (see p. 9).

274. The species of the diapente and diatessaron, as shown in Istitutioni, III, 13 and 14, according to both the 1558 and the 1573 editions, are on pp. li - liii.

275. See 266 above.

276. In the corresponding chapter in the 1573 edition the species numbers of the diapente and diatessaron are the same as in the 1558 edition but the notes are different. The corresponding notes can be found in the charts on pp. li - liii. There is only one exception; the fourth species of the diapente in the edition of 1558 sometimes becomes the second species of the diapente in the edition of 1573. This happens twice in chapter 10 and twice in chapter 11 (I have indicated each of these four occurrences by a comment), and only when the diapente in question is C & G (as opposed to G & d, the same species) which becomes A & e in 1573. The reason for this exception has to do with the possible combinations of diapente and diatessaron, discussed in detail in 281 below.

277. In the case of the octave, both species number and notes are different in the corresponding chapter in the 1573 edition. The corresponding species numbers and notes can be found in the following way: the notes of the octave are the lower note of the diapente and the higher note of the diatessaron. The species number can then be found in the chart on pp. 1 - 11.

278. The intervals in the even-numbered (plagal) modes are given descending. The reason may be that, as Zarlino says in Istitutioni, IV, 15, upward motion is attributed to the principal mode and downward motion to its collateral. In Dodecachordon, I, 11, Glarean quotes a "little verse" concerning this matter: "An even mode tends to descend, but an uneven mode tends to ascend."

279. Missing in the edition of 1558, probably by accident, and corrected in 1573. In the 1558 edition the notes would have been c & C.

280. "Second species" in 1573 (see 276 above).

281. Zarlino gives all the combinations of the diapente and diatessaron which create modes, and trusts that the reader will know clearly why the other combinations are not possible. Glarean, however, gives specific rules for rejecting a combination. He says (Dodecachordon, II, 3) that there are twenty-four possible combinations, but twelve of them are rejected for one of four reasons:

- (1) It has four successive wholetones.
- (2) It has five successive wholetones.
- (3) It has one wholetone between two small semitones.
- (4) It has two successive small semitones.

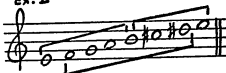
In order to exemplify Glarean's rules, I have chosen four

combinations which do not constitute modes. Example 1 is a combination of the third species of the diapente, placed below, and the second species of the diatessaron, placed above. A succession of four wholetones is created between the notes F and c-sharp. Example 2 is a combination of the third species of the diapente, placed below, and the first species of the diatessaron, placed above. A succession of five wholetones is created between the notes F and d-sharp. Example 3 is a combination of the first species of the diapente, placed below, and the third species of the diatessaron, placed above. In the succession E - F - G - a-flat there is a single wholetone (F - G) between two small semitones (E - F and G - a-flat). Example 4 is a combination of the fourth species of the diapente, placed above, and the third species of the diatessaron, placed below. A succession of two small semitones is created between the notes b-natural and d-flat.

Ex. 1



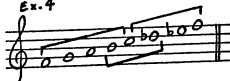
Ex. 2



Ex. 3



Ex. 4



282. In the corresponding chapter in the 1573 edition both species number and notes are different: "Second species of the diapente placed between a & e" (see 276 above).

283. Zarlino has demonstrated the number of modes first by the possible unions of diapente and diatessaron (chapter 10). Now he does the same thing by harmonic and arithmetic divisions of the different octave species. This is parallel to chapter 4 of Dodecachordon, Book II, entitled "How only seven octave species form twelve octave species." Here, too, Glarean's effort to prove the number of modes is evident. He explains that the twenty-four possible combinations of diapente and diatessaron yield twelve octaves, but five have the same intervallic structure as five others, so that only seven different octave species remain. Zarlino does not give such an explanation, trusting that this is known to the reader.

284. In the edition of 1573, there are repeated references to the new order, using adjectives such as "good order," "natural order," etc. Zarlino emphasizes the superiority of the new order, as if he were trying to justify it repeatedly.

285. In the corresponding chapter in the 1573 edition both the number and the notes of the octave species are different. Accordingly,

the dividing note is different. See 277 above for an explanation of how to find the corresponding numbers and notes.

286. In the corresponding chapter in the 1573 edition the species numbers of the diapente and diatessaron are the same as in the 1558 edition, but the notes are different. The only exception to this is discussed in 276 above.

287. In the first example of the illustration in chapter 10.

288. In chapter 10 (pp. 83-84)

289. In the edition of 1573, there is no need to skip any species of the octave, the order being such that the species which cannot be divided is in the last place. This is true both for the authentic modes (harmonic division), which in the edition of 1573 start on C, thus leaving the octave B-natural & b-natural, which cannot be divided harmonically, in last place; and for the plagal modes (arithmetic division), which in the edition of 1573 start on G, thus leaving the octave f & F, which cannot be divided arithmetically, in last place.

290. That is, without using accidentals; in this case, f-sharp.

291. In the corresponding chapter in the 1573 edition both species number and notes are different: "Second species of the diapente a & e

(see 276 above).

292. In Proposal 10 of Dimostrazioni, Fifth Discussion, Zarlino explains that within the octave B-natural, C, D, E, F, G, a, and b-natural there is no note that can divide the octave into a diapente below and a diatessaron above. There can be no diapente below, because the interval B-natural & F contains only two wholetones and two large semitones, which create an interval smaller than a diapente, called by Zarlino semidiapente, diminished fifth. Nor can there be a diatessaron above, because the interval F & b-natural contains three wholetones, a tritone. Because among the notes of the octave there is none that can divide it into a diapente below and a diatessaron above, it cannot be divided harmonically.

293. When dealing with harmonic division, Zarlino started with the fourth species of the octave; when dealing with arithmetic division, with the first species of the octave. The reason is that these species yield respectively the first and second modes.

294. As stated in 278 above, consonances in the plagal modes are given descending. In the edition of 1573, however, the octaves in this chapter are not given descending, but the diapente and diatessaron are. The next octave is given ascending in both editions.

295. In the first part of Proposal 25 of Dimostrationsi, Fifth Discussion, Zarlino proves that every mode can be transposed up or down an octave by showing that the same pattern of wholetones and semitones exists in the octaves GG, A, B-natural, C, D, E, F, and G; and G, a, b-natural, c, d, e, f, and g. Then he says that this can be applied to every mode.

296. In the second example of the illustration in chapter 10.

297. In the list of errata in the 1573 edition, Zarlino indicates that "c & F" should be added here.

298. See 289 above.

299. "According to" was omitted in the text and listed in the errata of the 1573 edition.

300. In Proposal 12 of Dimostrationsi, Fifth Discussion, Zarlino says that the octave F, G, a, b-natural, c, d, e, and f is divided by the note b-natural into two parts, namely, F, G, a, and b-natural; and b-natural, c, d, e, and f. But the interval F & b-natural, according to Proposal 10 of the Fifth Discussion (see 292 above), is a tritone, which is larger than a diatessaron. Similarly, the interval b-natural & f is smaller than a diapente. Because among the notes

of this octave there is none that can divide it into a diatessaron below and a diapente above, it cannot be divided arithmetically.

301. In the corresponding chapter in the 1573 edition both species number and notes are different: "Second species of the diapente a & e" (see 276 above).

302. In the edition of 1573, the octaves with the dividing notes are written in all three illustrations obliquely, and all the plagal modes start on the highest note and descend.

303. In chapters 1 and 3 of this Part.

304. See 292 above.

305. This phrase occurs only in the 1573 edition because this matter was not mentioned at all in the 1558 edition.

306. Namely, diminished fifth.

307. See 300 above.

308. Zarlino does not name these people, but he refers again to the fourteenth mode in chapter 30 of this Part (p. 200).

309. Dividing thus the octave B-natural & b-natural.

310. Dividing thus the octave f & F.

311. Proposal 14 of Dimostrationsi, Fifth Discussion, is entitled "The modes can be no more and no less than twelve, namely, six principal and authentic, and six nonprincipal and plagal." Zarlino explains that because, according to Definitions and Proposals presented previously in Dimostrationsi, the octave can be divided harmonically into six modes and arithmetically into six other modes, the total number of modes is twelve.

312. Meaning "classification," not to be confused with division of the octave.

313. In chapter 2 of this Part. Zarlino adds there that some call the diapente and diatessaron sides or limbs of the octave, which they call body.

314. The first two examples of the last illustration in chapter 11 illustrate this clearly.

315. In the 1558 this word appears in the singular, a mistake which was corrected in the 1573 edition.

316. Mild.

317. See Harmonia in the Introduction.

318. In the course of this book, Zarlino expresses two contradictory opinions concerning the relationship between the nature of authentic and plagal modes. Here and in chapter 15 (p. 111) he says that a plagal mode has a contrary nature to that of its principal. In chapter 19 (p. 137), however, he says that an authentic and its plagal are not very different because both are composed of the same species of diapente and diatessaron.

Each of these two opinions can be justified; the species of diapente and diatessaron are the same in an authentic and its plagal, and therefore they are similar; on the other hand, the diapente and diatessaron are placed in opposite order in an authentic and its plagal, and therefore the former has upward motion and fast tempo, and the latter has downward motion and slow tempo. Hence they have an opposite nature.

An examination of the nature of the modes, as presented by Zarlino himself in chapters 18 - 29, shows that there are no consistent similarities nor consistent differences between an authentic and its plagal; the tendency seems to be toward similarity of the authentic and its plagal. The opposite conclusion can be drawn from what Gafori writes on the nature of the modes in chapter 7 of De Harmonia Musicorum Opus, Book IV.

319. All these matters are discussed in chapter 13 of this Part.

320. See 159 above.

321. Namely, harmonic and arithmetic division, shown in chapter 9 of this Part.

322. Definition 17 of Dimostrazioni, Fifth Discussion, is entitled "The true final note of whatever mode, either principal or nonprincipal, is the lowest of its diapente." Zarlino explains that this can be the lowest note of the octave (that is, in the authentic modes) or lie in the middle of the octave (in the plagal modes).

323. In the corresponding chapter in the 1573 edition, the species numbers are the same as in the 1558 edition but the notes are different.

324. Meaning voices in a polyphonic composition.

325. Zarlino discusses this matter in chapter 31 of this Part.

326. In the translation I have omitted the specification of the notes, "C & G," which appears in the 1573 edition, because the notes are not in keeping with the system followed in the 1558 edition.

327. In the original: "the sixth and seventh modes," a serious mistake not corrected in the 1573 edition, although the correction

appears in the list of errata in the 1558 edition.

328. In chapter 18.

329. That is, the eighth note above the finalis.

330. In the corresponding chapter in the 1573 edition the mode numbers of this and the following chant have been changed according to the chart on pp. lxi - lxii.

331. See 284 above.

332. That is, when the plagal modes would go down beyond the fourth note below their finalis, or the authentic modes would go up beyond the eighth note above their finalis, both by a whole tone or a semitone.

333. The following part of this paragraph refers only to authentic modes.

334. In Dodecachordon (I, 14) Glarean compares a mode which moves within the limits of the octave to a river flowing along within the banks of the riverbed. He then compares a mode which does not fill the octave (namely, a diminished mode) to a river which does not fill the riverbed because of the heat or another reason, and a mode

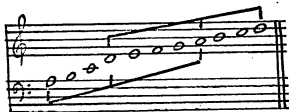
which exceeds the octave (namely, a superfluous mode) is likened to a river which overflows the riverbed because of abundant rains.

335. Canto figurato in the original, translated as figur music by Strunk.

336. Earlier in this chapter.

337. In chapter 30 of this Part.

338. That is, the fourth note beyond their octave. Each of the extreme notes is the fourth note beyond the octave, as can be seen in the illustration; A is the fourth note beyond the octave of the authentic mode, and d is the fourth note beyond the octave of the plagal mode.



339. Referred to as "modes whose systems can be connected" by Glarean, who devotes to this matter much more space than Zarlino (Dodecachordon, II, 29-35, and III, 24). Glarean once refers to them as "mixed modes" (Dodecachordon, I, 14), but they should not be confused with Zarlino's mixed modes.

340. See illustration in 338 above.

341. Namely, the example in chapter 13.

342. Glarean uses the same sequence as an example of a melody which includes the ambitus of both the authentic and plagal modes. Glarean describes in detail the interval species used in it (Dodecachordon, I, 14).

343. In the corresponding chapter in the 1573 edition all mode numbers and interval-species designations have been changed according to the new order.

344. Glarean says (Dodecachordon, I, 14) that "some think" that such compositions "should be attributed to the plagal modes."

345. Gafori is more specific, explaining (Practica musicae, I, 8) that the additional species has to belong to a mode different than the collateral of the mode in which the composition is written. He says further that if the composition is written in a plagal mode, the added species must belong to an authentic mode (but not to its own principal).

346. Cantilena in the original.

347. Meaning the third species of the diapente (based on

examination of the composition in question).

348. See 312 above.

349. This addition in the title of the chapter in the 1573 edition reflects sizable additions concerning Psalmodes in the text of this chapter. A growing emphasis on Psalmodes is evident in other places in Part IV of the later edition and reflected in additions to chapters 15, 23, 25, and 26. An equivalent to the addition in this chapter can be found in chapter 27 of the 1558 edition.

350. The Divine Comedy, "Purgatory," Canto 33, "Now three, now four, alternating, the women weepingly began the sweet Psalmody 'Deus venerunt gentes.'"

351. Meaning "formula." These are not sung according to fixed formulas, like the Psalms.

352. In this chapter, Zarlino uses the term "tenor" as cantus firmus. In other places (chapter 16, for example), he uses it as the second-lowest voice in a vocal polyphonic composition.

353. The term "aria" indicates, in this context, melody. Further on in the same sentence there is a recurrence of this word, which is changed in the edition of 1573 into "modulation," a term that, in

Zarlino's writings, means melody (see Modulatione in the Introduction). In sixteenth-century Italy the word "aria," derived from the Greek-Latin word aer, came to mean a model melody used for more than one text. This concept is very much in keeping with Zarlino's usage here.

354. In the corresponding chapter in the 1573 edition the mode numbers are different. The corresponding numbers in the later edition can be found in the chart on pp. lxi - lxii.

355. The former groups of modes, namely, those in which the Psalms of David and the New Testament Canticles are sung.

356. See Modulatione in the Introduction.

357. The Patriarchal Psalmodies are older than the Monastic.

358. In the order employed in the 1558 edition, the additional four modes are the ninth, tenth, eleventh, and twelfth. In the new order employed in the 1573 edition, the additional four modes are the first, second, eleventh, and twelfth. Thus the eight old accepted modes become the middle modes.

359. Namely, the end of each Antiphon.

360. Referred to as Euouae by Gafori and Glarean.

361. Namely, the end of the Antiphon and the beginning of the

## SEUOUAE.

362. Earlier in this chapter (p.105).

363. Chapter 26 in the edition of 1558.

364. In this chapter in the 1558 edition the term "mode" is often used in the sense of "Psalmody." In the 1573 edition this was corrected and "mode" changed into "tenor," "manner," and mostly "Psalmody."

365. "Feria" is a weekday of the Roman Catholic or Anglican church calendar on which no feast is celebrated.

366. Franchino Gafori, *Practica musicae* (Milan, 1496).

367. The last eight chapters (chapters 8 -15) of Gafori's Practica musicae, I, are devoted each to a discussion of one of the old eight church modes.

368. Stefano Vanneo, Recanetto di musica (Recanetum de musica), published in 1533 in Rome. Marco and Palisca (p. 266) add that a copy in the Newberry Library, Chicago, Illinois, contains three pages at the end with writing in Zarlino's hand.

369. That is, from the Versets of the Responsory sung at Matins.

370. Namely, Magnificat anima mea Dominum.
371. Cristobal Morales, referred to as "Morale Spagnolo" by Zarlino, wrote eight Magnificats, one in each mode.
372. Canonical Hours.
373. Giaches de Wert, referred to as "Giachetto" by Zarlino.
374. Ambrose Lupo.
375. The numbers of the Psalmodies, unlike those of the modes, are the same in both editions.
376. Adrian Willaert, to whom Zarlino usually refers by his first name (Adriano).
377. Namely, through the movements of one mode.
378. Meaning voice in a polyphonic composition.
379. Zarlino uses the word movimenti in this chapter in reference to intervals (in which case it is translated as "movements"), in reference to time (translated as "tempo"), and in reference to melodic direction (translated as "motion").
380. Namely, diapente and diatessaron.

381. In chapter 12 (p. 95). See 318 above for a discussion of the matter.

382. Movimenti in the original (see 379 above).

383. Diapente and diatessaron.

384. Movimenti in the original (see 379 above).

385. In Istitutioni, II, 11, Zarlino says that sounds are generated from movements; low sounds from slow movements, and high sounds from fast movements. He says that we see every day that a tighter string produces a higher sound because its movements are faster, and vice versa. Zarlino then makes an interesting statement, which indicates his awareness of overtones, saying: "We must not imagine that any time a string is struck, it generates only one sound. On the contrary, one may be sure that the sounds and percussions are many, and that as many as are the times that the air is struck by the string, so is the number of the different sounds, according to the fastness or slowness of the movements of that string, which strike the air as long as that string vibrates. It is very true that the differences between the low and high sounds generated by the string are not audible . . . hence the sense of hearing is deceived in regard to the object of hearing, almost in the same way as the sense of vision is deceived

in regard to the object of vision, inasmuch as if somebody would hold in his hand a lighted firebrand and turn it quickly, it will seem that there is a circle of fire in the air."

The connection between high pitch and fast movement, on one hand, and low pitch and slow movement, on the other, was not new. In Istitutioni, II, 29, Zarlino discusses a controversy in the time of Euclid, Ptolemy, and Boethius, concerning the speed of celestial bodies and the sounds produced by them (see 99 above).

386. Zarlino associates tempo with mode (cf. the discussion in chapter 5 of this Part).

387. Meaning voices in a polyphonic composition.

388. The mistake concerns the question of whether it is possible to change a mode by changing the tetrachord (that is, by changing the place of the semitone). Zarlino deals with this question in chapter 16 of Part IV of Istitutioni.

389. This tetrachord consists of the following notes: Paramese (b-natural), Tritē diegzeugmenon (c), Paranete diezeugmenon (d) and Nete Diezeugmenon (e). Actually the tetrachord hypaton consists of the same notes one octave lower and could thus be used for the same purpose.

390. See 220 above.

391. The question is simply whether a mode can be transposed by changing b-natural into b-flat.

392. In chapter 12 of Istitutioni, III, Zarlino says that the variety of the species of intervals stems from the variety of the locations of the semitone. Chapter 12 deals with the octave, the following eleven chapters with other intervals, and Zarlino shows in each all the species arising from the different locations of the semitone.

393. Meaning one voice in a polyphonic composition.

394. The term "tenor" is used here in the sense of second-lowest voice in vocal polyphonic compositions. For a different use of this word by Zarlino, see 202 above.

395. "They" refers to those who say that it does not change the mode.

396. Meaning in every voice in a polyphonic composition.

397. Same as 395 above.

398. In the corresponding chapter in the 1573 edition the mode numbers are different. The corresponding numbers in the later edition

can be found in the chart on pp. lxi - lxii.

399. In the corresponding chapter in the 1573 edition the numbers of interval species are different but the notes are the same. The corresponding numbers in the later edition can be found in the charts on pp. li - liii.

400. Glarean, in his discussion of transposition, gives the same example of the seventh mode being changed into the first mode (he gives as an illustration the Mass Puer natus by Pierre de la Rue).

Concerning the question of whether a change in the place of the semitone causes a change of mode, Glarean's opinion is identical with that of Zarlino, namely, that an occasional changes does not do it but a systematic one does. Zarlino, however, deals with the problem of transposition as an isolated point of interest, whereas Glarean connects it to the matter emphasized throughout the Dodecachordon, namely, the number of the modes. He explains that a change of mode does take place (Dodecachordon, II, 6) in order to prove that the four "added" modes (the ninth, tenth, eleventh, and twelfth modes) are not forms of some of the first eight modes with a change in the place of the semitone, but different modes. This is important because earlier theorists considered the Dorian mode with B-flat as a form of the first mode, the Lydian mode with B-flat as a form on the fifth mode, and their

plagals as forms of the second and sixth modes. Sebald Heyden, for example, illustrates the fifth mode (tonus) by a composition which ends on F and uses a b-flat as a key signature (De Arte Canendi, Nuremberg, 1540, p. 150).

401. Although in both editions the key signatures in this illustration and the following one are the same, in the 1573 edition there is a flat for every E in this illustration and for every B in the following one. Thus in the 1573 edition the mode in this and the following illustrations is not the first but the ninth.

402. Which would be D & d.

403. Namely, it is true that it does not have the power to change the mode.

404. When b-flat is added sporadically.

405. That is, a change of octave species.

406. When b-flat is used consistently in all the voices and throughout the composition.

407. The omission is corrected in the list of errata in the 1558 edition.

408. Probably meaning when every b-natural is replaced by b-flat, for otherwise a contradiction arises with what has been said earlier in this chapter.

409. In chapter 16.

410. In the corresponding chapter in the 1573 edition the mode numbers are different (except given in a general way later in this sentence).

411. That is, one species of the octave into another.

412. Such as Vicentino's "archicembalo."

413. The two examples of the beginning of the tenor In sanctita.

414. Canonical Hours.

415. In the second part of Proposal 25 of Dimostrationsi, Fifth Discussion, Zarlino proves that every mode can be transposed up a diatessaron by showing that the same pattern of wholetones and semitones exists in the octaves C, D, E, F, G, a, b-natural, c; and F, G, a, b-flat, c, d, e, f. Zarlino adds that this procedure can be applied to every mode. Turning to prove that every mode can be transposed down a diapente, Zarlino shows that the same intervals exist in the

octaves, a, b-natural, c, d, e, f, g, aa; and D, E, F, G, a, b-flat, c, d.

One might wonder why Zarlino chose two different octaves and a more or less repeated explanation for demonstrating transpositions of a diatessaron up and a diapente down, instead of stating that any octave which is a diatessaron above another is also a diapente below it. But up and down are for him two basic concepts of polarity, and have to be dealt with separately.

416. Zarlino does not actually explain how to carry out a transposition.

417. Chapters 18-29 compose a group in which each chapter is devoted to a detailed discussion of one of the modes, proceeding consecutively from the first mode through the twelfth. Because of the different mode numbers in the 1573 edition, Zarlino shifted the order of the chapters in the later edition. The change is illustrated in the following chart (see p. 312).

For various reasons, however, parts of these chapters remain in the same chapter number (these untransferred segments are not indicated as such in the translation in order to burden it further). In this entire group (chapters 19 - 29) the mode and interval-species numbers were changed in 1573. The corresponding numbers in the

later edition can be found in the charts on pp. 1 - li (the octave species), pp. li - liiii (the species of the diapente and diatessarón), and pp. lxi - lxii (the mode numbers).

Mode	Chapter number in 1558	Mode number in 1558	Chapter number in 1573	Mode number in 1573
D - a - d	18	1	20	3
a - D - A	19	2	21	4
E - <b>b</b> * - e	20	3	22	5
b - E - <b>b</b>	21	4	23	6
F - c - f	22	5	24	7
c - F - c	23	6	25	8
G - d - g	24	7	26	9
d - G - D	25	8	27	10
A - E - a	26	9	28	11
e - a - E	27	10	29	12
C - G - c	28	11	18	1
g - c - G	29	12	19	2

\*In this chart, **b** represents b-natural, and **b** represents B-natural (these are the figures used throughout the original).

418. This difference between the two editions is an exact repetition of a change that occurred at the end of chapter 6 (see 227 above).

419. That is, on which notes.

420. In chapters 10 and 11.

421. Libro in the original; usually the parts of Dimostrationsi are referred to as Ragionamenti (Discussions).

422. The reasons for the change in interval-species designations and mode numbers are explained by Zarlino at length in Definition 8 of Dimostrationsi, Fifth Discussion, and discussed in detail in the Introduction.

423. Namely, Sequences.

424. Not Ecclesiastics.

425. Also called initial tones (Miller) and initial pitches (Young).

426. The different chapter number is not a mistake: in the 1573 edition there are changes in chapter numbers, and in Part III of Istitutioni cadences are discussed in chapter 53 in the edition of 1558, and in chapter 51 in that of 1573.

427. In this chapter devoted to cadence, which is, as Zarlino adds in the 1573 edition, "the most beautiful of the parts found in a composition," Zarlino sets out to define cadence and to discuss the different kinds of cadences. He compares a cadence to a period in a text and says that it can be called "period in musical composition." Zarlino emphasizes that a cadence should fall at the close of a section, both musically and textually. For a demonstration of the proper steps on which a cadence should fall in each mode, he refers the reader to Part IV of Istitutioni, to the chapters dealing with each of the modes (chapters 18 - 29).

428. A different wording in the 1573 edition, not reflected in the English translation.

429. A small c in the 1573 edition, more in keeping with the other notes.

430. The notes are the same in the two editions because it is Psalmodies, not modes, that are dealt with (see 375 above).

431. Mentioned in chapter 15 (pp. 108, 109).

432. See 368 above.

433. Pietro Aron, Thoscanello in musica (Venice, 1623).

434. "In the following example" in the 1573 edition, because in the later edition the examples comes after this sentence.
435. That is, on notes other than D, F, a, and d.
436. According to the mode numbers in the 1573 edition.
437. And indeed Zarlino brings these two compositions as examples in the chapter dealing with the ninth mode (see p. 178).
438. Meaning F above D, and C above A.
439. Meaning in the lower part of the diapente or of the octave (the same thing in authentic modes).
440. This not the first time that Zarlino talks about the joyful effect of the major triad and the sad effect of the minor triad; he did it already in chapters 10 and 31 of Istitutioni, III. In the list of errata in the 1558 edition Zarlino added: "It is a religious and devout mode."
441. Namely, in the words.
442. The Ecclesiastics.
443. See 318 above.
444. Intervals in the plagal modes are given descending (see

278 above).

445. Quarta in the original (instead of the usual "Diatessaron"). The terms quarta, quinta, and ottava appear in Part IV of Istitutioni in chapters 19, 20, 23, 30, and 32. In the translation, all cases are indicated by a comment.

There seems to be no method in Zarlino's sporadic use of these terms. In Part III of Istitutioni the titles of chapters 12 ("Della Prima consonanza detta Diapason, overo Ottavo"), 13 ("Della Diapente, overo Quinto"), and 14 ("Del Diatessaron, over Quarta"), demonstrate that the two kinds of terms are interchangeable. It is not clear why Zarlino, who favors the Greek names, sometimes uses the Italian ones.

446. Probably because each pair shares the same species of diapente.

447. "Not irregular" in the 1573 edition, corrected in the list of errata.

448. Quinta in the original (see 445 above).

449. Quarta in the original (see 445 above).

450. "Chapter 51" in the edition of 1573; a mistake, for this matter is treated in chapter 61 in both editions.

451. The proper use of the tritone is demonstrated in the sixth example in chapter 61 of Institutioni, III. According to this chapter, a tritone, when used properly, not only does not offend the ear, but pleases it, because, as Zarlino explains, "that small bit of dissonance heard in the tritone and in the diminished fifth (semidiapente) passes quickly and adds to the following consonance sweetness greater than that which would be heard if the tritone were not there, because one of two things is recognized more by the comparison made with the other." Zarlino adds that the moderns write such passages often.

452. In the edition of 1573 it remains as the ninth mode; a mistake, for it should be "eleventh mode" according to the new order. The rest of the mode numbers is adjusted to the new order.

453. Zarlino does not say according to whose opinion this is so.

454. Contrary to the motion of the principal mode, which goes upward.

455. Zarlino refers here to a set of rules given in chapter 63 of Part III of Istitutioni. These are exact instructions for writing imitational counterpoint at the union, octave, and fifth, above and below, at a distance of a minim or a semibreve.

456. A similar statement is made by Zarlino at the end of chapter 63 of Part III. After having discussed the rules at great length, he says: "It must, however, be known that it is impossible to observe fully the rules given above in all these sorts of double counterpoint . . . for then one cannot pay attention to the beauty and decorum of the counterpoint, with respect to modulation as much as to invention and placement of the consonances, because the composer's liberty is taken away." The composer should know the rules but need not stick to them rigidly.

457. This is an exception, for in spite of the plagal mode, the notes are given ascending (see 278 above).

458. Concerning the first three modes (chapters 18, 19, and 20).

459. An arithmetic division would involve b-flat, which is not part of the octave species of the mode (in this case, sixth species).

460. In five modes only Zarlino does not give compositions of himself as examples: in the fifth, sixth, seventh, eighth, and tenth.

461. Meaning, its finalis is b-flat when transposed down by a diapente.

462. "Harmonically" in the edition of 1558; a serious mistake

corrected in the 1573 edition.

463. Namely, in the books of the Ecclesiastics.

464. The example is of the former, namely, of the regular cadences.

465. Chori spezzati in the original.

466. This is another example of the emphasis on Psalmody in the 1573 edition, reflected by additions such as this (see 349 above).

467. Quarta in the original (see 445 above).

468. Namely, other than Ecclesiastics.

469. This is the special Psalm tone called Tonus Peregrinus.

470. "Eleventh mode" in the 1573 edition (which is the only place in which this passage appears), but this number is not appropriate in the context of the 1558 terminology used in the translations.

471. This substantial portion added in the edition of 1573 further exemplifies the preoccupation with Psalmody in the later edition (see 349 above).

472. This is the first time that Zarlino discusses a mode outside the eight accepted ones. Therefore he spends more words on it, trying to prove that it was always in use, also among the Ecclesiastics. It is possibly for this reason that he mentions six chants written in this mode.

Glarean not only does exactly the same, but states that he intends to mention only brief examples of those modes that are known, and to explain more fully the four "added" modes, "so that the reader may see clearly that we have invented nothing now."

473. A mistake in the edition of 1558 (a lower-case instead of a capitalized e), corrected in the 1573 edition.

474. The reason for the two alternatives in designating this octave is that going up from the previous authentic mode one reaches a & aa, but keeping the form of designation of all the other modes one would reach A & a.

475. Surprisingly similar to Glarean's words about the same mode: "Old indeed, but deprived of a name for many years" (Dodecachordon, II, 17).

476. In chapter 15 of this Part.

477. According to order employed in the edition of 1558, the eight accepted modes are the first eight modes; but according to the order employed in the edition of 1573, they are the eight middle modes, the "new" ones being the first, second, eleventh, and twelfth.

478. In the terminology of the 1558 edition: the first Psalmody can be matched with the ninth mode, the second Psalmody with the tenth mode, the fifth Psalmody with the eleventh mode, and the sixth Psalmody with the twelfth mode.

479. Zarlino gives examples of chants only in the discussion of the added modes (for reason see 472 above).

480. Namely, same as Pater noster.

481. Shown in the illustration.

482. Meaning, as seen in the illustration.

483. Earlier in this chapter.

484. Namely, Gaudeamus omnes in Domine.

485. In chapter 16 of this Part, which deals with transposition, Zarlino concludes that if every b-natural in a composition is replaced by a b-flat, the octave species is changed, and so is the mode.

486. Saggio in the edition of 1558, savio in that of 1573.

487. Namely, to other chants.

488. These two motets were mentioned in chapter 18 of this Part as examples of how the first mode can be transformed into the ninth by replacing every b-natural with a b-flat.

489. A Mass by Pierre de la Rue on the Antiphon Ave Maria gratia plena, and a Mass by Josquin on the Introit Gaudeamus omnes in Domine.

490. That is, a Parody Mass.

491. This is also an "added" mode, so Zarlino stresses again (see p. 171) the fact that compositions in this mode existed already in the ecclesiastical books.

492. A mistake; should be "eleventh."

493. That is, other kinds of chants which do not have Intonations after them.

494. Meaning any sign of musical notation.

495. "SEUOEUAЕ" in the original, a printing mistake.

496. All this appears in the 1558 edition only, because this information was given in the 1573 edition in chapter 15.

497. This is strange, for in the previous chapter Zarlino says that compositions written in the four other modes exist and can be matched with different Psalmodies.

498. Graduals, Offertories, Postcommunions, etc.

499. Because it was said in the 1573 edition in chapter 15.

500. A corresponding phrase appears in the 1558 edition at the beginning of chapter 29.

501. This phrase is omitted in the 1573 edition, because there Zarlino does not digress from the discussion of the mode.

502. Should be "e & A" descending as in all other plagal modes (not corrected in the 1573 edition).

503. Perhaps this was one reason for the church's refusal to recognize this mode. Glarean, too, says that it is suitable for dances and has frivolous wantonness.

504. It may not be by accident that two motets on words from the Song of Songs were written in this mode, the modern major, considered

lascivious by Zarlino's contemporaries.

505. In the 1573 edition, all notes in this chapter (except the note b-flat) are one octave lower than those in the 1558 edition, presented in this translation.

506. In the 1573 edition, the diatessaron is mentioned first and the diapente second.

507. An interesting addition. From the 1558 text the reader might think that this mode was hardly used; but in the 1573 edition Zarlino clarifies that it is only in its natural notes that it was not used much by the Ecclesiastics.

508. The Ecclesiastics.

509. The opinion of the Ecclesiastics.

510. See Modulatione in the Introduction.

511. In the 1573 edition the notes are written in ascending order, an exception in a plagal mode (see 278 above).

512. Cantilene in the edition of 1558, compositioni in that of 1573.

513. Namely, each part (voice) in a polyphonic composition.

514. That is, ligature.

515. The different order in the title of this chapter does not reflect any change in the contents.

516. Zarlino's explanation of a mixed mode is in chapter 14 of this Part.

517. The octave E & e, for example, can represent two different modes, one authentic (E - b-natural - e) and the other plagal (E - a - e). In order to determine the mode in which a composition is written, one should observe the interval species repeated in it, whether they are those of the authentic or of the plagal mode (the octaves F & f and B-natural & b-natural do not present this problem, for the first can represent only an authentic, the second only a plagal, mode). The finalis, however, should be considered when determining the mode, so that if the finalis indicates the authentic and the repeated intervals are those of the plagal (or vice versa), the mode is mixed.

518. According to Glarean, too (Dodecachordon, II, 1 and 36), the mode of composition should be determined not only by the finalis but also by the range of the octave and its division and by the characteristic melodic intervals (given in Dodecachordon, I, 13).

Pietro Aron also says (Trattato della natura e cognitione di tutti gli toni di canto figurato) that the mode of a composition is determined by both the finalis and the interval species used in it. He says that man can be defined as an animal rational and mortal. The latter, symbolizing the finalis, is final and considered according to the end of man. The former, symbolizing the interval species, is formal and considered according to the specific and formal being of living man. The latter is not particular to man; the former makes the essence of man better known.

519. Modo in the original, but obviously meaning "composition" in this context.

520. This is in reference to compositions written in authentic modes, for in plagal modes the finalis and the dividing note of the octave are the same.

521. The claim that a thirteenth and a fourteenth mode exist is mentioned at the end of chapter 11 (p. 93).

522. Ottava, Quinta, and Quarta in the original (see 272 above).

523. Namely, the diapente and diatessaron.

524. In his translation of this chapter, Strunk changes the original text slightly and comes up with a different interpretation of

Zarlino's definition of the form of the mode: "Note that what I call the form of the mode is the octave divided into its fifth and fourth, and that these two parts, arising from harmonic or arithmetic division, are heard repeated many times in their modes" (p. 255).

525. Meaning voices in a polyphonic composition.

526. In this chapter, "parts" mean voices in a polyphonic composition.

527. Another example of the concept that words come first and music is adapted to them.

528. That is, if the tenor is written in an authentic mode, the bass would be written in its plagal, and vice versa. When Glarean discusses the modal relationship of the voices in a polyphonic composition (Dodecachordon, III, 13), he does not set a general rule but discusses several specific possibilities, for example, that a Hypodorian tenor often has a Dorian or an Aeolian bass.\* However, the majority of polyphonic compositions that Glarean brings as examples shows that the relationship is the one stated by Zarlino.

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\*Riemann (p. 310) comments that the section dealing with this matter is the most curious in the Dodecachordon.

529. Modi in the original, but obviously meaning "compositions" in this context.

530. See Modulatione in the Introduction.

531. That is, each of the parts (voices).

532. The other parts (voices).

533. Earlier in this chapter and also in chapter 13 of this Part.

534. Comporre à voci mutate in the original.

535. Comporre à voci pari in the original.

536. That is, when there is no soprano part.

537. Meaning the real contralto.

538. This refers only to compositions without soprano, because otherwise nineteen and even twenty notes are permitted between the highest and lowest notes of the composition.

539. In this chapter (p. 204).

540. In chapter 12 of Part II.

541. Namely, in speech.

542. See Melodia in the Introduction.

543. Ars Poetica, line 89, "A comic theme refuses to be set forth in tragic verses."

544. Probably meaning slow tempo.

545. Zarlino may refer to the laws of counterpoint in general, presented in Part III of Istitutioni. But because he is discussing the importance of gay harmonies for gay subject-matter and sad harmonies for sad subject-matter, he may refer more specifically to chapter 31 of Part III, in which he shows the intervals that make for gay and sad harmonies.

546. Namely, those which denote harshness, bitterness, and the like.

547. Which is an octave plus a sixth.

548. Probably meaning "suspension."

549. Quarta in the original (see 445 above).

550. The lowest part (voice of the *concentus*).

551. Namely, those which denote complaint, sorrow, and the like.

552. The above instructions concerning intervals are for both horizontal and vertical combinations. Zarlino fundamentally talks about major and minor (see 440 above).

553. See 546 above.

554. See 551 above.

555. In the title of this chapter and in its beginning, Zarlino talks about adapting the music to the words. Now he talks about adapting the words to the musical notes. This double approach is to be found also in the ten rules given in the following chapter.

556. This is not clear, for in the previous paragraph Zarlino cautions against putting a rest of minim in the intermediate points.

557. It is strange that in the title of this chapter and in rules 4, 6, and 9 given in this chapter Zarlino indicates that the text is placed above the music, for in the musical illustrations that Zarlino brings, the text is below the music. Strunk leaves the title as Zarlino wrote, but in the rules he changes the wording in order to have the text below the music.

558. The version in the 1573 edition constitutes an intensification.

559. Probably meaning by "long" an emphasized syllable, and by "short" an unemphasized one.

560. This was discussed in the previous chapter.

561. That is, having several notes to a short syllable.

562. This does not belong to the subject-matter of Part IV, which is modes, as announced after the title in the 1573 edition. As a matter of fact, Zarlino discusses things related to rhythm in chapters 48 and 49 (49 and 50 in the 1473 edition) of Part III, and chapter 34 of Part IV seems to belong with them more than where it is.

563. Zarlino uses two different words for "note." Figura refers to written notes, while chorda refers to a note that is heard. I translated the former into "figure" and the latter into "note."

564. Ove in the edition of 1558, nella quale in that of 1573.



565. The semibreve is not mentioned here, although dealt with by Zarlino later in this chapter.


566. Probably meaning both ascending and descending, like the ligature  $\text{N}^{\text{f}}$  (BBBB).\*



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\*The letter B indicates a breve, the letter L a long.

567. Namely, with or without a stem, but square and not oblique.


568.  and  (BB).


569. The usual way of designating an ascending ligature of which the values are BB was:  .





570.  and  (SS).

571. The usual way of designating an ascending ligature of which the values are SS was:  . The descending ligature of these values, although widely used, had an alternative:  .

572.  (LB).

573. The usual way of designating these values (LB according to the theory of Tinctoris and Adam von Fulda) is  .

574. Zarlino follows here the interpretation of Gafori (as expressed in Practica musicae, Book II, chapter 5), which is that the ligature  represents the values BB. The same ligature is interpreted as LB by Tinctoris (as evidenced in Coussemaker's Scriptorium de musica medii aevi nova series, IV, p. 43) and by Adam von Fulda (as evidenced in Gerbert's Scriptores ecclesiastici de musica, III, p. 365).

There is an inconsistency in Zarlino's interpretation: Gafori, who interprets the ligature  as BB, interprets the ligature  as LB, but Zarlino uses the interpretation of Tinctoris and Adam von Fulda concerning the ligature with a stem, and that of Gafori concerning the one without a stem. Thus Zarlino interprets both  and  as BB, which is not logical.

575. Meaning that until now he has talked about oblique ligatures written separately, each of which is a ligatura binaria.


576. Meaning ligatura binaria.

577. Meaning the former, namely, the figure placed at the beginning.

578. Shown in the first three ligatures in Zarlino's example.

579. Shown in the fifth and sixth ligatures in the example.

580. See 577 above.

581. Shown in the fourth and seventh ligatures in the example. This is not true for the ligature , when interpreted according to the theory of Tinctoris and Adam von Fulda (see 574 above).

582. In neither edition is there a "fourth" rule. Zarlino probably intended to give four rules only and the word "fifth" is a mistake (not corrected in the 1573 edition), because the given four rules include all the possibilities for a first figure in a ligature (namely, without stem in a descending ligature, without stem in an ascending ligature, with stem turned upward in a descending ligature and in an ascending ligature, and with stem turned downward in a descending and in an ascending ligature).

583. The four ligatures in question are  $\text{h}_2$ ,  $\text{b}$ ,  $\text{p}$ , and  $\text{v}$ , all representing the same values (SS). These four ligatures can be, of course, the first two figures in a ligature of more than two notes.

584. The eighth, ninth, tenth, and eleventh ligatures in the example.

585. The eleventh ligature appears in the 1573 edition only. The example is therefore taken from the 1573 edition.

586. Ligature 26 appears in the 1573 edition only.

587. Discussed in Zarlino's fifth rule.

588. Zarlino neglects to mention square ascending final figures.

589. This is true in the ligatures  $\text{fb}$  (BL) and  $\text{lb}$  (LL), but Zarlino neglected to mention the exception, namely, the last figure in a ligatura binaria of which the first figure has a stem turned upwards, giving it the value of a semibreve.

590. See ligature 22 in the example.

591. See ligature 18 in the example.

592. In the edition of 1558 Zarlino does not deal with the question of perfect and imperfect time in ligatures, whereas he adds it in the 1573 edition.

593. What Zarlino means by "other things" is not clear, perhaps color.

594. Accidenti in the original, but in this context it does not refer to sharps and flats.

595. This will be discussed in the last chapter of this Part.

596. Namely, what a musician should know.

597. In chapter 20 of Istitutioni, I, Zarlino differentiates between principal and subordinate sciences, saying that music is subordinate to arithmetic and geometry.

598. In chapter 20 of Istitutioni, I, Zarlino says that music is subordinate not only to mathematics but also to natural science, taking number from the former, and sound from the latter.

599. Of the seven liberal arts, the trivium is complete, although Zarlino substitutes dialectics for logic; but the quadrivium is not complete, because astronomy is missing.

600. Arrivare in the edition of 1558, pervenire in that of 1573.

601. Il Musico Perfetto. Mentioned also in Proposal 25 of Dimostrationsi, Fifth Discussion, as Il Perfetto Musico.

602. This chapter heading is surprisingly similar to one from Boethius' De institutione musica: "Non omne iudicium dandum esse sensibus sed amplius rationi esse credendum in quo de sensum fallacia."

603. L'intendesse in the edition of 1558, s'intendesse in that of 1573.

604. In chapter 71 of Istitutioni, III, Zarlino mentions, in addition to visible objects and sound, objects which affect several senses: movement, quiet, number, shape, and size. He also mentions objects that can be sensed only by means of another object: sonorous bodies cannot be heard without the passage of the sound through the air.

605. The idea is not clearly explained, but the first way probably refers to the distinction between senses; and the second, to the distinction within the sense.

606. Meaning, the eye and ear do not err in the distinction between colors and sounds, but each might err in the distinction between colors or between sounds.

607. Aristotle.

608. "Object" in the 1573 edition, corrected in the list of errata.

609. It is noteworthy that Zarlino already was aware of the interpretation of sense perception.

610. The senses.

611. Another reference to the interpretation of sense perception.

612. This is not true, for one can divide a vibrating string precisely into two equal parts solely by means of the sense of hearing (by producing the high octave in each half).

613. Namely, into equal parts and solely by means of sense.

614. He said it just above.

615. This is not true, for the sense of hearing does judge intervals. Glarean says (Dodecachordon, I, 16) that, according to Boethius, musical consonances can be judged correctly by the ear.

616. In chapter 1 of Istitutioni, I, Zarlino says that the science of music has had its origin in the sense of hearing, which is more necessary than the other senses.

617. From Aristotle's Discussion on Judging in Politics.

618. When talking about the speculative and practical aspects of music, Zarlino binds into a unified whole the work, half of which was devoted to the former, and the other half to the latter.

619. Namely, a musician.

620. Zarlino's expression.

621. Farò in the edition of 1558, darò in that of 1573.

Appendix A

AUTHORS AND CHURCH AUTHORITIES  
MENTIONED IN PART IV

Appendix A  
AUTHORS AND CHURCH AUTHORITIES  
MENTIONED IN PART IV\*

Ammonius (second century B.C.)

Alexandrian scholar. Wrote commentaries on Homer, Pindar, and Aristophanes. His work, Predicabilibus, is mentioned in this book. (57)

Apuleius, Lucius (born c. 124)

Roman writer who lived in Africa. His works, Florida and Metamorphoses (The Golden Ass), a Latin novel, include many references to the number, order, inventors, and nature of modes. (14, 19, 39, 41, 45, 47, 48, 54, 59, 60, 64, 65)

Aristides Quintilianus (c. 100)

Greek author of treatise on music and on the numerical relations between music and the natural world. (38, 64, 67, 69)

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\*Absence of B. C. signifies A. D.

**Aristoteles (384 - 322 B.C.)**

Pupil of Plato. Was considered so great that Zarlino, Glarean, and others sometimes refer to him merely as "The Philosopher." In this book, only two of his works, Politics and Metaphysics, are cited in connection with the inventors, nature, and effects of modes. (46, 48, 51, 54, 233)

**Aristotle**

See Aristoteles

**Aristoxenus (flourished c. 318 B.C.)**

A peripatetic philosopher, pupil of Aristotle. Wrote a book called Music and emphasized the importance of the senses. (36, 37, 44, 51, 65)

**Athenaeus (lived c. 230)**

Greek grammarian. His extant work, Deipnosophistae (Banquet of the Learned), consists of discussions on various subjects, especially gastronomy, of anecdotes, and of extracts from ancient writers. It includes comments on modes, cited by Zarlino. (41, 48, 52, 60)

**Baldassare**

See Castiglione, Baldassare

**Basil the Great, Saint**

See Basilius

**Basilius (329 - 379)**

Bishop of Caesarea from 370 to 379. (62)

**Boccaccio, Giovanni (1313 -1375)**

Mentioned by Zarlino as the inventor of ottava rima.

(24)

**Boethius, Anicius Manilus Torquatus Severinus (c. 476 - 525)**

Roman philosopher and author, famous for his knowledge of Greek philosophy. His work, Institutione Musica, referred to many times by Zarlino, was considered the main source of ancient musical theory and philosophy.

Also cited is De Consolatione Philosophiae. (13, 15, 30, 36, 39, 57, 64, 65, 66, 67, 69, 71, 73, 74, 75, 76, 77, 78, 79)

**Capella, Martianus (early fifth century)**

Roman writer. His work Nuptiae Philologiae et Mercurii (The Marriage of Philology and Mercury), an encyclopedic

treatise on the musical theory and philosophy of the ancient world, is cited in this book in reference to the number and order of modes. (36, 37, 47, 64, 65)

Cassiodorus, Magnus Aurelius (c. 480 - c. 575)

Roman statesman. His Compendium of Music and two letters to Boethius are cited in reference to the number, order, and mainly nature of modes. (36, 48, 57, 59, 60, 64, 65)

Castiglione, Baldassare (1478 - 1529)

Italian poet who wrote in Italian and Latin. Zarlino cites two stories from his most important work, Il Cortegiano, which laid down the rules for the proper behavior of a gentleman. (239, 240)

Censorinus (third century)

Roman scholar. His extant work De Die Natali (On the Day of Birth), which describes the influence of the stars and the various methods employed for the division and calculation of time, is mentioned in this book in connection with the number of modes. (37)

Cicero, Marcus Tullius (106 - 43 B.C.)

Roman statesman, orator, and author. Zarlino cites information on modes from his orations and from Tusculan Disputations. (14, 40, 55)

Clemens Alexandrinus (c. 150 - 216)

Greek theologian. After conversion to Christianity, he taught at Alexandria and was the first to attempt reconciling Platonic and Christian teachings. His work Stromata, a discursive book giving information on the history of philosophy, includes information on the music of the Greeks and on the inventors of the modes. (44, 45, 51)

Clement of Alexandria

See Clemens Alexandrinus

Damasus the First, Saint (fourth century)

Pope from 366 to 384. (43)

Dante Alighieri (1265 - 1321)

Mentioned by Zarlino as the inventor of terzetti.  
(24, 104)

Dio Chrysostomus (born c. 50, died after 112)

Greek rhetorician and sophist. This surname (which means "Gold-mouth") was given to him on account of his eloquence. Eighty of his orations are extant; they are essays on political, moral, and philosophical subjects. (62)

Diodorus Siculus (died after 21 B. C.)

Greek historian. His work, Bibliotheca Historica, is a universal history, from the earliest mythical ages to the beginning of Caesar's Gallic wars. It consists of forty books, of which ten are extant in their entirety, and the others in fragments. (55)

Ennius, Quintus (239 - 169 B. C.)

A poet, Greek by birth, but a subject of Rome, who was regarded by Romans as the father of their poetry. All his works, except a few fragments, are lost. His most important work is Annales, an epic poem in dactylic hexameter, telling the history of Rome from the earliest times to his day. (56)

Euclid

See Euclides

Euclides (flourished c. 300 B.C.)

Greek mathematician, dealt with geometry and the theory of numbers. (29, 37, 64, 66, 69)

Flavius, Josephus

See Josephus Flavius

Gafori, Franchino (1451-1522)

Italian theorist and composer. Zarlino mentions two of his works in connection with modal theory, Practica Musicae and Theorica Musicae. His third work, De Harmonia, is not referred to. (78, 100, 108)

Gaudentius (c. 360 - died after 410)

Bishop of Brixia (the present Brescia). Wrote a number of small treatises. (38, 64, 66, 69)

Gerson, John (1363 - 1429)

Jean Charlier de Gerson. A French ecclesiastical statesman, philosopher, and preacher. With his teacher Pierre d'Ailly, sought to end the Great Schism by advancing the conciliar theory, which was basically the doctrine that councils are superior to the Pope. His work; De Canticis. (43)

**Gregorius the First (c. 540 - 604)**

St. Gregory the Great, Doctor of the Church, Pope from 590 to 604. Wrote commentaries on Job and on Saints' lives. His contribution to music is a recodification of the liturgy, the ordering of the chants and assigning particular chants to the various services throughout the year. (42)

**Gregory the First**

See Gregorius

**Heraclides Ponticus (born c. 390 B.C.)**

Greek philosopher, disciple of Plato and Aristotle. Improved upon the atomic theory of Democritus and anticipated the Copernican system in astronomy. All his works are lost, but Zarlino refers to others' citations of his opinions concerning modes. (60)

**Homer**

See Homerus

**Homerus (c. 850 B.C.)**

Cited by Zarlino in reference to inventors of modes. (56)

**Horace**

See Horatius Flaccus, Q.

**Horatius Flaccus, Q. (65 - 8 B.C.)**

Roman poet. His Satires, Epodes, Carmi, and Ars Poetica are quoted in the book. (10, 13, 14, 17, 18, 21, 24, 27, 40, 55, 79, 208)

**Ignatius (died c. 110)**

Bishop of Antioch, martyred at Rome. Write epistles in Greek to various churches. Of fifteen extant epistles ascribed to him, only seven are considered genuine. (43)

**John Damasceno, Saint (c. 675 - 749)**

John of Damascus, Doctor of the Church. Wrote against iconoclasm, defending orthodoxy. His theological masterpiece: The Fountain of Wisdom. Mentioned by Zarlino for his contribution to the development of music notation. (74)

**Joseph**

See Josephus Flavius

Josephus Flavius (37 - c. 100)

Jewish historian, one of the generals of the Jews in their revolt against the Romans. His works are Jewish Antiquities, an account of Jewish history from the creation to 66 A.D., the beginning of the Jewish revolt; History of the Jewish War, an account of the revolt; Autobiography, and Against Apion. (56)

Laches (end of fifth century B.C.)

Famous general, consulted by the sons of two Athenians, Thucydides and Aristides the Just, for advice on the sort of education their own sons would require to become as distinguished as their grandfathers. His opinions on education are recorded in Plato's book, Laches. (48)

Leo the Second, Saint (seventh century)

Pope from 682 to 683. (43)

Leo the Tenth (1475 - 1521)

Pope from 1513 to 1521. Son of Lorenzo de Medici. His chief fame rests on his patronage of Raphael, on his continuation of St. Peter's by Bramante, and on his literary circle. He excommunicated Luther and the reformists in 1520. (240)

**Lucian**

See Lucianus

**Lucianus (second century)**

Greek writer and sophist. Practiced as an advocate at Antioch, and afterwards travelled through Greece, giving instruction in rhetoric. His works Harmonides and Dialogues of the Dead are cited by Zarlino in connection with the number, order, and especially nature of the mode. (39, 47, 48, 53, 54, 59, 60, 64)

**Lysias (c. 459 - 380 B.C.)**

Greek orator and writer, whose opinion on inventors of the modes is cited by Zarlino. (46)

**Mannassess, Constantine (twelfth century)**

Byzantine poet. Wrote Chronicle and World Chronicle. (25)

**Martianus**

See Capella, Martianus

**Ovid**

See Ovidius Naso, P.

Ovidius Naso, P. (43 B.C. - 18 A.D.)

While in exile, wrote Tristia and Epistolae ex Ponto, both quoted by Zarlino. Also quoted: Fasti, Ars Amatoria (The Art of Love), Heroides, and Ibis.  
(13, 15, 16, 18, 22, 53)

Petrarch, Francesco (1304 - 1374)

Attempted to revive the spirit of antiquity. Mentioned by Zarlino for his rhyming patterns. (21, 23)

Philoxenus (436 - 380 B.C.)

Greek dithyrambic poet. His important work, Cyclope, is lost, and only a few fragments of his poems are extant.  
(27)

Pindar

See Pindarus

Pindarus (518 - 438 B.C.)

Greek lyric poet. His only work extant in its entirety is Epinicia, composed in commemoration of victories in the public games. The poems are divided into four books, celebrating the victories in the Olympian, Pythian,

Nemean, and Isthmian games. Only the first book, Olympia, is cited by Zarlino. (10, 17, 19, 40)

Platina, Bartolomeo de'Sacchi (1421 - 1481)

Italian writer, soldier, and historian. Wrote Lives of the Popes, a systematic book of papal history. Was editor of the first printed cookery book, Of Honest Indulgence and Health (De Honesta Voluptate ac Valitudine). (42)

Plato (427 - 347 B.C.)

His works Republic and Laches are cited by Zarlino for his opinions on music in general, and on name, number, order, and nature of modes in particular. (31, 32, 35, 38, 47, 48, 51, 59, 63, 65, 207, 208, 212)

Plinius Secundus, Caius (23 - 79)

Pliny the Elder, a Roman naturalist. Wrote a number of works, but the only extant one is Historia Naturalis (Natural History), in 37 volumes. Zarlino cites information from this book concerning name and inventors of modes. (31, 38, 40, 44, 45, 47, 55)

Pliny

See Plinius Secundus, Caius

**Plutarch**

See **Plutarchus**

**Plutarchus (c. 46 - c. 120)**

Greek philosopher and biographer. Of his works, only Music and Politics are cited in this book for information on number, order, inventors, and nature of modes.

(39, 46, 53, 58, 64, 65)

**Pollux, Julius (end of second century)**

Greek philosopher and grammarian. His extant work, Onomasticon, in ten books, which explains the meaning of Greek words, is cited by Zarlino for information on name, number, and order of modes. (31, 32, 38, 41,

64, 65)

**Ptolemaeus, Claudius (second century)**

Greco-Egyptian mathematician, astronomer, and geographer, whose works are our only source of knowledge of ancient astronomy, and were the only authoritative works until the time of Copernicus. His work Harmonics

is cited by Zarlino in reference to modes. (34, 37,

39, 41, 52, 64, 66, 67, 71, 72, 77, 78)

## Ptolemy

See Ptolemaeus, Claudius

## Pythagoras (flourished 540 - 510 B. C.)

Dealt with mathematics and its application to music theory. (65)

## Quintilian

See Quintilianus, Marcus Fabius

## Quintilianus, Marcus Fabius (40 - c. 118)

Roman rhetorician. His Institutiones Oratoriae, a system of rhetoric, in twelve books, is cited by Zarlino, mainly in reference to the nature of the modes. (15, 32, 52)

## Sanazaro, Jacopo (1458 - 1530)

Italian poet. His most famous work, Arcadia, a pastoral romance in prose and verse, is mentioned by Zarlino in reference to its rhyming pattern. (23, 239)

## Seneca, Lucius Annaeus (3 B. C. - 65 A. D.)

Roman stoic philosopher. One of his ten tragedies, Agamemnon, is cited in this book. (14)

**Stattus Papinius**

See Stattus Publius Papinius

**Stattus Publius Papinius (c. 45 - c. 96)**

Roman epic poet. Thebais, an epic poem, and Silvae, an extant collection of his miscellaneous poems in five books, are quoted by Zarlino. (16, 58)

**Strabo (c. 63 B.C. - c. 24 A.D.)**

Greek geographer. His work De situ orbis is cited by Zarlino in connection with the effects of modes. (49)

**Tolomei, Claudio (1492 - 1556)**

Bishop and litterateur. Attempted a reform of Italian orthography and the adaptation of quantitative metrics to the Italian language. His works: Versi et regole de la nuova poesia toscana and Trattato della lingua toscana. (24)

**Tullius**

See Cicero, Marcus Tullius

Valerius Maximus (first century B.C. - first century A.D.)

Roman compiler of a collection of historical anecdotes entitled Factorum et Dictorum Memorabilium Libri, dedicated to the emperor Tiberius. This work, cited by Zarlino, preserves a record of curious events, not to be found elsewhere, but not all of the statements are reliable. (54)

Virgil

See Virgilius Maro, P.

Virgilius Maro, P. (70 - 20 B.C.)

Was considered so great that he was referred to as "The Poet." Zarlino quotes three of his works: Eclogues, Georgics, and Aeneid. (18, 22, 28, 44, 45, 50, 55, 56)

Vitalian, Saint (seventh century)

Pope from 647 to 672. (43)

**Appendix B****FIGURES MENTIONED IN PART IV**

## Appendix B

## FIGURES MENTIONED IN PART IV

## Aegisthus

Son of Thyestes, king of Mycenae. Seduced Clytemnestra during the absence of her husband Agamemnon in the Trojan War. He and Clytemnestra murdered Agamemnon on his return home, then Aegisthus became Clytemnestra's husband and reigned seven years over Mycenae. (49)

## Agamemnon

King of Mycenae, husband of Clytemnestra. Was the commander of the Greeks in the Trojan War. (49)

## Alexander the Great (356 - 323 B.C.)

King of Macedon, undertook what was to be the widest conquest of ancient times. He seized Asia Minor, occupied Egypt, overthrew the Persian Empire and pushed on into India. (56, 57, 62)

## Amphion

Son of Zeus, the greatest of the Olympian gods, with

whom Jupiter (also called Jove) was identified by the Romans. Amphion received a lyre from the god Hermes (called Mercury by the Romans), on which he played with magic skill. (44)

#### **Anchises**

A mortal loved by Aphrodite (identified with Venus in classical Rome), by whom he became the father of Aeneas. On the capture of Troy by the Greeks, Aeneas carried him on his shoulders from the burning city. All told in Virgil's Aeneid. (18)

#### **Antiope**

Mother of Amphion. (44)

#### **Apollo**

In classical mythology the son of Zeus and Leda. Presides mainly over the arts and all matters affecting law and order. (45)

#### **Atlas**

Son of Iapetus and Clymene, brother of Prometheus, grandfather of Mercury. Was condemned to bear heaven and its stars. The name means "bearer" or "endurer." (27)

Augustus (63 B.C. - 14 A.D.)

The first Roman emperor. In 8 A.D. he banished Ovid, ostensibly for his licentious poem on the art of love (Ars Amatoria), written ten years earlier. (13)

Ceres

Represented the fertility of the earth; goddess of sowing and reaping, of harvest festivals and of agriculture in general. She was very early identified with Demeter, mother of Proserpina, who wandered in search of her daughter after she was carried off by Hades. (44)

Chloë

"Green," title of Demeter as goddess of the young green crops. She had a shrine near the Acropolis of Athens, and a festival: the Chloia. (14)

Clymene

Daughter of Oceanus and Tethys. Mother of Phaethon and the Leliades by Apollo. (50)

Clytemnestra

Wife of Agamemnon, who lived in adultery with Aegisthus during her husband's absence at Troy. On his return to

Mycenae she and Aegisthus murdered him. She was subsequently put to death by her son Orestes.

**Damon**

A Pythagorean who lived around the time of Plato. His friendship with Pythias and their faithfulness to each other became proverbial. (46)

**Diana**

An ancient Italian fertility goddess, identified with the Greek goddess Artemis. (44)

**Dido**

Founder of Carthage. The legend of Dido, with modifications, is inserted in Virgil's Aeneid. (50)

**Dirce**

Wife of Lycus, who married her after divorcing Antiope. Dirce was murdered by Antiope's sons, Amphion and Zethus, in revenge for having treated their mother cruelly. (56)

**Ergasto**

(23)

**Hyagnis**

Father of Marsyas (see Marsyas). (45)

**Iopas**

A lyre player, taught by Atlas. (50)

**Jove**

Also called Jupiter, identified by the Romans with the Greek Zeus. (44)

**Lamprocles (early fifth century B.C.)**

Athenian musician and poet, teacher of Damon. Exponent of the Mixolydian mode and composer of dithyrambs and of a famous hymn to Athens quoted by Aristophanes. (46)

**Lycurgus (eighth century B.C.)**

A Spartan legislator who remodelled the whole constitution, both military and civil. There is no evidence that he ever existed, and it is now supposed that he was an Arcadian deity, whose cult was taken over by Sparta. (54)

**Mars**

Roman god of war, identified by the Romans with the Greek Ares. (50, 55)

**Marsyas**

Satyr of Phrygia. Found the aulos which Athena had thrown away and challenged Apollo to a musical contest. The Muses decided in favor of Apollo, who flayed Marsyas alive. His blood was the source of the river Marsyas. (45, 46)

**Mercury (Mercurius)**

Roman divinity of commerce and gain, identified by the Romans with the Greek Hermes. (27, 44)

**Miletus**

Son of Apollo, fled from Crete to Ionia, where he built the city of Miletus. (56)

**Misenus**

The companion and trumpeter of Aeneas. (55)

**Moses**

Led the Israelites out of bondage in Egypt to the edge of Canaan, and gave them the Ten Commandments, the criminal code and liturgical law. (56)

**Mystes**

A youth. (13)

**Olympus**

(44, 58)

**Olympus of Mysia**

(44)

**Pan**

Greek god of shepherds. Invented the syrinx (panpipe). (45)

**Phaon**

An ugly old boatman at Mytilene, who was given youth and beauty by Aphrodite for having carried her across the sea without accepting payment. According to the common story, Sappho leapt down from the Leucadian rock because of her unrequited love for him. (13)

**Phrynides**

A musician. (46)

**Polymnestor (also called Polymestor)**

King of the Bistones of the Thracian Chersonese. Was requested to take care of and protect Polydorus, son of Priam and Hecuba. (46)

**Proserpina (Perserphone in Greek)**

A goddess, daughter of Zeus and Demeter (with whom Ceres was identified). Was abducted by Pluto and became queen of Hades, ruling over the souls of the dead. (44)

**Psaumidus of Camarina**

Winner in the Olympic games. (19)

**Psyche**

Represents the human soul, which is purified by passions and misfortunes, and thus prepared for happiness. Through Cupid's love for her and her devotion to him, she became immortal. (44)

**Pysaeus**

Son of Tyrrhenus, invented the bronze trumpet. (56)

**Pythoclide**

A trumpet player. (46)

**Python**

A serpent which was produced from the mud left on the earth after the deluge of Deucalion. Was slain by Apollo, who founded the Pythian games in commemoration of his victory over Python. (44, 58)

**Rhea**

Ancient Greek goddess of the earth. Also called "the Great Mother," "the Mother of the Gods," "Cibele" and "Cybelean mother." (53)

**Roscius, Quintus (c. 126 - 62 B. C.)**

Comic actor at Rome. (14)

**Sappho of Lesbos (beginning of sixth century B. C.)**

Lyric poetess of the Aeolian School. For the story of her death, see Phaon. (13, 46)

**Salvaggio**

A shepherd. (23)

**Thersander**

Grandson of Oedipus. Went with Agamemnon to the Trojan War and was killed there. (46)

**Thamyris**

A mythical bard. He challenged the Muses to a trial of skill, and for his presumption was deprived of his sight and of the power of singing. He was represented with a broken lyre. (45)

**Timotheus (446 - 357 B.C.)**

Musician and poet of the later Athenian dithyramb. He delighted in intricate forms of musical expression, and used instrumental music, without vocal participation, to a greater extent than previous composers. Increased the strings of the cithara to eleven. (46, 56, 62)

**Tyrtaeus (seventh century)**

Teacher and poet, noted as a writer of martial songs. (55, 56)

**Venus**

Identified with the Greek Aphrodite, goddess of love, beauty and fertility. (18)

**Vulcan (Vulcanus)**

Roman god of fire. The Romans identified him with the Greek Hephaestus, Aphrodite's husband. (50)

## Appendix C

INDEX OF POLYPHONIC COMPOSITIONS  
ARRANGED ACCORDING TO COMPOSERS' NAMES

## Appendix C

 INDEX OF POLYPHONIC COMPOSITIONS  
 ARRANGED ACCORDING TO COMPOSERS' NAMES\*

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\*Only in the 1573 edition.

\*\*Only in the 1558 edition.

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\*LU indicates Liber Usualis (Tournai, 1947); GR indicates Graduale Sacrosanctae Romanae Ecclesiae de Tempore et de Sanctis (Paris, Tournai, Rome, 1938).

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