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# Sicut in grammatica: Analogical Discourse in Chapter 15 of Guido's Micrologus* 

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## T.

 he fifteenth chapter of Guido of Arezzo's Micrologus has occasioned comment and controversy in both medieval and modern times. The opening chapters of this early eleventh-century treatise deal with traditional subjects of medieval theory-the monochord, the consonances, the modes-and the final chapters herald the subject that will dominate music treatises of the later medieval period, namely organum. In the midst of this, chapter 15 , a discussion of melodic aesthetic principles, with no real precedents or consequents in medieval theory, appears highly original. The sometimes ambiguous language that Guido employs in this chapter has prompted varying interpretations, many of which have been made without consideration of the context of Guido's remarks.In this article I am primarily concerned with the sources of Guido's vocabulary, but also with the analogies that Guido draws, whether implicitly or explicitly, between music and the arts of the trivium, specifically grammar and rhetoric. These connections will throw light on problematic passages in this chapter, particularly the opening three paragraphs, and will clarify the position of Guido's outlined precepts in the composition-analysis-performance spectrum that, to modern readers, is seemingly implied. To aid my interpretation, I have drawn on the medieval commentaries that discuss this chapter, and specifically on

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those written in the second half of the eleventh century. I have accepted as a basic premise that these authors, writing probably not more than a generation after Guido, had a better understanding of his terminology than we do today and can only enlighten us in the interpretation of this chapter.

I
Igitur quemadmodum in metris sunt litterae et syllabae, partes et pedes ac versus, ita in harmonia sunt phtongi, id est soni, quorum unus, duo vel tres aptantur in syllabas, ipsaeque solae vel duplicatae neumam, id est partem constituunt cantilenae; et pars una vel plures distinctionem faciunt, id est congrum respirationis locum. De quibus illud est notandum quod tota pars compresse et notanda et exprimenda est, syllaba vero compressius.
[Just as in verse (metris), then, there are letters and syllables, parts (partes) and feet and also lines of verse (versus), so in music (harmonia) there are phtongi (i.e., pitches), of which one, two or three form a melodic gesture (syllaba); which, either alone or repeated form a subphrase (neuma) (i.e., the part (pars) that melodies (cantilenae) are composed of); and one subphrase (pars) or more form a phrase (distinctio) (i.e., an appropriate place to take a breath). Regarding these units, one must observe that the whole subphrase (pars) be succinctly notated and performed, and a melodic gesture (syllaba) even more so.] ${ }^{1}$

In this first paragraph, Guido introduces the terminology he will use to describe the constituent units of a chant melody. His approach, that is, the analogy with the elements of grammatical syntax, is not original: this approach is found in musical treatises from at least two centuries before. Particularly prevalent was the notion that, just as the letter is the fundamental element of language, so then, the pitch (vox, phtongus or sonus) is the fundamental element of music. The most famous passage that explores the grammatical analogy is the opening of the ninth-century treatise Musica enchiriadis:'2

- Guido of Arezzo, Micrologus, ed. Joseph Smits van Waesberghe, Corpus scriptorum de musica 4 (Rome, 1955), 162.2-163.6; translation mine. Unless otherwise noted, all translations are my own.
${ }^{2}$ Musica enchiriadis and Scolica enchiriadis have traditionally been dated as treatises from the late ninth century. However, in her study of the Enchiriadis treatises, Nancy Phillips found no evidence which would necessitate a late ninth-century date: "either or both of the treatises could have been written in the middle of the century, or even slightly earlier" ("Musica and Scolica enchiriadis: The Literary, Theoretical, and Musical Sources" [Ph.D. diss., New York University, 1984], 516).

Sicut vocis articulatae elementariae atque individuae partes sunt litterae, ex quibis compositae syllabae rursus componunt verba et nomina eaque perfectae orationis textum, sic canorae vocis ptongi, qui Latine dicuntur soni, origines sunt et totius musicae continentia in eorum ultimam resolutionem desinit.
[Just as the elementary and indivisible constituents of speech are letters, from which syllables are put together, and these in turn make up verbs and nouns, and from them is composed the fabric of complete discourse, so the roots of song are phtongi, which are called soni in Latin. The content of all music is ultimately reducible to them.] ${ }^{3}$

This analogy actually originates from a late classical source: the opening of Musica enchiriadis has been shown to be a reworking of a passage from Calcidius's commentary on Plato's Timaeus. 4 A similar grammatical analogy may be found in Hucbald:

Sed eos tantum, quos rationabili discretos ac determinatos quantitate, quique melodiae apti existerent, ipsi certissima totius cantilenae fundamenta iecerunt. Unde et 'elementa' vel ptongos eosdem nuncuparunt, quod scilicet, quemadmodum litterarum elementis sermonum cuncta multiplicatas coartatur, et quicquid dici potest, per eas digeritur.
[Only those sounds which they thought were distinguished and determined by calculable quantities and were serviceable for melody-only those did they set as the sure foundation for all song. These, then, they called "elements" or phtongi. Just as all the diversity of language is contained in its elements, the letters, and whatever can be said is expressed through them.] ${ }^{5}$

Grammatical treatises that treat syntax typically break down the elements of language in this hierarchical fashion. One representative example is Bede's De arte metrica, an early eighth-century monastic

[^1]textbook disseminated widely throughout Europe. ${ }^{6}$ Chapter 1 deals with the letter ("De littera"), chapter 2 with the syllable ("De syllaba"). Chapters $3^{-8}$ discuss the position of the syllable in words, and the arrangement of the syllables within each of the eight parts of speech. In chapter 9 , Bede discusses metrical feet ("De pedibus"), and in the next fourteen chapters, Bede demonstrates how lines of verse may be constructed from these feet. Marius Victorinus' Ars grammatica is structured similarly: "De litteris" (chapter 3), "De syllabis" (chapter 5), "De pedibus" (chapter 11) and "De metris" (chapter 12). 7 Most early medieval grammatical handbooks deal with these topics in their opening chapters. Their framework parallels the hierarchical progression outlined by Guido in his opening paragraph: letters, syllables, parts, feet, and lines ("litterae et syllabae, partes et pedes ac versus").

Many music theorists used terminology derived from either grammar or rhetoric to describe melodic construction, although none made the analogy as explicit as Guido did in this first paragraph. Table I outlines the grammatical terminology used in representative musical treatises of the ninth, tenth, and eleventh centuries. ${ }^{8}$ Levels $1-4$ compare the vocabulary corresponding to Guido's hierarchical distinctions of vox, syllaba, neuma (pars) and distinctio; Level 5 includes terminology

[^2]TABLE 1
Grammatical Terminology used in Chant Analysis

| Author, Title | Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Musica enchiriadis | vox |  | comma | colon |  |
|  | phtongus |  | neuma | particula |  |
|  | sonus |  |  | membrum |  |
| Scolica enchiriadis | vox |  | comma | distinctio | periodus |
|  | phtongus |  | neuma | colon |  |
|  | sonus |  |  | particula |  |
|  |  |  |  | membrum |  |
| Aurelian, Musica disciplina | vox |  |  | distinctio |  |
| Hucbald, De harmonica institutione | vox | syllaba | neuma | distinctio |  |
| Dialogus de musica | vox |  |  | distinctio |  |
| De musica | vox | syllaba | pars | distinctio |  |
| Guido, Micrologus | vox | syllaba | neuma | distinctio |  |
|  | phtongus <br> sonus |  | pars |  |  |
| Aribo, De musica | vox | syllaba | neuma | distinctio |  |
|  |  |  | pars |  |  |
| Commentarius in Micrologum | vox | syllaba | neuma | distinctio |  |
|  | phtongus |  |  |  |  |
|  | sonus |  |  |  |  |
| John, De musica | vox |  | comma | distinctio | periodus |
|  | phtongus |  | incisio | colon | clausula |
|  | sonus |  | diastema | systema | circuitus |
|  |  |  |  | membrum | teleusis |

used to describe an entire composition. From this table, we can see that the only theorist to use the exact same terminology as Guido was Hucbald. 9 However, Hucbald did not provide definitions for any of these terms. Some theorists preferred to use vocabulary originally derived from rhetoric: the authors of the Enchiriadis treatises and John ("Cotton" or "of Afflighem") use the terms cola and comma to refer to

9 Aribo and the anonymous commentator appear to use the same terminology as Guido, although only when they are commentating on Guido's text.

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larger groupings of pitches. ${ }^{10}$ The author of the anonymous treatise $D e$ musica, ascribed to Odo by Gerbert, used almost the same grammatical vocabulary as Guido (with the exception of neuma), and, in a rather long passage in the middle of the treatise, defined this vocabulary by comparing the units of language with the units of music:

Ad cantandi scientiam nosse, quibus modis ad si invicem voces iungantur, summa utilitas est. Nam sicut duae plerumque litterae aut tres aut quatuor unam faciunt syllabam, sive sola littera pro syllaba accipitur, ut amo, templum: ita quoque et in musica plerumque sola vox per se pronuntiatur, plerumque duae aut tres vel quatuor cohaerentes unam consonantiam reddunt: quod iuxta aliquem musicam syllabam nominare possumus. Item sicut sola syllaba aut duae vel tres vel etiam plures unam partem locutionis faciunt ... ita quoque et una vel duae vel plures musicae syllabae ... iungunt, quarum dum et melodium sentimus et mensuram intelligentes musicae partes . . Distinctio vero in musica est, quantum de quolibet cantu continuamus, quae ubi vox requieverit, pronuntiatur.
[In order to know fully the science of singing, it is useful to know the ways in which pitches are joined together. For example, just as a syllable is normally formed from two, three, or four letters, and sometimes from just a single letter, as in "a-mo" or "tem-plum," so too in music one pitch may be delivered by itself, but normally two, three or four will be joined together: this we may call a musical syllable. Similarly, just as a part of speech is formed from either a single syllable, or two or three or more, so too musical parts are formed, when we perceive their melody, and understand their measurement, from the joining of one, two or more musical syllables. A phrase (distinctio) in music is, the amount of the chant (cantus) that we can join together and deliver within a single breath (vox). ${ }^{14}$

This content of this passage is similar to the beginning of Guido's chapter 15 . Here, the anonymous author carries the grammatical analogy past the comparison of letters with pitches. He compares musical and grammatical syllables and compares musical partes with partes locutionis (parts of speech). He also provides a practical definition for the distinctio, a familiar definition in grammatical texts. In his Etymologiae, Isidore of Seville defines the period, which he had earlier equated with the dis-

[^3]tinctio, as follows: "periodos autem longior esse non debet quam ut uno spiritu proferatur" ("a period ought not to be longer than can be delivered in a single breath"). ${ }^{12}$ Finally, the anonymous author of the De musica stresses that we can only join these pitches together correctly, in other words, perform the chant intelligently, when we understand the melody and measurement of these musical units ("dum et melodium sentimus et mensuram intelligentes").

The terms that are used to describe the intermediate musical units, that is, the neuma and the pars, have caused some confusion in the understanding of chapter 15 : this problem is evident in the various English translations of this chapter. ${ }^{13}$ Clearly, a syllaba usually consists of two or three pitches, and the distinctio is a complete musical phrase, probably marked with a sense unit in the text, and a breath in performance. But what exactly are the neuma and the pars? To us, Guido's definitions appear imprecise, his terminology vague, and confusing in that it is borrowed, in part, from other disciplines. It is useful then, to look at the medieval commentaries on chapter 15 , as they offer more elaborate explanations of Guido's vocabulary, often providing musical examples to illustrate particular points.

There are four detailed commentaries on Guido's chapter 15:
Table 2 lists these commentaries and outlines the portions of Guido's text that they comment on. The anonymous Metrologus was probably compiled by an Englishman in the thirteenth century. ${ }^{14}$ This author quotes chapter 15 almost verbatim and offers comment only on the relationship between the metrical analysis of poetry and the metrical analysis of music, relating this analysis to mensural notation. ${ }^{15}$ I will not

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TABLE 2
Medieval Commentaries on Chapter 15 of Micrologus

| Author, Title | Lines of Chapter 15 quoted <br> and commented on |
| :--- | :--- |
| Aribo, De Musica "De opportunitate modulandi" | $12-15$ |
| (Chapter 89) | $22-30$ |
|  | "Utilis expositio" (Chapter 103) |
|  | $7-15$ |
|  | 17 |
|  | 21 |
|  | 54 |
| Anon., Commentarius in Micrologum | 56 |
| Anon., Metrologus | $2-15$ |

discuss Metrologus here as it is too far removed from the tradition of Micrologus to help in the deciphering of Guido's vocabulary. The other three commentaries were probably written within a generation of Micrologus and hence are more immediately relevant. Aribo comments on Guido's chapter 15 twice within his De musica treatise: in chapter 89 ("De oportunitate modulandi"), ${ }^{16}$ and again in chapter 103 ("Utilis expositio super obscuras Guidonis sententias"). ${ }^{17}$ The third commentary is anonymous and contains a discussion of some of the same material that Aribo discussed in "Utilis expositio" (see Table 2). ${ }^{18}$ In addition, the text of Aribo's "Utilis expositio" is found following the anonymous commentator's discussion of chapter 15 in the manuscript sources of Commentarius anonymus. ${ }^{19}$ As Commentarius anonymus is the only commentary to discuss Guido's first paragraph (162.2-163.6), I will deal with this treatise first.

Smits van Waesberghe believed that the Commentarius anonymus was written in the area of Liège between 1070 and 1100 , although he conceded that it may be of Bavarian origin, and that the author was at

[^5]Liège only temporarily. ${ }^{20}$ Gabriela Ilnitchi dates this work earlier rather than later within this time frame so as to place it closer to the date of Aribo's De musica. These treatises are probably contemporaneous although not necessarily related. ${ }^{21}$ Guido's text is interpolated into the text of Commentarius anonymus, as if it were the anonymous commentator's own words. Guido's word order is often changed, but all of his text is eventually quoted. ${ }^{22}$ The anonymous commentator not only comments and elaborates on various aspects of Guido's text, but also offers musical examples to illustrate almost every point of Guido's theory. In the manuscript sources, these musical examples are given as text incipits from the chant repertory, and often these text incipits are overlaid with neumes.

Table 3 lists all the chants quoted by the anonymous commentator in his discussion of chapter $15{ }^{23}$ Unfortunately, the manuscript sources do not provide neumes for the musical examples illustrating Guido's first paragraph, so at times it is difficult to decipher exactly which theoretical point the examples are supposed to clarify. The first examples offered illustrate musical gestures (syllabae): "Quod vero phthongus sit syllaba, patet in Responsorio "Terribilis," et in Alleluia "Vox exsultationis" in principio quod duo vel tres aptentur in syllabam constat" ("That a musical gesture may consist of a single pitch is shown in the responsory

20 Smits van Waesberghe, Expositiones, 96-97.
${ }^{21}$ Aribo's De musica can be relatively securely dated between the years $1069-1078$, and is probably of Bavarian origin (Gabriela Ilnitchi, private communication, November 14, 1995). Smits van Waesberghe hinged his dating of Commeniarius anonymus on an alleged dispute between the author of Commentarius anonymus and Aribo regarding the interpretation of Guido's chapter 15 . Smits van Waesberghe maintained that Aribo's "Utilis expositio" contains Aribo's new views on chapter 15 "on account of the standpoint of the Commentarius anonymus" (Expositiones, 96). However, there is no evidence whatsoever to indicate any chronology of these commentaries: the mere fact that Aribo's "Utilis expositio" was transmitted in the same sources as Commentarius anonymus does not imply a debate between the two authors. Moreover, the fact that "Utilis expositio" is chapter 103 of $D e m u-$ sica and "De opportunitate" is chapter 89 does not imply that chapter 89 was written before chapter 103 , or even that chapter 103 represents a revision of chapter 89 . Indeed, Ilnitchi believes that chapters $103-04$ do not belong to the De musica treatise, but rather have the form and style of some sort of private communication: they are letter-like epistolary statements that are probably not part of the main treatise (Ilnitchi, private communication, November 14,1995 ).
${ }^{22}$ Smits van Waesberghe made this very clear in his edition: the text of Guido is set off by printing it in italics. In this way, the clever manipulation of Guido's text by the anonymous commentator is made immediately obvious. I will follow this editorial convention in my quotations from the commentaries.

23 I have provided references for the chants to enable the reader to examine specific chants in greater detail. In the case of the mass chants, considering the supposed origins of Commentarius anonymus, the closest contemporary mass chant source easily available in printed edition is the Missale plenarium, a source from Lower Bavaria, dating from the turn of the twelfth century, notated with German neumes. CAO numbers provide references for the office chants.

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TABLE 3
Chants mentioned in Commentarius anonymus, 146.83-152.55

| Incipit | Genre (Reference)* | Theoretical point |
| :---: | :---: | :---: |
| Terribilis est | Introit (Gneizo, 93) | Syllabae of 1 pitch |
| All. vox exultationis | Alleluia (Gneizo, 126) | Syllabae of 2 or 3 pitches |
| Cumque evigilasset | V. of Res. "Terribilis" (CAO 7763) | A pars with syllabae of 1 pitch |
| O vera summa | Antiphon ( CAO 4486 ) | Partes with syllabae of 2 or 3 pitches |
| Te unum | Antiphon ( $\mathrm{CAO}_{5126 \text { ) }}$ |  |
| Ostendit sanctus | Antiphon ( $\mathrm{CAO} 4{ }^{\text {202 }}$ ) | A distinctio may consist of 1 pars |
| Petrus apostolus | Antiphon ( $\mathrm{CAO}_{4283 \text { ) }}$ | $\begin{aligned} & \text { "Petrus": "Apostolus" }=6: 5 \\ & \text { ratio } \end{aligned}$ |
| Adiuva nos | V. of RG "Propitius" <br> (Gneizo, 61) | "deus": "salutaris" $=2: 4$ ratio |
| Euge serve bone | Responsory (CAO 6677) | Tremula tenor |
| O sapientia | Antiphon ( CAO 4081 ) | "O": "sapientia" = 6:4 ratio |
| Benedicamus | Responsory (CAO 6239) | Syllabae of 2 pitches |
| Caritas pater est | Antiphon (CAO 1773) |  |
| Beata Dei genitrix | Responsory (CAO 6162) | Equal neumae, "Beata": "Dei" <br> = 3:3; "genitrix": "maria" = 4:4 |
| Quoniam iniquitatem | Off. V. "Misere mihi" (Gneizno, 6o) | "Quoniam" $=3: 1$ |
| Quoniam angelis | Off. V. "Scapulis suis" (Gneizno, 55) | "Quoniam" = 3:1 |
| Legem pone mihi | Off. V. "Levabo" <br> (Gneizno, 56) | "Legem": "pone" = 6:4 |

*Mass chants reference: Missale plenarium. bib. capit. Gnesnensis Ms. 149, ed. Krzysztof Biegański and Jerzy Woronczak, Antiquitates musicae in Polonia 11-12 (Warsaw and Graz, 1970, 1972); office chants: Corpus Antiphonalium Officii, ed. Dom Hesbert (Rome, 1963-79).
"Terribilis"; in the beginning of the Alleluia "Vox exsultationis" two or three pitches are joined in each syllable"). The responsory Terribilis has a very melismatic opening; I think it is more likely that the commentator is referring to the opening of the introit Terribilis, where the four text syllables of the first word are set to four separate pitches (see Example 1). ${ }^{24}$ A syllaba may consist of two or three pitches joined to-
${ }^{24}$ As the melodic tradition of the chant examples is not the primary concern here, my transcription into staff notation of these examples was made from the available modern editions of these chants. The purpose of the examples in this discussion is not the pitch of the notes, but rather their number.
example 1. The introit Terribilis, German neumes.

Gneizno 149


Source: Gneizno Biblioteka kapitulna, 149, as published in the facsimile edition, Missale plenanum, ed. K. Biegański and J. Woronczak, 93.
gether: the Alleluia Vox exultationis is cited as an example containing these kinds of two- and three-note melodic gestures (Example 2). The anonymous commentator goes on to provide four more examples illustrating the chant divisions: the Responsory verse, "Cumque evigilasset Jacob" is cited as an example where a subphrase (neuma, pars) or even a phrase (distinctio) may be made up of these single-note musical gestures; the antiphons $O$ vera summa and Te unum in substantia have phrases and subphrases made up of two- or three-note melodic gestures. Finally, the antiphon Ostendit sanctus Gamaliel is cited as a chant where the phrases consist of one pars.

So far, the definitions of vox and syllaba are clear, however, the meaning of neuma and pars remains obscure. Guido uses these terms interchangeably: "neumam, id est partem" (a neuma, that is, a pars). ${ }^{25}$ Hucbald also equated the use of these terms: "partium sive neumarum" ("parts or neumes"). ${ }^{26}$ If we can understand a musical syllaba as a small, self-contained melodic gesture, consisting of one to four notes, and a distinctio as a distinct musical phrase, perhaps we can define a neuma (or a pars) as a larger grouping of notes which falls in between these two categories, that is, a subphrase. Calvin Bower describes this larger grouping of notes as a "melodic segment," that is, a "part" of a musical phrase. ${ }^{27}$ In a useful example in "Utilis expositio," Aribo shows how the first phrase of the antiphon Dixit Dominus is broken down into its consistuent units: "Dixit habeatis syllabum, Dixit dominus partem, Dixit dominus mulieri chananeae distinctionem" (Example 3). ${ }^{28}$ In his hierarchical description of these melodic units, Aribo equates a pars with a neuma. Aribo clarifies the term distinctio with his next chant example, the responsory Ecce nunc tempus acceptabile. He shows how an entire

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example 2. Alleluia vox exultationis, German neumes.
Gneizno 149


Source: Missale plenarium, 126.
chant may be broken up into its constituent phrases (distinctiones): Example 4 gives the first three phrases of this chant, with each phrase beginning on a new line. ${ }^{29}$ In the Dialogus de musica, formerly attributed to Odo of Cluny, a chant is divided in this way, where the distinctiones in the antiphon Tribus miraculis are marked up. $3^{\circ}$

There is a slight ambiguity in the definition of the distinctio: is the distinctio the musical phrase itself, or the break in between two musical phrases? In the first paragraph of chapter 15 , Guido states: "et pars una vel plures distinctionem faciunt, id est congrum respirationis locum" ("and one part or more form a distinctio, that is, an appropriate place to take a breath). ${ }^{11}$ Despite this definition, for the rest of the chapter, Guido uses the term distinctio to refer to the actual musical phrase itself. In the Commentarius anonymus, the phrase "id est congrum respirationis" is left out, even though, according to Smits van Waesberghe's edition, it would appear to be transmitted in every surviving source for Micrologus. This is the only phrase that the anonymous commentator omits from Guido's text: as such, it would appear that this omission was a deliberate "editorial" decision, whereby the ambiguous phrase is edited out. In the Dialogus de musica a distinctio is defined as follows: "Distinctiones quoque, id est loca, in quibus repausamus in cantu, \& in quibus cantum dividimus" ("the distinctions, too, that is, the places at which we pause in a chant and at which we divide it")..$^{22}$ Indeed, distinctio, as a term borrowed from rhetoric, and as defined by Fabius Quintilian, indicates a pause or a stop in an oratory. ${ }^{33}$ John also equates a distinctio with a pause (pausatio) which he likens to a punctuation mark. 34 Nevertheless,

[^7]example 3. The antiphon Dixit Dominus, German neumes.



Source: Munich, Bayerische Staatsbibliothek 14663, f. 15r; as transcribed by Smits van Waesberghe in Aribo, De Musica, 68.
in the tradition of Guido, Commentarius anonymus and Aribo, the term distinctio appears to be used to refer to the actual musical phrase itself.

## II

Tenor vero, id est mora ultimae vocis, qui in syllaba quantuluscumque est, amplior in parte, diutissimus vero in distinctione, signum in his divisionis existit. Sicque opus est ut quasi metricis pedibus cantilena plaudatur, et aliae voces $a b$ aliis morulam duplo longiorem vel duplo breviorem, aut tremulam habeant, id est varium tenorem, quem longum aliquotiens apposita litterae virgula plana significat. Ac summopere caveatur talis neumarum distributio, ut cum neumae tum eiusdem soni repercussione, tum duorum aut plurium connexione fiant, semper tamen aut in numero vocum aut in ratione tenorum neumae alterutrum conferantur, atque respondeant nunc aequae aequis, nunc duplae vel triplae simplicibus, atque alias collatione sesquialtera sesquitertia.
[The hold (tenor)—i.e., the delay (mora) of the final pitch, however small it is in a melodic gesture (syllaba), is longer in a subphrase (neuma), and is truly the longest in a phrase (distinctio) -is a sign of these divisions. In this regard, it is useful to mark time in a chant (cantilena), as if by metrical feet, so that some pitches from others have a slight delay (morula) that is twice as long or twice as short, or at least have a tremula-i.e., a different tenor, the length of which a horizontal virgula next to the letter indicates. In the distribution of these subphrases, let special care be taken so that, even though some subphrases are fashioned sometimes by the repetition of a pitch, and some by the connection of two or more different pitches, the subphrases are always ordered either by the number of pitches, or by the

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example 4. The responsory Ecce nunc tempus acceptabile, German neumes.

Munich 14663



Source: Munich, Bayerische Staatsbibliothek 14663, f. 15v; as published in Aribo, De Musica, 69.
proportions of their tenors. Equal subphrases may answer equal subphrases, or they might be answered by subphrases twice or three times as long, and others in a sesquialtera or sesquitertia ratio.] 35

This paragraph was remarked on, to some extent, in all three of the commentaries. In "Utilis expositio," Aribo makes the complete paragraph the focus of his commentary on chapter 15 (see Table 2). ${ }^{66}$ The chant examples Aribo cites in this chapter are given in Table 4. He begins with text taken from the middle of Guido's paragraph ("et aliae
${ }_{35}$ Guido, Micrologus, $163.7-165.15$.
$3^{6}$ With the exception of the passage "signum in his divisiones existit. Sicque opus est ut quasi metricus pedibus cantilena plaudatur" (Guido, Micrologus, 164.9).
voces ab aliis ... atque alias collatione sesquitertia"). 37 He interprets this passage to mean that there are three different ways that a chant melody may be considered "proportional": "Ut mihi videtur, triplicem per haec verba designat cantilenae collationem, quia vult ut proportionalis" ("it seems to me that these words [Guido's text] imply there are three ways a melody may be put together proportionally")..$^{8}$ The first "proportional" manner concerns the morulae: "Morula dupliciter longior est aut brevior, si silentium inter duas voces duplum est ad aliud silentium inter duas voces" ("a morula is doubly long or short, if the silence between two pitches is twice as long as the silence between two other pitches"). In defining the morula as a rest, Aribo adopts a stance at odds with the common theoretical interpretation: most other theorists interpret morula as the diminutive of mora, that is, it is the duration of the final pitch of a musical unit (the tenor). 39 Aribo's morula would seem to have the same meaning that distinctio had in rhetoric: the "stop" or "silence" that punctuates and articulates the phrases.

The second way a chant may be put together proportionally is through the proportions of the number of pitches that each unit contains. Aribo demonstrates this point very efficiently by citing two chant examples: the antiphons Semen cecidit (Example 5) and Venite benedicti. To paraphrase Aribo: subphrases (neumae) may be equal: the words "Semen cecidit" have five pitches, as do the following words "in terram bonam." They may be combined in duple proportion (2:1): the words "et obtulit" are set to four pitches, compared to "fructum," which is set to two pitches. Subphrases may also be in a triple ratio (3:1): in the word "aliud," the syllable "a-" has one pitch, and the syllables "-liud" have three pitches. A sesquialtera proportion (3:2) is found in the setting of "centesimum": "cente-" has two pitches and "-simum" has three pitches. Aribo cites the first two words of the Venite benedicti antiphon to demonstrate a sesquitertia proportion (4:3): "Venite" has three pitches, "benedicti" has four.

The third way a cantilena may be constructed proportionally is through the relationship of the tenors in the syntactic units of the composition ("aut in ratione tenorum"). Now Aribo quotes the first sentence of Guido's paragraph ("Tenor vero, id est mora ultimae vocis ..."), and to show exactly how the length of tenor will vary depending

[^8]TABLE 4
Chants mentioned by Aribo in "Utilis expositio," $65.28-70.60$

| Incipit | Genre (Reference) | Theoretical point |
| :---: | :---: | :---: |
| Semen cecidit | Antiphon ( $\mathrm{CAO}_{4861 \text { ) }}$ | How subphrases may be combined proportionally |
| Venite benedicti | Antiphon ( CAO 5350 ) | through the number of pitches in each subphrase |
| Dixit dominus | Antiphon ( CAO 2287 ) | Demonstrates the mora in the syllaba, pars, distinctio |
| Ecce nunc tempus | Responsory (CAO 6600) | A breakdown of the distinctiones |
| Miserere mei fili | Antiphon ( CAO 3776 ) | How there should be a slowing-down at the end of the distinctio |

on which melodic unit it is articulating, Aribo cites the first phrase of the antiphon Dixit Dominus (see Example 3): "Dixit, habeatis syllabum, Dixit dominus partem. Dixit dominus mulieri chananeae distinctionem. In Dixit finalis, xit, aliquantulum protendatur. In Dixit dominus finalis, nus, producatur amplius. In Dixit d.m.c. finalis extendatur diutissime" ("Dixit, has a melodic gesture, Dixit dominus a subphrase. Dixit dominus mulieri chananeae a musical phrase. The last syllable of Dixit, xit, is somewhat extended. The last syllable of Dixit dominus, nus, is more extended. In Dixit d.m.c. the final note is extended the most"). $4^{\circ}$ Grammarians differentiate the units of a sentence by a similar hierarchical method. Diomedes distinguishes the various parts-distinctio, subdistinctio, media (the last two being equivalent to the comma and cola) -by the length of the silences between them. $4^{1}$ Maximus Victorinus, in his chapter on the distinctio, defines the divisions as follows:

Distinctio quod est? Apposito puncto nota finiti sensus vel pendentis mora. Quot locis ponitur? Tribus. Quibus? Summo, cum sensum terminat, et vocatur finalis a nobis, a Graecis telis; medio, cum respirandi spatium legenti dat, et dicitur mese; imo ponitur, cum mora lectionis interruptum tenorem aliud adhuc inlatura suspendit, et vocatur a Graecis úmootıү $\mu$ ŋ́, a nostris subdistinctio.

[^9]example 5. The antiphon Semen cecidit, German neumes.

Munich 14663


Source: Munich, Bayerische Staatsbibliothek 14663, f. 15r; as published in Aribo, De musica, 67.
[What is distinctio? The mark of the end of the sense unit by an appropriate dot (punctum) or the duration of the delay. How many positions is it placed? Three. Which? The highest, at the end of the sense unit, is called finalis by us, telis by the Greeks; the middle, when the reader is given a space to breathe, is called mese; it is placed at the lowest, when there is a delay in the ongoing reading that holds up the movement (tenor), which was interrupted, this is called v́mootı $\gamma \mu \eta$ ' by the Greeks, by us, subdistinctio.] ${ }^{42}$

This passage, describing the placing of punctuation in a text, holds many resonances with Guido's second paragraph. The similarities in the vocabulary should also be observed.

Commentarius anonymus contains an extended discussion of Guido's second paragraph and arrives at a similar interpretation. 43 The anonymous author begins the discussion by defining exactly what is meant by term "tenor": "Tenor vero, id est mora ultimae vocis in qua aliquandiu nos tenemus et moramur, qui tenor, id est quae ultima vox aliquandiu tenta in prolatione" ("A tenor, that is, the duration (mora) of the final pitch, in

42 Maximus Victorinus, Ars grammatica, 192.
${ }^{43}$ Commentarius anonymus, in Expositiones, 148.1-152.54. The anonymous commentator does not discuss the morula that Aribo refers to, i.e., the silence between two pitches.
which we hold and delay for some time, this tenor, is the extension of the final pitch for a certain amount of time"). 44 The tenor will be the shortest in a melodic gesture (syllaba), longer in a subphrase (pars) and the longest in a phrase (distinctio).

However, the anonymous commentator only recognizes two ways that subphrases (neumae) may be proportionally combined: either by the number of pitches or by the ratio of the tenors. He arrives at the same interpretation as Aribo for the phrase "in numero vocum." He gives the example of the antiphon Petrus apostolus to demonstrate a sesquinquinta relationship ( $6: 5$ ) between the number of pitches contained in the first two words. However, he qualifies Guido's statement by stressing that we should not be surprised if the number of pitches in a subphrase are not always arranged proportionally. 45 The next two words of Petrus apostolus ("dixit paralytico") demonstrate this point: they have a 7:3 relationship, which, as stated in the Commentarius anonymus, is not proportional.

The anonymous commentator states that the morulae should also be combined proportionally, and in this, he is referring to the overall duration of the complete melodic unit and not just the duration of the final pitch (tenor). The verse of the Gradual Propritius esto ("Adiuva nos") is cited as an example of proportional morulae: in this chant the word "deus" has two pitches and the word "salutaris" has four pitches, therefore "salutaris" has a duration twice as long as the duration of "deus" (Example 6). The anonymous commentator's interpretation of morulae is again reliant on the concept of "numerus vocum." Interestingly enough, this interpretation would imply that each individual pitch was sung with an equal duration. The commentary on this paragraph is concluded by citing numerous chant examples that show how the number of pitches in melodic gestures are combined proportionally (see Table 3). $4^{6}$

The third commentary on this second paragraph is Aribo's chapter "De oportunitate modulandi." Aribo begins his commentary with a phrase taken from the middle of Guido's paragraph ("Ac summopere caveatur . . "). 47 This passage is not made the object of a discussion requiring clarification through musical examples. The entire passage is quoted in full, and is then broken down phrase by phrase, whereby

[^10]example 6. The verse "Adiuva nos" of the gradual Propitius esto, German neumes.

Gneizno 149


Source: Missale plenarium, 61.

Aribo interpolates Guido's text with a rewording of each sentence. In this chapter, Aribo only mentions two ways that a chant may be put together proportionally, that is, through the number of pitches and the ratio of the tenors. He does not discuss the relationship of the morulae and does not quote Guido's text that refers to the mora.

## III

What is the context and background of the concepts expressed in Guido's second paragraph? In the Middle Ages, the notion of proportion was fundamental to an understanding of the subject of music: the theory of consonances was predicated on the fact that the pitches should be combined in proportional relationships. In theoretical treatises on music, harmonics was the subject area that dealt with pitch. When proportion (and number) was not concerned with pitch, but rather with the proportions of sound durations, this fell under the subject areas of rhythmics and metrics. However, although the standard definitions of musica often mentioned this threefold division of subjects, most musical treatises in the Middle Ages were devoted solely to the study of harmonics. $4^{8}$ Richard Crocker, in his discussion of the theories

[^11]of rhythmics and metrics through Antiquity and the Middle Ages, provides this definition: "[they are] modes of analysis ... They represent two ways of analyzing one and the same category of art-forms, namely classical quantitative poetry, whether Greek or Latin." 49 Rhythmics was concerned with the proportions of sound durations within single poetic feet; metrics was concerned with the analysis of the combination of these feet into lines of verse.

So, when Guido invokes the classical subjects of rhythmics and metrics in chapter 15 of Micrologus, he is simultaneously invoking the medieval subject that most commonly dealt with modes of text analysis, that is, grammar. In the eleventh century, at the time that Guido was writing his treatise, grammar was considered the primary subject of the trivium, and the first of the liberal arts to be learned by all students. It was absolutely central to the monastic way of life. Grammar provided one with the tools necessary for the interpretation of the liturgy, creeds and scriptures. $5^{\circ}$ It dealt with a large number of subject matters, often encroaching on subjects that were typically dealt with in other disciplines, and provided the interpretive skills and often the vocabulary for the production of textual knowledge across the disciplines. ${ }^{51}$ The grammatical model of learning had two branches: the study of writing and syntax (ratio recte scribendi et loquendi), and the interpretation of texts (scientia interpretandi or enarratio). Martianus Capella defines it thus: "officium vero meum tunc fuerat docte scribere legereque; nunc etiam illud accessit, ut meum sit erudite intellegere probareque" ("my duty in the early stages was to read and write correctly; but now there is the added duty of understanding and criticizing knowledgeably"). $5^{2}$

Within the branch of scientia interpretandi there were further subdivisions, and the one that received the most detailed treatment was lectio, or the study of reading. ${ }^{53}$ I believe that Guido's chapter 15 demonstrates many affinities with the grammatical subject of lectio. Lectio provided the reader with the methods for reading a text, first in its interpretation through analysis, then in its delivery. Before delivering a text the reader (lector) must distinguish the syntactic units of the text, this

[^12]process was known as discretio. 54 One would mark the units of sensethe comma, the cola, the distinctio-sometimes even physically on the page, by providing punctuation marks, thus rendering the text intelligible. Isidore of Seville states that these markings (in the mind or on the page) are necessary for all forms of reading and must be studied by lectors and cantors of psalms. 55 This breaking of the text into smaller segments (discretio or divisio) also provided the lector with the means for memorizing the material. As Mary Carruthers describes in her recent study on memory in medieval culture, a familiar trope in texts describing the memorial process was that one would first break the text down into manageable segments (divisio), and then gathering these segments together in the mind (collectio), one could arrange and reproduce them (compositio). $5^{6}$

All of this coheres particularly well with what we know of the purposes of Guido's Micrologus as outlined by him in the introduction to this treatise, and with what we know about his philosophy on music theory, as evident in his other theoretical works. His purpose was to teach only what would be most useful to singers: "offero . . . musicae artis regulas, quanto lucidius et brevius potui explicatas philosophorum, neque eadem via ad plenum neque eisdem insistendo vestigiis, id solum procurans quod ecclesiasticae opportunitati nostrisque subveniat parvulis" ("I offer ... the precepts of the science of music, explained, so far as I could, much more clearly and briefly than has been done by philosophers, neither in the same way, for the most part, nor following in the same tracks, but endeavoring only that it should help both the cause of the church and our little ones"). 57 Chapters $1-13$ deal with the practical elements of music making-the notes on the monochord, the intervals, the consonances, the modes-roughly equivalent to the rules for writing and speaking correctly in grammar (ratio recte scribendi et loquendi), and then, after a brief aside on the powers of music (chapter 14), chapter 15, and to some extent chapter 16 , provides some basic methods for the interpretation of the chant melodies (an enarratio cantuum, if you like).

In trying to digest the chants, to use as metaphor discussed by Carruthers, $5^{8}$ Guido recommends that the cantor carry out an analysis on

[^13]the musical text not unlike that carried out by the reader of a literary text: "Proponatque sibi musicus quibus ex his divisionibus incedentem faciat cantum, sicut metricus quibus faciat versum" ("The musician should lay out for himself from which of these divisions he may fashion the ongoing chant, just as the poet lays out the feet from which he makes a verse"). 59 Guido even uses the grammatical term discretio to describe this activity: "rationabilis vero discretio est, si ita fit neumarum et distinctionum moderata varietas" ("the discretio [separation] is truly rational, if it makes a moderate variety of subphrases and phrases"). ${ }^{6 o}$ Once the cantor has carried out the discretio, and has made sensible divisions in the chant melody, he can try to understand, and thus internalize and remember the segments of the chant by thinking about how the segments relate in proportional relationships. However, rather than metrics, which really dealt metrical poetry per se, it is the tradition of rhythmics that exhibits the most affinity with the kind of analysis Guido is attempting in this second paragraph. He is concerned with the proportions of the sound relationships (both in the number of pitches and in the ratio of the tenors) within individual subphrases (neumae), which in the first paragraph of chapter 15 , he had equated with poetical feet. ${ }^{61}$ And when Guido refers to metrics (metris), as he does at least four times in this chapter, he is referring to the combination of these feet, that is subphrases (neumae) into phrases, just as in metrics the poet (metricus) is concerned with the combination of feet within a complete line of verse.

Although only the first two paragraphs of Guido's chapter 15 receive extended discussion by the medieval commentators, Guido does make analogies between music and metrics elsewhere in chapter $15{ }^{62}$ Three times, Guido warns the reader not to apply these rules too strictly: "nisi quod musicus non se tanta legis constringat" ("the musician does not bind himself to such a strict rule"); "sunt vero quasi prosaici cantus qui haec minus observant, in quibus non est curae, si aliae maiores, aliae minores partes et distinctiones per loca sine discretione inveniantur more prosarum" ("there are indeed prose-like chants [cantus] in which these things are observed less, in which no regard is given

59 Guido, Micrologus, 167.17.
${ }^{60}$ Ibid., $7^{2} 7^{1}$.
6. Guido again equates neumae with feet later in chapter 15 : "Non autem parva similtudo est metris et cantibus, cum et neumae loco sint pedum et distinctiones loco sint versum" ("There is no small similarity between metrical poetry and chant, with subphrases [neumae] in the place of feet and musical phrases in the place of lines of verse") (Micrologus, 172.44-173.47).

62 With the exception of the second half of the "De oportunitate" chapter, where Aribo comments on various aspects of melodic molus (Aribo, De musica, 49.29-50.37 discusses Guido, Micrologus, 168.22-169.30).
as to whether shorter or longer subphrases and phrases are found in indiscriminate locations, as in prose"); "et omnia quae diximus, nec minus raro nec nimins continue facias, sed cum discretione" ("do everything which we have discussed above, neither too rarely or too incessantly, but with discretion"). Guido realizes the limitations of applying a borrowed vocabulary and method to a foreign discipline and urges the musician to use discretion in its application.

## IV

The directions in the rest of the chapter become more specific and are not commented on extensively by the medieval commentators. Guido's passage concerning the melodic character of the subphrases and phrases is the subject of discussion in the second half of Aribo's chapter, "De oportunitate modulandi." ${ }^{6}$ Guido outlines certain characteristics that distinguish pleasing melodies-that the phrases be of equal length, that their melodies have a certain symmetry, ascending and descending similarly, and so on-and Aribo illustrates each of these precepts with an appropriate chant. For example, he quotes the ninth stanza of the Easter sequence Laudes salvatori ("Putres suscitat") as an example of melodic movement (motus) described by the phrase "et aliquotiens eaedem repetitae, aut aliqua vel parva mutatione variatae" (and these [distinctiones] are sometimes repeated, or varied somehow by a small change) (Example 7). ${ }^{64}$ The phrase of text "fluxum sanguinis" is set to the same melody as "Putres suscitat" but it has seven extra syllables. These are set to a melodic tag at the end of the phrase that is not present in the first phrase, thereby generating phrases that are repeated, but varied with a small change. ${ }^{65}$

Richard Crocker has found parallels in this description of melodic movement with some of the rhetorical figures of speech. ${ }^{66}$ For example, he likened the repetition described above with the rhetorical figure of parison, as defined by Fabius Quintilian. ${ }^{67}$ This connection with rhetoric has caused some to believe that this chapter was written for composers. Rhetoric involved not only performance (arte bene loquendi-the art of speaking well) but also composition, whereby the figures of speech, tropes, metaphors and so on, were combined strategically in an attempt

[^14]
# example 7. The ninth stanza "Putres suscitat" of the sequence Laudes salvatori. 



Pu-tres sus-ci-tat mor-tu - es mem-bra-que cu-rat de - bi-li-a
Flu-xum san-gui-nis con-strin-xit et sa-tu-ra-vit quin-que de pa-ni-bus qui-na mi-li-a
Source: As edited by Richard Crocker in The Early Medieval Sequence (Berkeley, CA), 107.
to best persuade the listener of the correctness of the argument. Guido may be drawing a parallel here between rhetoric and music with his description of the types of melodic motus that would combine to make an effective and compelling chant. The English translations of this chapter reinforce the notion that Guido was addressing composers in their interpretation of the subjunctive verbs. Both Crocker and Babb translate the subjunctives as jussives, so that, for example, a phrase like "distinctiones aequales sint, et aliquotiens eaedem repetitae aut aliqua vel parva mutatione variatae, et cum perpulchrae fuerint duplicatae" is translated as "let the phrases be equal, and sometimes let them be repeated or varied with some change, and they would be most beautiful in pairs" (Crocker) or even more brazenly, "the musician should plan that the phrases be of the same length, and be sometimes repeated, either the same or modified by some change, even though slight, and if they are particularly beautiful, be duplicated" (Babb). ${ }^{68}$ All of the subjunctives in this chapter are interpreted in this way. It suggests that Guido is laying out a series of rules for composers of chant. However, if the subjunctives are interpreted as potential subjunctives, the translation of the above phrase takes a very different tone: "the phrases might be equal, sometimes they might be repeated or different because of a slight change, or they might be doubled because of their beauty." In other words, once you, the singer, have carried out the discretio, and broken down the chant into its constituent divisions, in order to help you understand the chant and thus perform it correctly, you can then analyze the character of the phrases and subphrases, and you will find that sometimes the phrases might be equal, sometimes they might be repeated, they might be combined in proportional relationships, they might have symmetrical contours, and so on.

The final paragraphs of the chapter address concerns in the delivery of musical texts (in grammatical texts this was termed pronuntiatio-

[^15]another activity of lectio). ${ }^{69}$ Guido's first recommendation to performers is ambiguous: "Item ut rerum eventus sic cantionis imitetur effectus, ut in tristibus rebus graves sint neumae, in tranquilla iocundae, in prosperis exultantes et reliqua" ("The events in the text are imitated in singing, so that in sad things the subphrases [neumae] are low [graves], in tranquil things, cheerful, and in prosperous things, exultant, and so forth"). $7^{\circ}$ Does this refer to a particular mode of performance (possibly involving tempo, rubato, and dynamics) which would emphasize the meaning of the text, or does it refer to the concept of modal ethos, whereby certain modal structures inspired various emotions? A corresponding passage may be found in Musica enchiriadis, and, although some of the vocabulary is different, the same concern is evident:


#### Abstract

Nam affectus rerum, quae canuntur, oportet, ut imitetur cantionis effectus: ut in tranquillis rebus tranquillae sint neumae, laetisonae in iocundis, merentes in tristibus; quae dura sint dicta vel facta, duris neumis exprimi; ... item ut in unum terminentur particulae neumarum atque verborum.


[For it is necessary that the affections of the subjects that are sung
[about] correspond to the expression of the song, so that the neumae are peaceful in tranquil subjects, joyful in happy matters, somber in sad ones, [and] harsh things are said or made to be expressed by harsh neumae ... Furthermore, let the phrases of melodies and of words end simultaneously. $]^{71}$

Taking account of the context of this passage, it may be surmised that the author of Musica enchiriadis is describing modal ethos. We can immediately observe the similarity of expression between this passage and Guido's. Moreover, the sentence at the end of the Musica enchiriadis passage ("item ut in unum terminentur") is quoted almost literally by Guido elsewhere in chapter 15: "Item ut in unum terminentur partes et distinctiones neumarum atque verborum" ("Similarly, let the partes, phrases and neumae and the words end simultaneously"). 72 Such a close

[^16]similarity of vocabulary would prompt the speculation that Musica enchiriadis was Guido's source for this reference, and Guido's passage therefore probably also refers to modal ethos.

The other performance directions are more clear-cut. Guido describes how some pitches may be delivered with more or less pressure, and he instructs the reader as to how liquescent pitches are performed. He instructs the performer to approach the end of the distinctiones with a rubato: this will often be indicated by the appearance of the notation. It is interesting that each of these directions appear to be directed not only to the performer, but also to the notator or scribe. The amount of pressure a pitch should be performed with is indicated with acute or grave accents on the pitches; the rubato at the end of the distinction is often indicated by the spacing of the notes; and Guido describes exactly how a liquescent note should be drawn. 73

Earlier in chapter 15 , Guido briefly mentions one other aspect of performance practice: "Sicque opus est ut quasi metricis pedibus cantilena plaudatur" ("In this regard, it is useful to mark time in a cantilena, as if by metrical feet"). 74 The source for this remark is again taken from the Enchiriadis tradition: the phrase "quasi metricis pedibus cantilena plaudatur" is found in the famous "Quid est numerose canere" passage in Scolica enchiriadis. 75 Nancy Phillips recommends that the verb "plaudo-ěre" should not be translated as "to beat time." 76 "Beating time" implies some sort of regular physical impact, like the tapping on a desk of a regular pulse. If, however, as Nancy Phillips states: "the Scolica author is following the practice of Augustine, he is speaking of metrical feet, and "plaudum" indicates keeping time silently by raising and lowering the hand, thus as a form of conducting or cheironomy," then I

[^17]would prefer "marking time" as the translation of this verb. 77 It is at the points of the textual and musical articulation that some sort of control is needed. This is especially important in choral singing and the author of Scolica enchiriadis recognizes this fact: "Fit quoque, ut dum numerose canendo alius alio nec plus nec minus protrahit aut contrahit, quasi ex uno ore vox multitudinis audiatur" ("It also happens that, as long in singing rhythmically one does not protract or contract more or less than another, the voice of the multitude is heard as if coming from one mouth")..$^{8}$ The singers needed some sort of indication, so that they could recognize the length (morula) of the tenors at the ends of the chant divisions, and particularly at the ends of the distinctiones. The most plausible solution to this problem was some sort of silent hand movement that would coordinate these points of articulation.

It is only through an understanding of the theory of knowledge of the writers of these treatises that we can hope to understand their metaphorical discourse. Placing Guido's words within the context of their time-first, within the treatise as a whole, secondly, with knowledge of Guido's fame as pedagogue and his thoughts on the purpose of music theory, and finally, within the context of the monastic environment, and the influence of the vocabulary and methods of grammar on all fields of learning-brings us closer to an understanding of his language and his efforts to create a metalanguage, so that the reader can analyze and interpret the chant repertory through its performance. A technical knowledge of musical terminology is not sufficient: we must attempt to understand the reasons behind the choice of a particular vocabulary. The metaphors used to describe music will tell us much, not only about medieval music but also about medieval thought.

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[^0]:    * I would like to express my thanks to Gabriela Ilnitchi for her help in the earlier stages of this study, and to Edward Roesner for his comments on the drafts of this manuscript.

[^1]:    ${ }^{3}$ Musica et scolica enchiriadis, una cum aliquibus tractatulis adjunctis: recensio nova post Gerbertinam altera ad fidem omnium codicum manuscriptorum, ed. Hans Schmid (München, 1981), 3; trans. Raymond Erickson, Musica enchiriadis and Scolica enchiriadis, Music Theory Translation Series, ed. Claude V. Palisca (New Haven, 1995), 1.
    ${ }^{4}$ William Waite was the first scholar to draw attention to this fact in his review of Smits van Waesberghe's edition of Micrologus ("Reviews," Journal of the A merican Musicological Society IX [1956], 148).
    ${ }_{5}$ Hucbald, De harmonica institutione, in L'oeutre musicale d'Hucbald de Saint-A mand: Les compositions et le traité de musique, ed. Yves Chartier (Quebec, 1995), 152.4-9; trans. Warren Babb, in Hucbald, Guido and John on Music: Three Medieval Treatises, Music Theory Translation Series, ed. Claude V. Palisca (New Haven, 1978), 20.

[^2]:    ${ }^{6}$ Bede, De arte metrica et de schematibus et tropis, trans. and ed. Calvin B. Kendall (Saarbrücken, 1991). In his introduction to this edition, Kendall maintains that Bede's De arte metrica had enormous influence throughout Europe: "For at least five centuries it was one of the basic textbooks of the Western world" (15).

    7 Marius Victorinus, Ars grammatica, in vol. 6 of Grammatici Latini, ed. Heinrich Keil (Leipzig, 1880).
    ${ }^{8}$ I have used the indispensable resource of the Thesaurus Musicarum Latinarum, the database of Latin music theory distributed by Indiana University, to trace terminology through these musical treatises (http://www.music.indiana.edu/tml). The model for Table I may be found in Calvin Bower's article "The Grammatical Model of Musical Understanding in the Middle Ages" (in Hermeneutics and Medieval Cullure, ed. Patrick J. Gallacher and Helen Damico, [Albany, NY, 1989], 136). I have decided to present my own revision of Bower's table here since Bower groups certain terms together within one level that I believe have distinct meanings. For example, he places the terms distinctio, pars and neuma within Level I, whereas I believe distinctio, being made up of neumae or partes, should be placed on a different level to neuma and pars. Similarly, he places comma and colon within one level (level 2), even though most authors differentiate between these two terms. Bower acknowledges these subtle distinctions in his careful discussion of this terminology; however, I think it is useful to present these differences in tabular format. The full references for the treatises included in the table are as follows: Musica et scolica enchinadis, ed. Schmid; Aurelianus of Réômé, Musica Disciplina, ed. Lawrence A. Gushee, Corpus scriptorum de musica 21 (Rome, 1975); Hucbald, De harmonica institutione, ed. Chartier; Dialogus de musica in Scriptores ecclesiastici de musica sacra potissimum, ed. Martin Gerbert (St. Blais, 1784 ; reprint ed., Hildesheim, 1963), 1:251-64; De musica, in Scriptores, ed. Gerbert, 1:265-84; Guido, Micrologus, ed. Smits van Waesberghe; Aribo, De musica, ed. Smits van Waesberghe, Corpus scriptorum de musica 2 (Rome, 1951); Commentarius anonymus in Micrologum Guidonis Aretini, in Expositiones in Micrologum Guidonis Aretini, ed. Smits van Waesberghe (Amsterdam, 1957); Johannes "Cotto" or "of Afflighem," De musica cum tonario, ed. Smits van Waesberghe, Corpus scriptorum de musica 1 (Rome, 1950).

[^3]:    ${ }^{10}$ Berno Augiensis, Hermannus Contractus and Regino of Prim also prefer to use rhetorical terminology (cola, comma) to describe larger groupings of pitches. However, by this time, the subject of grammar had itself absorbed much of the vocabulary confined to rhetoric in Classical Antiquity.
    " De musica, in Scriptores, ed. Gerbert, 1:275.

[^4]:    12 Isidore of Seville, Etymologiae sive origines, vol. 1, ed. W. M. Lindsay (Oxford, 1911), II.xviii.1. This definition may be derived ultimately from the Roman rhetorician Fabius Quintilian, who states that a period should never be too long that it cannot be delivered in a single breath (The Institutio Oratoria of Quintilian, ed. and trans. H. E. Butler [Cambridge, MA, 1979], XL:iv.122-125).
    ${ }^{13}$ The English translations may be found in: Aribo, De Musica, ed. Smits van Waesberghe, xx-xxi; Richard Crocker, "Musica rhythmica and musica metrica in Antique and Medieval Theory," Journal of Music Theory II (1958), 12-15; J. W. A. Vollaerts, Rhythmic proportions in early ecclesiastical chant (Leiden, 1958), 169-72; Nino Pirrota, "'Musica de sono humano' and the Musical Poetics of Guido of Arezzo," Medievalia et humanistica VII (1976), 17-18; Babb, Hucbald, Guido and John, 70-73. Crocker's translation is probably the most successful and Babb's is the least successful. On the problems of Babb's translation, see Calvin Bowers' review of Husbald, Guido and John on Music (Journal of the American Musicological Society XXXV [1982], 157-67).
    ${ }^{14}$ Metrologus, in Expositiones, ed. Smits van Waesberghe, 61-92. The chapter that contains the commentary on Guido's chapter 15 is entitled "De commoda vel componenda modulatione secundum Guidonem de Sancto Mauro" and comments specifically on Micrologus 162.1-164.9 and 167.17-177.61.
    ${ }^{5} 5$ This is obviously not the interpretation that Guido intended. The author is not concerned with uncovering Guido's meaning, but with using this text to illustrate his own contemporary concerns.

[^5]:    16 Aribo, De musica, 48-50. This chapter contains discussion of Micrologus 164.12165.15 and $168.22-169.30$.
    ${ }^{17}$ Aribo, De musica, $65-70$. This chapter contains discussion of Micrologus $163.7-165.15,167.17,167.24,175.54$ and 175.56 .

    18 Commentarius anonymus in Expositiones, $95^{-1} 7^{2}$. The section dealing with Guido's chapter ${ }^{1} 5$ is $146.83-15^{2.54}$. This passage contains discussion of Micrologus 162.2165.15.
    is The sources of Commentarius anonymus are: Florence, Bibl. Med. Laurent. Acq. e doni No. 33; Munich, Nat. Bibl. (Clm) 14663 , St. Emmeram's Abbey Regensburg; Vienna, Nat. Bibl. (Cpv) 2502 . Aribo's "Utilis expositio" follows Commentarius anonymus's commentary on chapter 25 in the Florence and Vienna sources, although neither manuscript contains an attribution to Aribo.

[^6]:    ${ }_{25}$ Guido, Micrologus, 163.4 .
    ${ }^{26}$ Hucbald, De harmonica institutione, ed. Chartier, L'oeuvre musicale, 140.9.
    ${ }^{27}$ Calvin Bower, "Review of Hucbald, Guido and John," 159.
    ${ }^{28}$ Aribo, De musica, 68.49-50.

[^7]:    ${ }^{29}$ Ibid., 68.55.
    $3^{\circ}$ Dialogus de musica, in Scriptores, ed. Gerbert, 1:258.
    ${ }^{31}$ Guido, Micrologus, 163.5 .
    32 Dialogus de musica, in Scriptores, ed. Gerbert, 1:257; trans. Oliver Strunk, ed., Source Readings in Music History, revised edition, ed. Leo Treitler: vol. 2, The Early Christian Period and the Latin Middle Ages, ed. James McKinnon (New York, 1997), 97.

    33 Quintilian, Institutio, XI:iii, 33-39.
    ${ }_{34}$ Johannes, De musica, 79.21.

[^8]:    ${ }^{37}$ Guido, Micrologus, 164.10-165.15; Aribo, De musica, 65.28-67.48.
    $3^{8}$ Aribo, De musica, 66.31
    39 Smits van Waesberghe discussed the confusion of terminology between the meanings of mora and morula ("Wie Wortwahl und Terminologie bei Guido von Arezzo enstanden und überliefert wurden," Archiv für Musikwissenschaft XXXI [1974], 77-78). The author of Scolica enchiriadis uses morula in the way that Guido uses mora, that is, the tenor of the final pitch. However, he adopted this terminology from Augustine, who used morula to indicate either the tenor, or a silence between two pitches.

[^9]:    ${ }^{40}$ Aribo, De musica, 68.56-52.
    ${ }^{41}$ Diomedes, De arte grammatica, in vol. 1 of Grammatici Latini, ed. Keil, 436-39.

[^10]:    t4 Commentarius anonymus, in Expositiones, 148.2.
    45 "Nec mirandum est etiam, si omnes neuma non proportionaliter disponatur in cantibus" ("it should not be surprising, if in singing, every melodic gesture is not arranged proportionally") (Commentarius anonymus, in Expositiones, 149.17).
    ${ }_{4} 6$ The chants $O$ sapientia, Beata Dei genitrix, Quoniam iniquitatem, Quoniam angelis and Legem pone mihi Domine are cited in this regard.
    ${ }_{47}$ Guido, Micrologus, 164.12-165.15; Aribo, De musica, 48.23.

[^11]:    48 Cassiodorus, Isidore and Aurelian make mention of the threefold division of music. As both Isidore and Aurelian essentially reword Cassiodorus's definition, I will just quote from Cassiodorus: "Musicae partes sunt tres: armonica-rithmica-metrica. Armonica est scientia musica quae decernit in sonis acutum et gravem. Rithmica est quae requirit incursionem verborum, utrum bene sonus an male cohaereat. Metrica est que mensuram diversorum metrorum probabili ratione cognoscit, ut verbi gratia heroicon, iambicaon, heleiacon, et cetera" ("The parts of music are three: harmonics, rhythmics, metrics. Harmonics is the musical science which distinguishes the high and low in sounds. Rhythmics is that which inquires whether words in combination sound well or badly together. Metrics is that which by valid reasoning knows the measures of the various metres; for example, the heroic, the iambic, the elegiac") (Cassiodorus, Institutiones, ed. Roger A. B. Mynors, 2nd ed. [Oxford, 1961]; trans. Strunk, Source Readings, rev. ed., 35). Aurelian does give a more extensive discussion of rhythmics in his fourth chapter: this passage is called from the chapter "De rithmo" of Bede's De arte metrica.

[^12]:    49 Richard Crocker, "Musica rhythmica and musica metrica," 5.
    ${ }^{50}$ Charles Baldwin, Medieval Rhetoric and Poetic (New York, 1928), 127.
    ${ }^{51}$ Martin Irvine argues persuasively for the pervasiveness of a "grammatical culture" throughout the Middle Ages. Grammar cannot be considered only as one of the seven liberal arts with a circumscribed body of knowledge, but rather it provided the model for textual culture with extensive influence on all fields of learning (The Making of Textual Culture: Grammatica and literary theory 350-1 100 [Cambridge, 1994], 2).
    ${ }^{52}$ Martianus Capella, De Nuptiis Philologiae et Mercurii, ed. James Willis (Leipzig, 1983), 62; trans. William Harris Stahl and Richard Johnson, Martianus Capella and the Seven Liberal Arts, Records of Civilization: Sources and Studies 84 (New York, 1977), 2:67.

    53 Irvine, The Making of Textual Culture, 68.

[^13]:    54 See Diomedes, De arte grammatica, ed. Keil, 436; and Donatus, Ars maior, in vol. 4 of Grammatici Latini, ed. Keil, 372.

    55 Isidore of Seville, De ecclesiasticis officiis, 2.1 : in Corpus Christianorum Series Latina 113, ed. Christopher M. Lawson (Typographi Brepols Turmholti, 1989), 791.
    ${ }_{56}$ Mary Carnuthers, The Book of Memory: A Study of Memory in Medieval Cullure (Cambridge, 1990). See particularly her second chapter, "Elementary memory design," 80-121.

    57 Guido, Micrologus, 84.25-27; trans. Babb, Hucbald, Guido and John, $5^{8 .}$
    $5^{8}$ Carruthers, The Book of Memory, 164-69.

[^14]:    ${ }^{63}$ Guido, Micrologus, 168.22-169.30; Aribo, De musica, 49.29-50.37.
    ${ }^{6}$ Aribo, De musica, 50.33.
    $6_{5}$ Aribo's remaining examples demonstrate the other aspects of melodic motus that Guido advances in chapter 15 . I will not deal with these examples at length as they have been discussed elsewhere (Gabriela Ilnitchi, "Aribo's De musica: Music Theory in the Cross-current of Medieval Learning," [Ph.D. diss., New York University, 1997]), 104-30.
    ${ }^{66}$ Richard Crocker, "Musica rhythmica and musica metrica," 12-17.
    67 Ibid., 13.

[^15]:    68 Guido, Micrologus, 168.22-24; Crocker, "Musica rhythmica and musica metrica," 13; Babb, Hucbald, Guido and John, 71.

[^16]:    69 The text of Micrologus discussed here is $173 \cdot 48-177.61$. Maximus Victorinus lists the four divisions of lectio: "Partes lectionis quot sunt? Quattuor. Quae sunt? Accentus, discretio, pronuntiatio, modulatio" ("How many divisions of lectio are there? Four. What are they? Pitch, separation, recitation, modulation") (Ars Grammatica, ed. Keil, 188).

    70 Guido, Micrologus, 174.50-51.
    ${ }^{71}$ Musica et scolica enchiriadis, ed. Schmid, 5 8; trans. Erickson, Musica enchiriadis and Scolica enchiriadis, 32.
    ${ }^{72}$ It is obvious throughout the Micrologus that Guido was acquainted with both $M u$ sica and Scolica enchiriadis. The most telling reference is in his discussion of notation, in chapter 5 when Guido refers to the practice of daseian notation: "Hes nos de causa sonos

[^17]:    ... septem litteris figuravimus, cum moderni quidam nimis incaute quattuor tantum signa possuerint, quintum et quintum videlit sonum eodem ubique charactere figurantes, cum iudubitanter rerum sit quod quidam soni a suis quintis omnio discordent nullusque sonus cum suo quinto perfecte concordet. Nulla enim vox cum altera praeter octovam perfecte concordat" ("For this reason, we . . . indicate all musical sounds by seven letters. However some people nowadays incautiously employ only four symbols. They indicate every fifth sound always by the same symbol, though it is true beyond a doubt that some notes disagree completely with those a fifth away, and that no note agrees perfectly with its fifth. For no note agrees perfectly with any other except its octave") (Guido, Micrologus, 112-13; trans. Babb, Hucbald, Guido and John, 62).
    ${ }_{73}$ Guido, Micrologus, $174 \cdot 52-176.58$.
    ${ }_{74}$ Ibid., 164.8.
    75 "attenditur; ita qui soni producti quique correpti esse debeant, ut ea, quae diu, ad ea, quae non diu, legitime concurrant, et veluti metricis pedibus cantilena plaudatur" ("so let us consider which tones ought to be lengthened and which should be shortened, so that those things which [are held] long properly combine with those things which are not, and so that a song is beaten in the manner of metrical feet") (Musica et scolica enchiriadis, ed. Schmid, 87; trans. Erickson, Musica enchiriadis and Scolica enchiriadis, $5^{1 \text { ) }}$ ).
    ${ }^{76}$ Phillips, "Musica and Scolica enchiniadis," 541.

[^18]:    77 Ibid., 342.
    $7^{8}$ Musica et scolica enchiniadis, ed. Schmid, 88; trans. Erickson, Musica enchiriadis and Scolica enchiriadis, 52.

