PHONOLOGY, VERSE METRICS, AND MUSIC

by

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"It would seem," said Tristam, "that we're all cannibals."

"Yes, but, damn it all, we in Aylesbury are at least civilized cannibals. It makes all the difference if you get it out of a tin."

——Anthony Burgess

Contents

Appendices

PREFACE

Referring specifically to the mismatch between theory and praxis of the Florentine Camerata, one of my professors once remarked that all attempts to unite poetry and music are doomed to fail because music always wins. In a similar spirit, Edward T. Cone (1974, 45) wrote of his "conviction that, in most encounters between poetry and music, poetry can become the more powerful of the two only by virtue of the intentional acquiescence or the unintentional incompetence of the composer." So the contest appears from our niche of music history, but other niches have other viewpoints. The repertoires of sung classical and medieval verse are of primary interest today as literature. Whatever the views of the ancient and medieval poet-composers (and the distinction between poetry and music is a modern one), the lack of notated music was enough to insure that for posterity, at least, music lost and poetry won—which can happen even when noted music is preserved: French correspondents say that Machaut is now widely known in France, at least in the classroom, only as a poet, not a composer. Many collectors of ballads, especially in the nineteenth century, concentrated exclusively on the texts and ignored the music. There are numerous other examples.

Clearly the interface between music and poetry needs exploration. This study pokes gingerly at one small aspect of this interface, namely the reflection of the phonological facts of language in music. The subject mostly involves text settings, and the overwhelming majority of non-liturgical texts set to music are verse, hence most of this study is concerned with the nuts and bolts of verse construction, especially rhythm; but other phonological matter which have come to the notice of music historians, such as the use of geographically specific forms to localize MSS, are also discussed.

What this study is not:

This study is not a general study of words-in-music. Many composers have set verse as if it were prose, with little regard for the poetic structure. To indulge in an overgeneralization, no composer has ever surpassed Buxtehude in sensitivity to the nuances of German verse, whereas Bach frequently disregarded the poetic form in favor of (semantic) meaning. At least part of the reason for this difference may lie in the nature of the texts that both composers had available. There was a vanishingly small quantity of German artverse between Oswald von Wolkenstein (d. 1445) and Klopstock (his first major poem, *Der Züricher See,* was published 1750); Borchardt's characterization of Martin Luther as "the finest Germ[an] poet of the 16th c[entury]" (Preminger and Brogan 1993, 465) illustrates this lack as well as anything, considering whom the sixteenth century produced in England and Italy. By respecting the poetic form, Buxtehude expressed it to its fullest, rather limited, extent. Bach transcended it and also transcended the limits of this study.

This is not general history of verse-in-music. This study explain nothing in a theoretically satisfying manner; it merely *lists* some phonological, verse-metric, and musical characteristics. It is especially easy to catch such characteristics on the wing: the frog's-eye view, hence the interest in composers who set texts in foreign languages.

There is no attempt here to provide adequate descriptions of the metric system of any kind of verse; such descriptions are available, written by specialists, in Wimsatt 1972 and in Preminger and Brogan 1993. The minimal sketches in this study are (intended) merely to prevent incoherence; languages or periods not covered in Wimsatt 1972 are described in somewhat greater detail here, although at hazard. Translations are a necessity, but by translating examples of poetic rhythm, I resemble perilously the parodic psychiatrist who called the reader's "attention to the original jokes he

substituted for Freud's in his translation of *Wit and its relation to the unconscious"* (Crews 1963, 124).

Hyperbole is easier on the reader than tedium; rather than repetitively qualify every statement, it seems best simply to advise that the first part of this study especially is only a rough outline subject to numerous qualifications and local exceptions. This kind of procedure is standard in linguistics. As Youmans (Kiparsky and Youmans 1989, 8) put it: "Linguists, who are often required to describe exotic and unfamiliar languages as well as familiar ones, are accustomed to advancing highly provisional hypotheses based on limited data. These hypotheses are offered more as aids to research than as fixed beliefs." The point of the present study is not to advocate particular solutions to individual problems as much as to urge a particular point of view which musicologists may find useful from time to time. In sum, I doubt whether I have solved any outstanding problems, but perhaps I have at least restated them in an interesting way.

A few housekeeping necessities.

In diplomatic transcriptions, I have italicized expanded abbreviations (rebuses, et c*etera*), and enclosed [editorial] additions in square brackets and de⟨de⟩letions in angled brackets.

A discussion of phonology needs phonetic symbols. Generally, acute and grave accents mark prímary and sécondàry stress. In some languages this procedure would conflict with the normal orthography. Italian stress is generally indicated by grave accents (acute accents mark stressed closed vowels), and in phonetic transcriptions stress is indicated by the IPA symbol, namely a vertical line which pre|cedes the stressed syllable (a raised line indicates |primary stress, a lowered line indicates |secon|dary stress). Macrons and breves indicate vowel length, not stress. (For ex-

ample, *fŭnnȳ* has a stressed short vowel followed by an unstressed long vowel; the musical setting of this pattern is frequently a scotch snap.[1]) I have used acute accents to indicate poetic scansion; in quoting the scansion of others, I have normalized to this system.

There is no universally adopted phonetic alphabet, although the range of possible symbols for any given sound is rather small. Most of the consonant symbols are self-explanatory. Of the vowels, the altered symbols [ɛ] [ɪ] [ɔ] and [ʊ] represent open or lower sounds (the vowels of "General American"[2] *bet, bit, bought,* and *put* respectively), while [e] [i] [o] and [u] represent closed or higher sounds (very roughly the vowels of *hey, he, hoe,* and *who* or, better, French *et, hi, eau* and *ou*). [a] is the sound of French *carte*, [ɑ] in General American *cart*; see the note on p. 146 for descriptions of these sounds. [ə] represents schwa, the first sound in *about.* Italics represent written forms, and symbols in square brackets represent actual sounds. It is sometimes worthwhile to distinguish underlying forms from actual sounds; underlying forms are enclosed in slanted lines. A (literal) textbook example of the difference between actual sounds (sometimes called "phonetic" or "surface" forms) and underlying forms (sometimes called "phonemic") from German:

orthography	surface form	underlying form	meaning
Bund	[bʊnt]	/bund/	'group'
Bunt	[bʊnt]	/bunt/	'variegated'
Bundes	[bʊndəs]	/bundəs/	'group-GENITIVE'
Buntes	[bʊntəs]	/buntəs/	'variegated-NEUTER'

Underlying forms relate to surface forms by means of rules. (Standard) German has a rule which turns underlying word-final /-d/ into surface [-t-]. In varieties of

[1]For examples of the use of this rhythm in English-language music, see Yellin 1990.

[2]Non-localized American speech, defined and described in Wells, 1982, 1:10 (and refs.), 1:118, and 1:120-27.

German which lack this rule, such as Alsatian or (the ancestor of) Yiddish, *Bund* is pronounced [bʊnd].

These rules which generate various forms are frequently not obvious to native speakers. For example, American English has a rule which merges intervocalic /-t-/ and /-d-/; they are realized as a single tongue flap symbolized [ɒ]. Thus, [rajɒər][3] could be underlying /rajtər/ or underlying /rajdər/. The underlying forms surface in related forms [rajt] or [rājd] (the second form has a longer vowel due to another rule), and—this is the important point—they are indicated in the orthography: *writer* or *rider.* Chomsky and Halle (1986, 49) write:

> The fundamental principle of orthography is that phonetic variation is not indicated where it is predictable by general rule. . . . Orthography is a system designed for readers who know the language. . . . Such readers can produce the correct phonetic forms, given the orthographic representation . . . by means of the rules that they employ in producing and interpreting speech. It would be quite pointless for the orthography to indicate these predictable variants. . . . A system of this sort is of little use for one who wishes to produce tolerable speech without knowing the language—for example, an actor reading lines in a language with which he is unfamiliar. For such purposes a phonetic alphabet . . . would be superior. This, however, is not the function of conventional orthographic systems.

As they were well aware, Chomsky and Halle were exaggerating, but their point is important. In studying sounds we must beware both of orthography and of even highly literate casual observers.

Many friends and strangers donated their time and shared their knowledge most generously. First, I must thank the members of my doctoral committee. As befits both my academic background and the subject of the dissertaion, the committee consisted of one linguist and two musicologists. Robert Fowkes interrupted a working retirement in order to keep me honest on the linguistic side. Edward Roesner and, above

[3]The representation of the second syllable, irrelevant to the present discussion, has been simplified.

all, my advisor Stanley Boorman watched my musicological ramblings. All three handled my stubborness with good humor and admirably reptilian patience. Other members of the New York University Music Department faculty offered wise advice; I am especially indebted to Robert Bailey, Donna Buchanan, Martin Chusid, and Victor Yellin. Rena Mueller provided both musicological and adminstrative assistance. Thanks to Michael Schultz and Friedrich Ulfers in the German Department, and Aldo Scaglione in the Italian Department.

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Thanks to the American-Swedish Fulbright commission for financing my study in Stockholm, and thanks to the librarians and library staff members who went out of their way to render assistance. Thanks especially to the staffs at: the New York Public Library; Butler Library, Columbia University; the Library of Congress; the National Library of Medicine; the Royal Library (Kungliga Bibliotek) and Municipal Archive (Stadsarkiv) in Stockholm; the University Library, Uppsala; the University Library, Lund; the Niedersächsische Staats- und Universitätsbibliothek, Göttingen; and the interlibrary loan department of Bobst Library, New York University.

On November 18, 1998, Professor Robert Fowkes was killed in an automobile accident. He had signed his approval for this dissertation just a few weeks earlier, making this the last dissertation he helped shepherd to completion, and it is respectfully dedicated to his memory.

PART I:

Generalities

1 Introduction

1.1 Poetics

Poetic theory bears the same relation to poetry that music theory bears to music. Poulenc wrote:

> 1. My "article of faith" is instinct;
> 2. I have no principles and I pride myself on it;
> 3. I have no system for writing music, thank god! (by system I mean "contrivances");
> 4. Inspiration is such as mysterious thing that it is best not to explain it.[1]

Poets generally write—and their readers read—the same way, and they cannot necessarily articulate even the most basic structural features of a metric system. Thomas Jefferson (1786, 267–69), for example, originally believed that English verse "depended like Greek and Latin verse, on long and short syllables arranged into regular feet." After much reflection, however, he realized that the basis of English metrics is the accent. This knowledge seems obvious to us because we have been taught explicitly to scan English verse by counting accents, but it is clearly not obvious, nor is such explicit knowledge necessary to write or appreciate verse. Jefferson continues:

> Every one knows the difference between verse and prose in his native language; nor does he need the aid of prosody to enable him to read or to repeat verse according to its just rhythm. . . . It is for foreigners principally that Prosody is necessary; not knowing the accustomed measures of words, they require the aid of rules to teach them those measures and to enable them to read verse so as to make themselves or others sensible of its music.

Reptiles have no need of herpetology.

[1] 1. "Mon « canon », c'est l'instinct; 2. Je n'ai pas de principe, et je m'en vante; 3. Je n'ai aucun système d'écriture, Dieu merci! (système équivalent à « trucs »); 4. L'inspiration est une chose mystérieuse qu'il vaut mieux ne pas expliquer." Quoted and translated in *Mélodies et Chansons* (Paris: Éditions Salabert, 1989).

Poets and their readers are most conscious of meter when it is deliberately manipulated, experimentally by individual poets, or on a larger scale such as when the metrics of one language are taken over by another. The (literally) classic example is that of Latin, whose metrics were taken over from Greek early enough that few traces of the native Saturnian meter remain. It happened that the underlying prosodic systems of the Greek and Latin languages differed radically; in fact, the prosody of the (classical) Greek language does not much resemble that of any modern western European language.[2] It is ironic that much of European metric theory and terminology derives from a language so alien.

Metric types

There are roughly speaking two metric units in western European verse. *Accentual* verse counts accents or stresses,[3] and *syllabic* verse counts syllables. All languages have both syllables and stress. One limiting case of the latter is Georgian, where "the stress is so weak that," as Aronson (1990, 18) says, "linguists have not been able to agree on exactly where it falls." This is no exaggeration: Marr and Brière (1931, 14), Tschenkéli (1958, 1:XIX), Vogt (1971, 15–16), and Aronson (1991, 225) do indeed place the accent differently, but all agree that there is a stress accent. The Romance languages are generally believed to have a weaker accent than the Germanic languages, but the statement occasionally seen outside the linguistic literature (e.g., in Fallows 1982, 16) that French has no accent is not true.[4]

[2]Following the terminology of Wimsatt (1972, XIX), *prosody* refers here to the rhythmic system of a (spoken) language—durational, accentual, and so on. *Metrics* refers to the rhythmic organization of verse.

[3]Following Attridge (1982, 62–3), *accent* refers "to *any* means whereby syllables are rendered salient, while [*stress*] refers specifically to the means used by the English language" and, as it happens, all of the other languages discussed in this paper with some exceptions in chapter four.

[4]The last syllable of a French word in isolation is stressed, or the penultimate if the last syllable contains a neutral vowel. This rule holds for all periods of the language, with

All the modern western European verse systems discussed in this paper involve both stress and syllables. Often either stress counting or syllable counting predominates, but it is easy to find accentual-syllabic (also called "tonicosyllabic") verse, which counts both equally. Most medieval (and later) hymns are accentual-syllabic, as is most of the verse of Shakespeare and Milton. In some languages, other prosodic units are available for constructing a verse meter. The classical languages, which have greatly influenced later poetry and later poetic theory, count "quantity," or syllable weight.

It might seem that the meter in lyric poetry (that is, poetry intended to be set to music, or poetry that resembles such poetry) would be limned by the music. A (regular?) series of accents in the music would be mirrored by a series of stresses in the poetry, while the number of unstressed syllables would be less strictly regulated. Lyric poetry would therefore be accentual. Surprisingly, this is not the case. One of the stimuli for the present study was a paper by Morgan and Janda (1989), showing that (monolingual) Spanish- and English-speakers instinctively set verse to music differently, that this difference can be detected in music for at least the last five hundred years, and that the difference continues to exist (see p. 54 below).

It seems reasonable to believe that the prosodic unit of a particular language will be the metric unit of its verse—verse being systematized prose (or, more precisely, metrics being systematized prosodics). This belief is a widespread working assumption among literary critics (e.g., Fussell 1979, 12), and has received some support

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the observation that final neutral vowels have mostly disappeared in the modern language except for certain declamatory styles and poetry. French stress is phonetically weaker than English stress; nevertheless it is the most important fact for the internal history of the language. These facts, which no linguist or philologist disputes, can be found in any phonological description of the language, such as Fouché 1959, XLIX–LVII, for the modern language, and Bourciez and Bourciez 1967, 30–46, and Zink 1986, 37–46 and 177–88, for the historical.

from linguists such as Abercrombie (1964). Bierwisch (1965, 55) described verse metrics as "parasitic structures which are only possible on the foundation of the linguistic primary structure."[5] Verluyten (in Domincy 1989, 32) wrote similarly that every metric category has an equivalence in the prosody of the language (although not the other way around), which principle he proposed as a "loi universelle."

Unfortunately, these reasonable-sounding principles flop around alarmingly when one attempts to pin them down; Cornulier (1995, 122) doubts whether Verluyten's "loi" has any relevance for verse metrics. One problem is that the "prosodic unit of a language" is not a well-defined concept. Pike (1945, 34–5) coined the terms "stress timed" and "syllable timed" to describe the prosodic rhythms of western European languages. In a stress-timed language, such as English, intervals between stresses tend to regularize themselves (although with occasional juxtaposition of two stresses). Typically, there is a large inventory of vowel sounds available for stressed syllables, but a much smaller one for unstressed syllables. Unaccented syllables may tend to reduce to schwa (a neutral vowel) or drop entirely. In a syllable-timed language—Spanish was Pike's example—the syllables tend to be of equal duration and there is little slurring or reduction of unstressed syllables. A stress-timed language would have stress-counting verse, and a syllable-timed language would have syllable-counting verse.

The categories of syllable timing and stress timing have serious difficulties, however, and some linguists deny they are useful at all. Phoneticians have not always been able to detect a tendency to regularize stress timings in normal English speech.[6] Similarly, the timing unit of Spanish has been questioned (Green in Harris and Vincent 1988, 80). As posited below (p. 7), a stressed syllable is one that *sounds* louder;

[5] "Parasitäre Strukturen, die nur auf der Grundlage linguistischer Primärstrukturen möglich sind."

[6] See, e.g., the discussion and references in Jassem, Hill, and Witten 1984.

one might similarly posit that a stress-timed language is one that *sounds* stress timed, and this position has some support among linguists (Hayes 1995, 31). Still, the concept is fuzzy.

Perhaps the matter can be more usefully stated in a negative way: In any given language, verse will use only the resources of that language. (This is a possible reading of Verluyten's loi universelle.) Certainly this is true in the grossest sense—much traditional Chinese verse, for example, patterns not only stress and rhyme but also tone (Frankel in Wimsatt 1972, 28–31 and 36); this resource is unavailable in the European languages.[7] But, and less trivially, it may be no accident that the initial-stressed Old Germanic languages had alliterating verse, while final-stressed Old French had either rhyming or assonating verse.

Stress is less available as a structural resource for Romance verse; this verse therefore counts syllables instead, using accents only to mark line endings. In the Romance languages, line-interior verse accents are not structural in the way that they are in the Germanic languages.

The reason that Romance languages make less use of stress in verse structure has to do with the prosodies of the spoken languages (see below, p. 47). It would be easy to postulate that the smaller role of stress in Romance verse (and in musical setting of such verse) correlates with the acoustic weakness of stress in Romance compared to Germanic. This postulate *might* be true, but it is impossible to prove, or even state in a meaningful way, and there is some evidence against it.

[7]The pitch-class languages in Europe, such as Norwegian–Swedish, Bosnian–Croatian–Serbian, Latvian, and Lithuanian, are in no way comparable to true tonal languages such as Chinese. In the latter, every syllable has an unpredictable tone, whereas in pitch-class languages, most syllables have a predictable tonal contour, and the "tones" are of low functional yield. Pitch-class languages do not have verse metrics based on tone. See p. 91.

In the first place, the notion of "stress" is not well understood. Decades of experimental work in English have shown repeatedly that English stress is not a matter of physical loudness.[8] There is no doubt that stressed syllables in English are *perceived* as louder, but in fact, instrumental measurements show that many stressed English syllables may actually be objectively softer than surrounding syllables. Stress results from a combination of factors such as syllable length, pitch, and vowel quality, as well as loudness. At times, stress may not have a physical expression at all: stress "may be perceived by virtue of the listener's knowledge of the structure of the language rather than by any special acoustic cues" (Lieberman 1967, 145 n. 3; see also Attridge 1982, 69). For this reason, Chomsky and Halle (1968, 25–26) describe stress in terms of perception rather than physics: a stressed syllable is one that *sounds* louder.

Thus, stress can be described only in subjective terms, and observers can disagree. Furthermore, the correlations of weak stress with syllable-counting verse and strong stress with accentual verse fail when we move outside the realm of the Romance and Germanic languages. Czech is described by Harkins and Hnyková (1983, 12) and Lee and Lee (1964, xxii) as having a weaker accent than English, yet Czech has an accentual verse, like those of the Germanic languages. Historically, this may be due to influence from German—which fact shows that the notion of a weak stress engendering a particular kind of verse may be a red herring. The issue is not where did a verse metric come from but whether and how a particular language uses it.

One last point. Poetic rules are often conservative, even archaizing, and it is possible for a language to change while maintaining its codified metric rues. Parkinson says that this is happening in Portuguese (Harris and Vincent 1988, 141–2):

> Phonetically, European Portuguese is a clear case of a stress-timed language. . . . Brazilian Portuguese is mainly syllable-timed. . . . The rhythm of European

[8] See Hayes 1985, 5–8, for a list of instrumental studies.

> Portuguese is the result of relatively recent developments: Portuguese verse meter reflects the older state of affairs, and is based on syllable-counting.

Major (1985, 200) says of Brazilian Portuguese, " . . . the language becomes increasingly stress-timed as style becomes more casual. These observations suggest that sentence-timed rhythmic tendencies (i.e., stress timing) can disrupt or alter word-level rhythmic patterns." If Major's speculation is correct, Brazilian Portuguese is currently undergoing the prosodic shift already completed in European Portuguese.

French likely underwent the same change centuries ago. In the modern language, unstressed [e] and [ɛ] may reduce to schwa, and schwas may delete, especially in rapid speech. However, French poetry counts syllables, not stresses. French poetry scans because French poetic diction is highly conventionalized and uses the syllable as the rhythmic unit. The conventions are mostly fossils, abetted by a conservative orthography.

1.2 Phonetics

There is no generally accepted theory of language.

The stunning obviousness of that sentence in an academic paper would give a linguist pause—it is equivalent to "Bach was the greatest composer of his time." But linguists have other, subtler, ways to express even this (to them) most self-evident truth, such as McCawley's elegant witticism (in Pullum 1991, x), intended for a professional audience, that linguistics books never go into second editions. Indeed, there is even an exception to test McCawley's rule: Chomsky and Halle 1968, possibly the most influential book on phonology ever. An unaltered reprint of 1991 contains a brief added preface in which the authors disavow the theoretical premises of their work.

It might seem advisable, therefore, to avoid conclusions based solely on theory, but

this is hardly possible. Even the simple act of interpolation cannot proceed without a theory. For example, from the 1870s through the mid-1960s, it was believed that all sound changes are gradual. Labov (1981, 60) writes:

> The traditional view of sound change . . . was that of a gradual, perhaps imperceptible shift in a continuous phonetic space. There are many reasons to doubt that all regular changes are continuous; witness the shift of apical [tongue-trilled] to uvular ["gargled"] /r/ in French and German, which is both lexically and phonetically abrupt. The argument has been advanced considerably to the point of rejecting the possibility of continuous sound change. . . .

It was not until the late 1960s and early 1970s that theoretical and historical linguists such as Wang and Labov began to study actual sound change in the field. They found that some sound changes are gradual and some are abrupt. Sound changes do not even necessarily affect all targeted words at the same time, although most do (Labov 1981).

Many philologists are not familiar with linguistics, and many philological manuals are still written under the assumption of gradual change. Zink (1986, 108) details the change from classical Latin CA- to French *cha-* (Old French [č], Modern French [š], approximately the first sounds of English *cheat* and *sheet* respectively), as in CANTA $>$ *chante* as follows (the tick represents "palatalization," an articulation towards the center of the mouth): k $>$ k′ $>$ t′ $>$ č. There is no evidence for the intermediate two steps; they are Zink's invention. Many of Zink's elaborate tables of the "history" of French are interpolations made according to this obsolete ideology. Similarly, parts of Dobson's (1968) careful syllabus of English historical pronunciation were shown by Chomsky and Halle (1968, 255) to be wrong.

Needless to say, there is no robust analysis which accounts for sound change, although Labov (1994) has made some proposals which may some day win general acceptance. (McCawley defines a "robust analysis" as "one whose proponents aren't

forced to revise it at every encounter with a fact that they hadn't yet considered seriously" [Pullum 1991, IX].) Accordingly, I have attempted to confine my speculation to reasonable (I hope) extrapolation from observed phenomena. As a result, most of this study is unavoidably provisional.

2 Germanic prosodies, metrics, music

The term "Germanic" in this chapter includes only English and German. English and German verse metrics work in approximately the same way (see below, p. 20, for some of the differences).

René Wellek (quoted in Tessing 1963, 28) wrote:

> But the relation between music and really great poetry seems rather tenuous when we think of the evidence afforded by even the most successful settings into musical terms. Poems of close-knit, highly integrated structure do not lend themselves to musical setting, while mediocre or poor poetry, like much of the early Heine or Wilhelm Müller, has provided the text for the finest songs of Schubert and Schumann. If the poetry is of high literary value, the setting frequently distorts or obscures its patterns completely; even when the music has value in its own right. . . . Collaboration between poetry and music exists, to be sure; but the highest poetry does not tend toward music. . . .

Most of the exceptions which immediately spring to mind in protest fall into one of two classes. First is lyric verse (verse which is intended to be set to music, or verse which imitates such verse). The literary quality of the "songs" of Shakespeare or Goethe or Schiller belies Wellek's position, but only in a minor way: these works constitute a discrete and small proportion of the poets' output. The second class of exceptions, and considerably larger than the first, is Romance-language verse. The poetry of Petrarch or Arioso or Ronsard has often been set to music by prominent composers, even when the poets did not write with that intention in mind. It would appear that in the Germanic languages there is a gap between music and verse or, rather, between lyric verse and the other (majority) types of art verse, a gap unknown in the Romance languages.

The most obvious difference between Germanic and Romance verse is that the former makes greater structural use of stress or accent, a possibility because in English and German and most of their relatives, the accent can fall on any syllable

in the word. The complex underlying regularities described by Chomsky and Halle (1968, 59–162) for English are not relevant to verse metrics, because metrics work on surface forms, not underlying forms—at least no one has advocated any position to the contrary.[1] In any event, Chomsky and Halle's rules require more than just phonological information in order to operate: there are separate rules for nouns and verbs (présent∼presént).[2] In Icelandic and the older Germanic languages, the accent falls on the first syllable of the word, so stress placement is predictable from the word boundary. However, in the larger domain of the verse line (or the hemistich), the position of the stress is not predictable. In Icelandic or older Germanic poetry, the stress can fall at the end of the line (if the last word is a monosyllable) or any number of syllables before it.

Stress placement, therefore, is not predictable from the poetic point of view—that is, nothing in the structure of the Germanic languages fixes the position of the stress with respect to the ends of verse lines, and stress is accordingly available for manipulation by the poet. It has, in fact, been used as the basis for the structure of nearly all Germanic verse metrics, excepting only nonce and short-lived experiments, and free verse. (See p. 194 on Romance-influenced German chorales.) Fussell (1979, 7–8) gives two examples of experimental syllabic verse in English:

> . . . when syllabic meter does produce engaging effects, they will often be found the result of a lurking system of stresses which the poet has not been able to wish away. In [Robert] Bridges' "Cheddar Pinks," for example, the

[1] To be more precise, poetic metrics operate on surface forms at a particular period in the history of the language, but metrics may be more conservative than the spoken languages. Language change may involve a shift in the rules which generate surface forms while the underlying forms are maintained. An example is the French *h aspiré*; see p. 70 below.

[2] Stressed and unstressed syllables in Germanic differ in other things than stress, such as duration and vowel quality, but it is often not possible to predict the location of the stress even given all the other phonological information about a word (unlike Italian; see p. 47). Therefore, phonological analyses of Germanic locate the stress first and then make the necessary adjustments.

poet's design of writing alternating five- and six-syllable lines with stress used nonstructurally has been frustrated by the English language itself and by our own Anglo-Saxon instinct to hear stress, which prompts us to perceive a basis of two stresses per line:

> Mid the squander'd colour
> idling as I lay
> Reading the Odyssey
> in my rock garden
> I espied the cluster'd
> tufts of Cheddar pinks
> Burgeoning with promise
> of their scented bloom.

In a syllabic poem like Marianne Moore's "In Distrust of Merits" the quatrain which concludes the stanzas remains decently syllabic with the stresses falling apparently whimsically. For example:

> his ground in patience patience
> patience, that is action or
> beauty, the soldier's defence
> and hardest armor for

Here the pattern for the syllable count is seven, seven, seven, six. All goes well within this syllabic system until the climactic ending of the poem, where a major personal assertion rather than gentle comment is called for. It is interesting to watch the accents rising now from underground to take over the stanza and to shatter the syllabic surface as the passion and commitment also rise:

> I inwardly did nothing
> O Iscariotlike crime!
> Beauty is everlasting
> and dust is for a time.

Indeed, much putative "syllabic" verse in English seems either to have a "lurking system of stresses," or becomes accentual at the climax (Hollander 1997, 253–68). The argument that the Germanic accent can form the backbone for a verse metric is not trivial; the next chapter shows that the Romance accent cannot.

A word of caution: Of all the stress-based meters in European verse, it is the English meters which have the most ambiguous scansion. The artistic use of this

ambiguity is, of course, one of the glories of English poetry, and there are several reasons for it. One is the preponderance of monosyllables in English. Some monosyllables are normally stressed and some are normally unstressed (roughly the difference between "content" and "function" words), but some (demonstratives, pronouns) have their stress determined largely from context. Studies of English scansion lay down *a priori* principles for determining the stress of monosyllables, but these must admit a large number of cases which can be decided only by ear—or, as a linguist would say, by appeal to native intuition, a situation which, strictly speaking, rules out any definitive scansion for pre-twentieth century verse. The stress markings on the demonstratives and pronouns in Shakespeare are, to a certain extent, a judgement call.

Another source of ambiguity is that, even for some content words, stress can depend on context (New Yórk ∼ Néw York Cíty; Chinése ∼ Chínese réstaurant).[3] A third source of ambiguity is the antiquity of the English poetic tradition. English poetry covers many periods of changing pronunciations, making available a wide range of "poetic" accentuations. The particular accentuation intended by a particular poet cannot be recovered from dictionaries; many scansions of English verse lines must be highly tentative.

One or two examples out of literally hundreds of possibilities will illustrate. Tarlinskaja (1993, 92) says that the successive stresses in Shelley's "A gulf of obscúre hátred" (*The Cenci* 4.4:100) " . . . probably disrupt the rhythmical momentum and make it harder for the reader to recognize the meter, and poets avoid this pattern." Shelley himself, in fact, may have avoided the pattern in this case. Although the *OED* says that only the end-stressed pronunciation is in current use, *obscure* came

[3]These first two sources of ambiguity are discussed by, among others, Bailey (1975, 18–25) and Scherr (in Tarlinskaja 1993, XIII–XIV). On stress shift in English generally, see Bjorklund 1978, 323–347.

into English from French, and stress in such words tends to vacillate through time and space (compare current British *gárage* with American *garáge*). Furthermore, Shakespeare and Milton often initial-stressed the adjective, although not the verb,[4] so *óbscure* was certainly a possible poetic pronunciation for Shelley. An analog is the first line of *Ozymandias:* "I met a traveller from an antique land." The *OED* explicitly licenses *ántique* in poetic usage, quoting Dr. Johnson who said the word "was formally pronounced according to English analogy, with the accent on the first syllable; but now after the French, with the accent on the last, at least in prose; the poets use it variously."[5]

Some metricists have dealt with the problem of ambiguity by analyzing a large numbers of lines so that ambiguous scansions disappear into statistical noise, but this method has its own weakness, namely that it is difficult for others to evaluate the data. It is striking that the statistical method Tarlinskaja uses was originally developed for Russian (Tarlinskaja 1976, 5), a language with many fewer monosyllables than English, with no context-dependency in the location of word stress, and with an art-verse tradition dating back only some two hundred years. In Russian, the possibilities for ambiguous scansion are far fewer than in English. German, in

[4]Examples: "To ribb her serecloth in the obscure graue" (*Merchant of Venice* 976/2.7.51); "A little little graue, an obscure graue" (*Richard II* 1670/3.3.154); "And wandred hither to an obscure plot" (*Titus Andronicus* 730/2.3.77); "His meanes of death, his obscure buriall" (*Hamlet* 2766/4.5.213); "New hatch'd toth' wofull time. The obscure Bird" (*Macbeth* 672/2.3.58); "Uncamp thir Legions, or with obscure wing" (*Paradise Lost* 2.132). Shakespeare quotations are from Wells and Taylor 1986a, their original-spelling edition. Because this edition numbers all the lines of a work consecutively, the more familiar act.scene.line numbers are also given, on the basis of Wells and Taylor 1986b, their modern-spelling edition. Milton quotations are from *The complete poetry of John Milton,* ed. William Shawcross (Garden City, New York: Anchor Press, 1971).

[5]See also Kökeritz 1953, 332–35 on Shakespeare; and Bridges 1921, 68–70 on Shakespeare and 76-77 on Shelley. My own speech seems to differentiate between *antíque store* (a store where antiques are sold) and *ántique stóre* (a store that itself is an antique). Presumably the former is a compound with a single stress; compare *blúeberry* versus *blúe bérry.*

this respect, lies between Russian and English (Bjorklund 1978, 377–78; Tarlinskaja 1993).

In other words, scansion, as opposed to accentuation, is a theoretical device; it is generally not meaningful to ask whether a poet intended this or that scansion for a particular line. In most metrical studies of English verse, scansions are illustrations rather than proofs. A particular argument rarely hinges on all readers' agreeing on the validity of a particular scansion.

2.1 Two types of Germanic verse: accentual and iambic

2.1.1 The basics: English

Many scholars divide English verse into two metric types. Malof (1970) refers to the "native" four-stress line and the "foreign" pentameter, characterizations which, as Attridge (1982, 124) says, are of only historical interest. Attridge also accepts the line length as the defining characteristic. Bridges (1921) uses a different criterion; he divides on the basis of metric type, whether "accentual" or "syllabic," the latter now more commonly called "accentual-syllabic." In an essay which has attracted some positive notice (e.g. Brogan in Preminger and Brogan 1993, 549 and 770), Halpern (1962) refined Bridge's schema, dividing English verse into "iambic" and "accentual." This division is useful and will be followed here.[6] For Halpern, the defining difference

[6]I am using the terminology of Preminger and Brogan 1993, which is as close to standard as one can get, and side-stepping a major muddle. Some scholars have argued that there is not one type of accentual verse, but two. In one type, the number of weak syllables is not constrained; in the other, the accented syllables are separated by one or two (sometimes zero) weak syllables, but no more. These scholars (Bailey 1975; Tarlinskaja 1993) call the former "accentual" or "true accentual," and the latter "strong stress-meter" (they also borrow the Russian term "dolnik" for the latter). Other scholars, such as Attridge (1982, 175) use the reverse of (approximately) these terms, calling the unconstrained type "strong-stress meter" (with a better-placed hyphen) and the constrained type "accentual." I have no occasion to discuss the unconstrained type: it is practically absent from English

between the two types is that iambic verse is capable of certain rhythmic complexities, most importantly inversions and unstressed beats, and accentual verse is not. Although the fundamental principles (line length or metric type) of Matlof's, Attridge's, Bridges', and Halpern's schemata appear to differ, the results they produce are broadly similar, if one allows for a certain amount of uncertainty in the location of the dividing line between the two groups. As will become clear, it is most convenient for present purposes to divide down the middle of four-stress iambic verse, some of which is "iambic" and some "accentual."

The extreme forms of the two groups are clear and can be used to characterize them roughly; more detail is given after the introduction of the German equivalents. Here is an example of iambic verse (*King Lear* 1103–1106/2.2.90–93):

> Sír, 'tis my óccupátion to be pláine,
> Í haue seene bétter fáces in my tíme,
> Than stánds on ány shóulder that I sée
> Befóre me, at this ínstant. . . .

This is art verse, has five beats (ictuses) per line, and scans by feet. The (surface) rhythm, marked by the scansion, differs from the (underlying) meter: some ictuses are unstressed ("to" in line one, "in" in line two, "at" in line four), and some feet are inverted ("Sír, 'tis" and "Í haue"). Inverted feet (also called "trochaic substitutions") occur most frequently at the beginnings of lines or after caesuras. The example also has exactly ten syllables in each full line, has an enjambment, and lacks rhyme.

Accentual verse differs fundamentally:

> Héy diddle dìddle, the cát and the fiddle!

verse between the fourteenth century (*Piers Plowman*) and Yeats, with a bare handful of exceptions, such as Coleridge's *Christabel.* It is practically absent from German verse before Rilke, again with a bare handful of exceptions, such as some satiric verse by Gryphius. It is not set in any pre-twentieth-century music known to me.

The ców jumped òver the móon! [pàuse]
The líttle dog làughed to sée such spòrt
And the dísh ran awày with the spóon. [pàuse]

This is popular verse. All the lines are end-stopped. There are four beats per line and three or four expressed accents. The beats are isochronous (equally timed), like the accents in music. The implied pauses at the ends of the three-stress lines are an indication of this isochronism (Attridge 1982, 86–89). The accents are arranged hierarchically, alternating primary and secondary. This hierarchy is also indicated by the implied pauses (Attridge 1982, 114–121); furthermore, the verse "scans" or "measures" equally well if one leaves out every other ictus—if one beats at half the tempo—or, alternatively, beats three times as fast: this particular meter corresponds to 6/8 time. There are no regular feet; the unstressed syllables are not regulated strictly, so that the number of syllables for each (isochronous!) line varies from seven to eleven. All of the underlying beats map onto either text accents or implied pauses, never onto unstressed syllables; "inversion" is impossible. In this type of verse, stresses can appear on adjacent syllables only if they are separated by an implied pause: The líttle dog làughed, séeing such spòrt.

Most of this list of associations derives from Attridge 1982. The association of pentameter with iambic has been noted at least since the last century (Attridge 1982, 125, quoting Ruskin 1880, 55–56). Attridge also discusses line-ending phenomena, hierarchical stresses, regulation of syllable count, and the difference in rhythmic plasticity which, for Halpern (as here) is the defining characteristic of the two verse types. Attridge rejects the notion of feet, but see below, p. 25.

One final difference is that rhyme is optional in iambic verse but empirically seems to be obligatory in accentual verse. For many varieties of iambic verse, the presence or absence of rhyme is determined by convention. Shakespeare's normal

dramatic verse does not rhyme; when rhyme is present, it indicates a set piece or the end of a section or some other special case. Similarly, Milton is reported to have said that Dryden was "no poet but a good rimist" (Flannagan 1993, 103. n. 7). In some forms of iambic verse, such as sonnets, rhyme is a part of the form. But in none of these cases is either the presence or the absence of rhyme necessary for the verse to scan as iambic. Most varieties of accentual verse, by contrast, do require rhyme in order to scan. Attridge (1982, 137) says: "Even outside its common stanza forms, the insistence of the four-beat rhythm seems to invite a special marking of the final beat."

Iambic verse represents the overwhelming majority of art verse. Iambic pentameter alone accounts for some 70% of English art verse (Preminger and Brogan 1993, 227), and much iambic tetrameter exhibits the same kind of rhythmic complexity.[7] Lyric verse, on the other hand, belongs to the second type, accentual.

Although iambic verse is almost entirely art verse, not all accentual verse is popular verse. Furthermore, not all of the characteristics listed above are exclusive to the type. On the contrary, the characteristics of accentual verse are available as a resource in art verse; poets exploit them to provide a rich variety of associations in their work. A trochaic rhythm or a three- or four-stress line imparts a particular flavor to a poem. But this particularity limits their use in art verse, whereas trochaic rhythms or four-stress lines are neutral or unmarked in popular and lyric verse. In short, the meter of English lyric verse is not the meter of English art verse, but the meter of music.

[7] An example of iambic, as opposed to accentual, tetrameter is Marvell's *To his coy mistress:* "Hád we but Wórld enóugh, and Tíme, / This cóyness Lády were nó críme. / Wé would sit dówn, and thínk which wáy / to wálk, and páss our lóng Lóves Dáy. / . . . " Quoted from *The poems and letters of Andrew Marvell,* ed. H. M. Margoliouth, 2nd ed., 2 vols. (Oxford: Clarendon Press, 1963).

2.1.2 The basics: German

There is a similar, although slightly smaller, difference between lyric verse and art verse in German. Again, scholars distinguish two verse traditions, one native "folk verse" and the other based on foreign models (Breuer 1981, 68–89). The native verse has three or four stresses per line, has isochronous beats, and frequently does not regulate the unstressed syllables very tightly. This accentual verse corresponds to English accentual verse, and is used for lyric verse. The relationship to music has been detailed extensively by the influential theorist Heusler (1925–29) and his followers (e.g. Paul and Glier 1966).

There are several "foreign" types. One is the iambic pentameter. This was adopted from English and is capable of similar counterpoint, although with more constraints due to the greater number of polysyllables in German (Bjorklund 1978, 65–141). For example, first-foot inversions tend to be limited to monosyllables. Bjorklund (1978, 108) gives some examples of Klopstock's revisions of his classical odes (with her scansion):

> Schátten wer bíst du? Ébert, izt néigt er sích (1747 version)
> Wér bist du, Schátten? Ébert, izt néigt er sích (1771 version)
>
> Zíttert die Fréude dúrch mein Gebéin dahín (1747 version)
> Bébt mir die Fréude dúrch mein Gebéin dahín (1771 version)

Klopstock, in the process of working out the meter, replaced the disyllabic inversions with monosyllabic inversions. In the few disyllabic inversions that remain, such as "Rhéinwein, von íhnen hást du die édelsté," the second, unaccented, syllable is a lexical word.[8]

Because German iambic pentameter is less flexible than its English antecedent, it does not dominate its art verse to the overwhelming extent of the iambic pentame-

[8]Bjorklund 1978, 108. For the last syllable of *édelsté,* see p. 30.

ter in English. German trochaic meters, as the English ones, are more rigid than iambic, but given the relative lack of flexibility in the German iambic, the difference is not all that great, and German poets use trochaic meters in places where English poets do not. There is a modest tradition of German trochaic pentameter, for example, while in English "virtually the only sustained example is Browning's 'One word more'" (Preminger and Brogan 1993, 892). German poets compensate for the rigidity of trochaic by means such as extensive enjambment (Bjorklund in Kiparsky and Youmans 1989). For the German meters adapted from classical meters, see p. 28.

2.2 The details

The verse characteristics listed above are overbroad. In order to discuss how Germanic verse is set to music, the categories must be examined more closely, pigeonholing first by type of ictus (accentual or iambic), and then by line length measured in number of stresses (for accentual verse) or feet (for iambic verse). This division is for expository convenience only; these characteristics are most definitely not isolated from each other.

2.2.1 Types of ictus

2.2.1.1 Accentual. Triple meters are clearly (iso-)accentual. The various triple meters (anapest, dactylic, some authorities also include amphibrach) can be difficult to distinguish from one another; many analyses consider them together.[9] Alterations to the weak syllables do not significantly alter the meter:

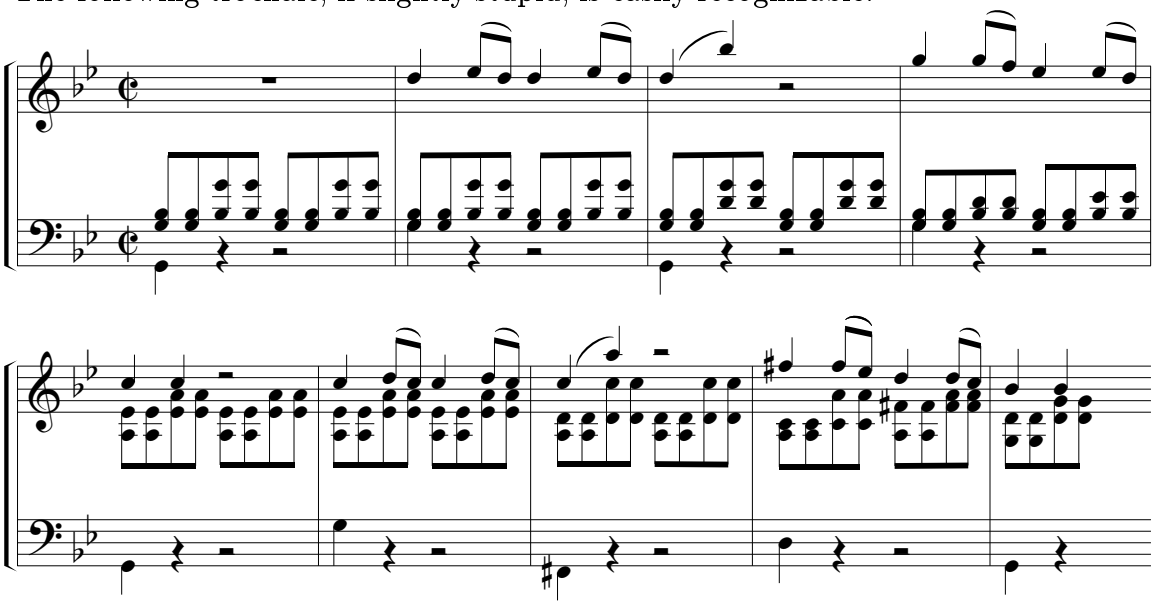
> Thís is the fórest priméval. The múrmuring pínes and the hémlocks.
> Thís is the fórest seréne. The múrmuring pínes and the fírs.

[9]E.g., Bridges 1921, 89–103; Tarlinskaja 1973, 128–35 for English; Heusler 1925–29, 3:191–96 for German.

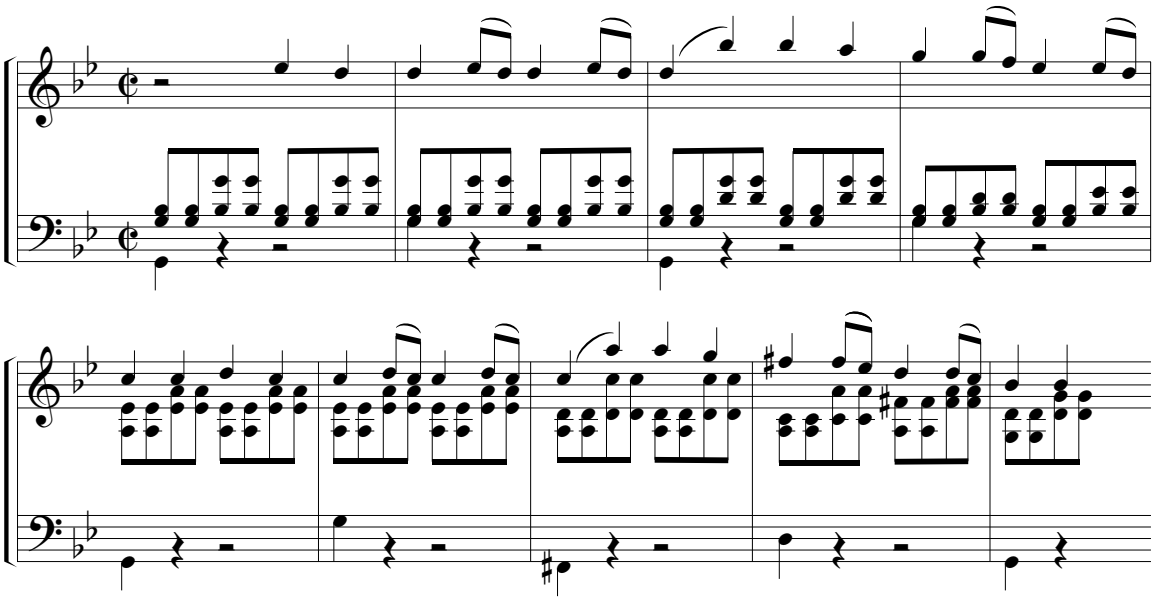
> Well, now, thís is the fórest seréne. The múrmuring pínes and the fírs.
> The ánapest líne just abóve is the sáme as the fírst line's dactýlic.

Note the implied pauses, such as after the caesura in the second and third lines, a sure sign of accentual verse. Breuer (1981, 381) says that anapest meter has always admitted iambic substitutions; that is, the number of syllables can vary while the stresses remain equally timed, another sign of accentual verse.

The case for considering trochaic as accentual is slightly more complicated, at least partly because analogies to music are extremely misleading. In music, the difference between trochaic and iambic (using the terms of Cooper and Meyer 1960) is fairly small, essentially a single-beat (or three-beat) anacrusis, assuredly not a matter of complete indifference but neither a matter of fundamental accentuation. The following trochaic, if slightly stupid, is easily recognizable:



If there is an even number of anacrusic bests, the musical pattern is also trochaic in Cooper and Meyer's scheme:



These trochaic examples do not differ fundamentally from the iambic original. Duple time is duple time, no matter where in the beat cycle the music starts. The primary musical stress is on the first beat of the measure whether there is an anacrusis or not.

The same cannot be said of verse. Iambic is not trochaic with an anacrusis. "There is a widespread perception among poets and prosodists that t[rochaic] meters are in some ways more rigid, more brittle, 'more difficult to maintain' . . . than i[ambic] ones" (Brogan in Preminger and Brogan 1993, 1309). Attridge (1982, 111) quotes other scholars who make the same point:

> Hascall (1971, 225) observes that there is an "all but universal subjective impression that trochaic verse has a rhythm which is more insistent, more distinct. . . . " Chatman (1965, 141) says that "the trochaic mode more easily violates normal prose accentual patterns; it quite insists on dominating the rhythm," but he ascribes this to convention, saying that "the sophisticated smoothness of iambic verse has been long in developing"—as if Chaucer's pentameters were "unsophisticated"!

—Chaucer's pentameters being the first in English—or, for that matter, as if trochaic meters were of recent vintage. To mention only one indication of the rigidity of

trochaic verse: trochaic is intolerant of inversions, even in the first foot, whereas iambic easily accomodates them. The following scans as iambic (Shakespeare sonnet 3): "Lóoke in thy glásse and téll the fáce thou véwest, / Nów is the tíme that fáce should fórme an óther." The following putative trochaic limps badly (construct): "Besíde Gítchee Gúmee's shóreline / Besíde Déep-Sea-Wáter's glístening / A tént stóod, of wíse Nakómis / The móon's dáughter, óld Nakómis."

The reasons that trochaic is less flexible than iambic are not particularly mysterious, and there is considerable literature on the subject (e.g. Tarlinskaja 1973, 105–7). One reason likely has to do with the generally trochaic nature of the language: trochaic lines require trochaic words whereas iambic lines admit both iambic and trochaic words (the latter with prefixed monosyllables, such as articles; Brogan in Preminger and Brogan 1993, 1310). This principle also holds good for other predominantly trochaic languages with iambic verse, such as German and Czech.[10] English has additional characteristics—those that lead to ambiguous scansion (high proportion of monosyllables, context-dependent stress placement, mobility of stress in poetic usage)—which give the English iambic a unique flexibility. The lack of flexibility exhibited by trochaic, on the other hand, and especially its "insist[ence] on dominating the rhythm" are characteristic of accentual verse.

In art verse, therefore, trochaic is used mostly for shorter verse or verse meant to invoke children's verse or a special mood such as music, monotony (*The raven*), or primitivism (our finest folk poet wrote *The song of Hiawatha* in a trochaic meter derived from the *Kalevala*).[11] It is little used in long or dramatic verse. As mentioned

[10]Iambic verse is more difficult to handle in Czech than in English or German, at least partly because Czech lacks articles (Stankiewicz and Brogan in Preminger and Brogan 1993, 1156–57).

[11]Because of many similarities in meter, wording, and incidents between *Hiawatha* and the Finnish epic, Longfellow was early charged with plagiarism. In denying the charge, the author defended himself strangely, replying that although "I know the *Kalevala* very well,"

on page 21, trochaic pentameter is uncommon German art verse, and is virtually lacking in the English art-verse tradition.

2.2.1.2 Iambic. Iambic-verse rhythms are entirely different from accentual-verse rhythms. Fussell (1979, 31) describes Sackville and Norton's *Gorboduc* (1565) as "composed in an excessively regular blank verse," and quotes Swinburne on it: "Verse assuredly it is not; there can be no verse, where there is no modulation." Iambic verse works by counterpointing (Gerard Manley Hopkins' term) a foreground against a steady background. Halpern (1962, 189) calls this practice "tension," as does Bjorklund (1978, 25–6) who also quotes Wimsatt and Beardley's term "interplay." Whatever the name, it is necessary; the skillful manipulation of surface rhythms over a steady iambic ictus is the most important art in English metrics. As German verse metrics are more constrained than English (see p. 20) they are less flexible. Because these rhythmic complexities are structural, iambic verse is more difficult to set to music than accentual verse—or, for that matter, Romance verse—whenever the composer wishes to respect the metrical integrity of the poetic line.

The most important of these complexities operate at the level of the poetic foot. Probably most authorities agree that the foot is a meaningful unit in iambic verse. Tarlinskaja (1973, 103–4; 150; 169–73; 181) presents statistical evidence showing that most inversions operate within the foot, but the utility of feet is still sometimes questioned. Brogan (Preminger and Brogan 1993, 418) says there are four types of evidence in favor of feet:

> (1) *The very concept of meter* as "measure. . . . " Measuring requires a unit by which the measuring is done, like inches on a ruler, whose dividing lines are fictitious—but necessary—as are, too, the bar lines on a musical score.

he had not taken the legends from there but from another source (Longfellow 1889, 110).

> (2) *Comparative metrics.* There is at least one metrical unit between the levels of syllable and line in every known verse system in the world. . . .
>
> (3) *The structure of the lang[uage] itself.* [In the most prominent current phonological models, the "stress group" or "foot" plays a fundamental role; see, e.g., Roca 1994, 207.]
>
> (4) *Perceptual psychology and cognitive science.* There is evidence which suggests that segmentation or grouping is a natural process manifested in the perception of any rhythmic series [like the even sounds of a clock resolving into "tick-tock tick-tock"].

Holder (1995, 92–3) rejects feet on the grounds that foot boundaries do not correlate with sense, or even word, boundaries. However wrong-headed earlier generations may have been in applying classical metrical concepts to vernacular verse, this is one mistake that they never made: in Greek and Latin, word boundaries were frequently discouraged, and sometimes forbidden, at foot boundaries. Indeed, Klopstock's introduction of sense-determined feet (*Wortfüße*) was an innovation which applied only to free verse (*freie Rhythmen* [Breuer 1981, 199]; see p. 28). Holder's rejection of feet is based on a straw-man argument.

Attridge (1982, 10–11) rejects feet because some verse, such as the following, cannot be divided into feet (from Shakespeare's *The phoenix and the turtle,* quoted from Attridge with his marking of the meter):

> Hére the ánthem dóth comménce:
> Lóve and cónstancý is déad;
> Phóenix ánd the Túrtle fléd
> Ín a mútual fláme from hénce.

Attridge is obviously correct that it is not particularly meaningful to label these lines as either "trochaic tetrameter with a missing final syllable" or as "iambic tetrameter with a missing initial syllable." If this is iambic, it would have to be "headless," an analysis now generally rejected (Bjorklund 1978, 27–8). It is, therefore, some sort of "trochaic." Under Halpern's schema, "trochaic" is not a well-defined class; the poem

is "accentual" as opposed to "iambic," and only iambic verse is a candidate for regular feet.

Another of Attridge's objections to feet is that a foot analysis does not help clarify all of the rhythmic subtleties of iambic verse, which point may be conceded without following to the conclusion that feet do not exist. Many tunes do not fit neatly into bars, but it does not follow that the concept of "bar" is meaningless, that the measure does not measure anything. In any event, Attridge sneaks feet in by the backdoor, bracketing sense groups and noting where they correspond with foot boundaries (Attridge 1982, 110–111). It makes no sense to speak of iambic "meter," as Attridge does, while rejecting iambic units; this was Brogan's first point in the quotation above.

2.2.1.3 Borderline meters. Some poems seem to straddle the boundary between iambic and accentual. "Poems whose metrical code-switching between i[ambic] and t[rochaic] is systematic are rare. . . . In Eng[lish] there is a mixed iambo-t[rochaic] form known as 8s and 7s, instanced most famously by Milton's *L'Allegro* and *Il Penseroso* . . . " (Brogan in Preminger and Brogan 1993, 1309). In these two poems, whose meter is clearly experimental, the (iambic) eight-syllable lines are less rhythmically complex than iambic lines in Milton's other work.[12] The seven-syllable ("trochaic"?) lines are as regular as those of any accentual verse, with only one exception.[13] Other 8s and 7s are entirely accentual, for example:

[12]According to Nabokov 1964, 502, who also points out that "extra modulation is achieved by means of the contractions so characteristic of Milton's style: [for example, in *L'Allegro*] l. 108, 'His shadowy Flale . . . '; l. 109 'That ten-day labourers . . . '; and l. 116, 'By whispering windes'."

[13]Line 38 of *Il Penseroso* (marking the underlying meter): "Wíth eev'n stép, and músing gáte," which of course must read something like: "With éev'n stép . . . ", a scansion that might be considered mimetic.

Tyger! Tyger! burning bright
In the forests of the night,
What immortal hand or eye
Could frame thy fearful symmetry?[14]

and accentual verse, being reminiscent of lyric verse and thus close to sing-song, is easy to mock, as in A. E. Housman's:

O have you caught the tiger?
  And can you hold him tight?
And what immortal hand or eye
Could frame his fearful symmetry?
  And does he try to bite?[15]

In German art verse, there are several other important meters in addition to iambic and accentual, which were introduced in the mid-eighteenth century. Two of these are the *freie Versen* (rhythmic, rhymed verse of varying line length, developed from French and Italian models), and the *freie Rhythmen* (free verse: unmetered and unrhymed, developed by Klopstock). Another, very important, set of meters consists of the various adaptions of classical meters, also introduced by Klopstock. These allow a varying number of syllables; the principle types are the hexameter, the elegaic distich, and the various odes. The German elegaic distich, as an example, has the following rhythmic scheme (with optional syllables in parentheses):

Xx(x) Xx(x) Xx(x) Xx(x) Xx(x) Xx
Xx(x) Xx(x) X | Xxx Xxx X

These classicizing forms have some characteristics of iambic verse, such as deployment in feet, but insofar as musical settings are concerned, they can best be considered

[14]Quoted from *Blake: Complete writings, with variant readings,* ed. Geoffrey Keynes (Oxford: Oxford University Press, 1979), 214.

[15]Quoted from *The brand-x anthology of poetry: Burnt Norton edition,* ed. William Zaranka (Cambridge, Mass.: Apple-wood Books, 1981), 129.

accentual: their ictuses invariably map onto stressed syllables or pauses and never onto unstressed syllables, and they are isochronous, so they map onto musical accents in the straightforward way characteristic of accentual verse (Paul and Glier 1966, 161–2). In the Klopstock quotations above (p. 20), there was foot inversion at the beginning of the lines, which superficially resembles the rhythmic counterpoint of iambic verse, but only one of the classicizing forms was susceptible of this practice, namely the alcaic ode which was the only form deposed in iambic feet. Foot inversion, therefore, is a relatively rare ornament and not integral to the structure.

The view of the classicizing forms as (iso)accentual derives from the music-based analysis of Heusler (1925–29) and his school (e.g. Paul and Glier 1966). They analyze *all* German poetry as accentual and scan verse by means of a notation which looks like musical notation. Heusler (1925–29, 1:46) stated specifically that his system of poetic scansion was no less expressive than a musical piece which, in actual practice, is not metronomic, leaving himself open to the criticism that his system is too influenced by music and that much of his analysis does not work (Breuer 1981, 79–81). For present purposes, the issue is not whether Heusler's system "works" in the sense that it can be fairly said to represent a particular verse's metric system, but whether it can be *made* to work. In one type of verse, it cannot. Iambic in German is capable of counterpoint similar to iambic in English, even if with more restrictions. The most important kind of counterpoint is foot reversal, which Heusler called *schwebende Betonung* (translated as 'hovering accent' in English-language studies; the term dates back to the nineteenth century [Brogan in Preminger and Brogan 1993, 538]) and characterized as a metric *Verlegenheitslösung* (solution in default of anything better). His followers have had to insist on the obvious, that it is used expressively by poets (Paul and Glier 1966, 14), and they clearly imply that the two syllables are equally accented, which is wrong (Brogan in Preminger and Brogan 1993, 538). A glance

at any German blank verse will show that this kind of foot reversal is extremely common, that is to say that it is a mandatory part of the metric structure, as in English, and Heusler's system fails here. Heusler's system also arguably does work for accentual verse, however—and German metricians have to describe the long period between Oswald von Volkenstein and Klopstock or Lessing when most of the verse was accentual, a fact which may figure in the popularity of Heusler's system. Heusler's system arguably works for the classicizing forms, which would indicate that they are also accentual.

2.3 The music

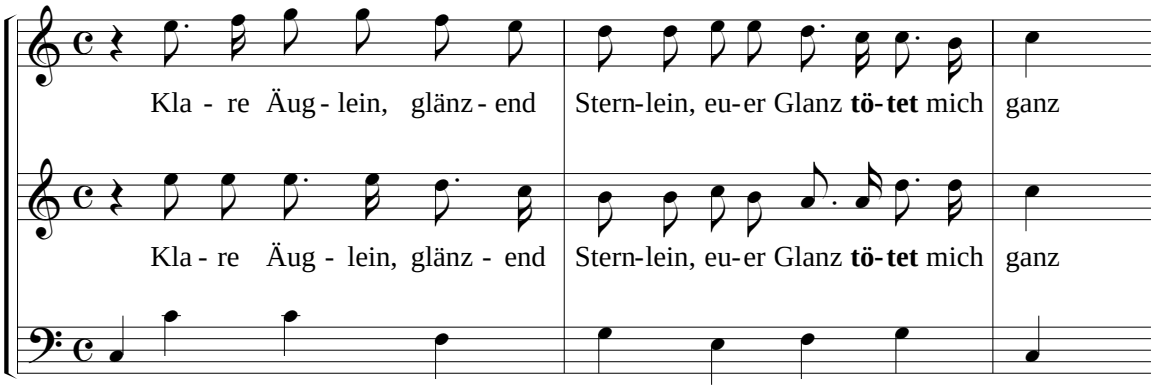
There are several ways in which composers express textual stress in music—duration, melodic contour, instrumentation, articulation, harmony, explicit stress marking, and so on (list from Cooper and Meyer 1960). The most pervasive is the alignment of textual accent with musical accent, relying on the timed repetition of stress, a characteristic shared by music and accentual verse (and, to a lesser degree, the Germanic languages in general; see the discussion of stress timing on p. 5).

First, we should note the extremely widespread convention that a weak line-final syllable can be set to a strong beat.[16] While a line-final stressed syllable must be stressed, a line-final unstressed syllable can be realized with or without musical stress. This convention is optional; it resolves the conflict between the marked—i.e. less common—feminine endings in musical lines, and the unmarked—i.e. more common—feminine endings in verse lines. (In recitative, the markedness is reversed, with the feminine musical endings being the norm and the masculine the marked case, obviously because of the adoption of the style from Italian.) This convention is

[16]West, 1973, traces this convention in various Indo-European languages.

not limited to Germanic; it appears in Romance and has an analogy in classical Greek and Latin verse, where the final syllable of a line is considered "long" or "heavy." Nor is it limited to music—it appears in poetry as well where, as far as I know, it is limited to contexts where it will not produce two successive accents.[17]

In accentual verse, such as lyric verse, the isochronous accents map onto isochronous musical beats in a straightforward way. As long as the verse behaves, the text will be appropriately stressed. The following is an example of a verse that is not well behaved. One of the words is, in the judgment of several native speakers, inappropriately stressed, and the music follows the verse meter. It is from Schütz's arrangement of Monteverdi's *Chiome d'oro, bel tesoro,* SWV 440, and the accentuation *tötét* probably came about because of the strict requirements of the verse:[18]

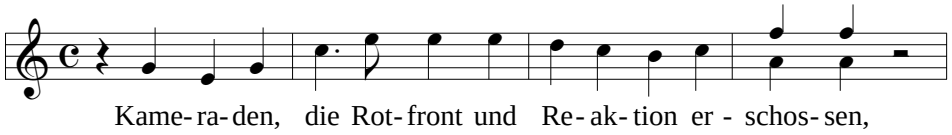


The first strophe of the *Horst Wessellied* is another verse that is not well behaved: the third line is irregularly accented, although this accentuation is not matched in the other strophes. The meter is iambic hexameter hypercatalectic xXxXxXxXxXxXx,

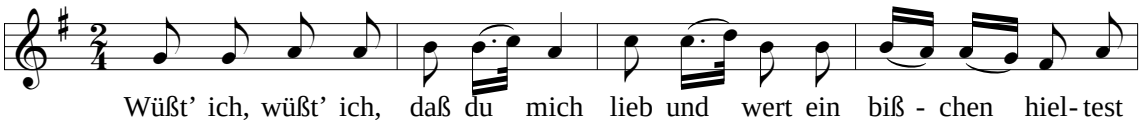
[17]"That to the highth of this great Argument / I may assert Eternal Providence" (*Paradise Lost,* 1:25–6); also Klopstock's "Rheinwein, von ihnen hast du die edelste," on p. 20 above. I disagree with Fallows' (1978, 15–17) description of the "curious accentuation" of final *-e* as "an inherent paradox of the [fifteenth-century French song] style."

[18]Quoted from Schütz, *Neue Ausgabe sämtliche Werke,* 37 (Weltliche Lieder und Madrigale), ed. Werner Bittinger (Kassel: Bärenreiter, 1970), but not transposed down a minor third as in that edition.

but the line in question is: Kam(e)ráden, die Rótfrónt und Réaktión erschóssen. The tune sets the underlying verse meter, not the actual rhythm of the line, stressing *die* and destressing *Rot-*. Several native speakers considered the resulting declamation awkward:[19]

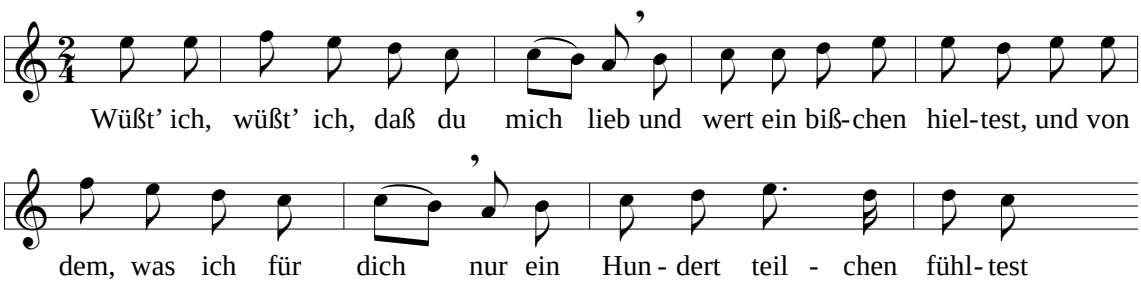


A more interesting example is G. A. Bürger's *Gegenliebe,* a poem which uses an unusual rhythm for a special effect. The meter is trochaic tetrameter, alternating catalectic and acatalectic: XxXxXxX / XxXxXxXx. The first two lines of the poem are enjambed, and there is a sense break after the first syllable of the second line: Wűßt' ich, wűßt' ich, dáß du mích / líeb [||] und wért ein bíßchen híeltest." To confuse the rhythm more, there is an implied pause at the end of the first line, straining the enjambment. This convoluted scansion, which comes at the beginning of the poem before the meter has had a chance to establish itself, represents the convoluted feelings of the unrequited lover. The other strophes are metrically regular. Haydn set the poem strophically, meaning that all the stanzas declaim well except the first:[20]



Beethoven through-composed his setting. The rhythm respects the implied pause after "mich"; the melodic contour allows a break after either the a′ or the preceding b′, as indicated by raised commas in the example below, so that the same music can be used for several lines:[21]

[19]Quoted from Oertel 1988.
[20]Hob. XXVIa:16; Haydn also used the melody in the second movement of Symphony 73.
[21]WoO 118; Beethoven later used the melody in the *Choralfantasie,* op. 80.



Rhythmic complications such as these are not common in accentual verse; when they occur, they are ornamental. In iambic verse, however, they are mandatory and structural. Composers have often set iambic verse, raising the problem of how to set the "counterpoint" or "interplay" in the verse, that is how to set the verse without turning it into doggerel. The best composers uniformly follow the text rhythm rather than the underlying meter, a kind of setting that makes deep sense: the regular meter of the music can then function like the regular meter of the verse, as a springboard for (rhythmic) "counterpoint" or "interplay." This point is evidently important. Rohrer (1983, 157) justifies her analyses of Purcell's text settings by the universal praise that they garnered for their "accents ever true." Milton, in sonnet 13, praised the same characteristic in Henry Lawes' music; Lawes had set Milton's *Mask* (= *Comus*) and probably *Arcades:*

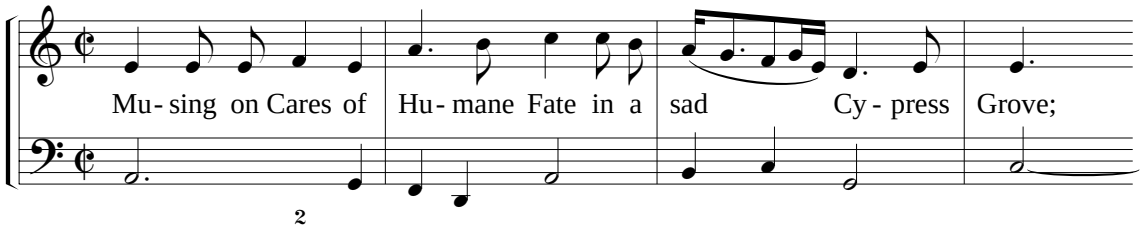
> *Harry,* whose tunefull and well-measur'd song
> First taught our English Music how to span
> Words with just notes and accent, not to scan
> With *Midas* eares, committing short and long,[22]
> Thy worth and skill exempts thee from the throng,
> With praise anough for Envy to look wan;
> To after-age thou shalt be writt the man
> That with smooth air couldst humour best our tongue.
> . . .

Following the surface rhythm rather than the underlying poetic meter requires

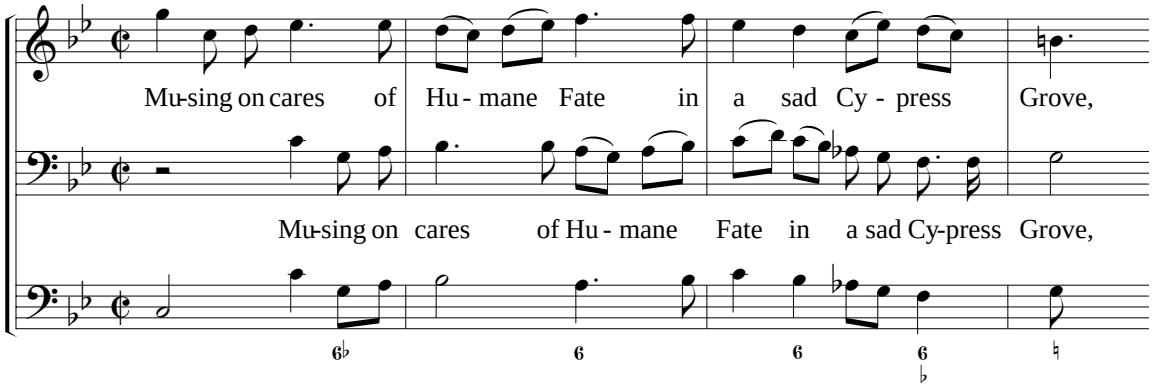
[22]"Short and long"; i.e., unstressed and stressed. See the index s.v. " 'long and short' for 'stress and unstress'."

a sensitivity towards the nuances of the text which seems to have escaped lesser composers.

Some examples: Rohrer (1983, 170–1) contrasts two settings of the text, "Músing on cáres of húman fáte / In a sád cýpress gróve." Purcell sets the accents of the text:[23]



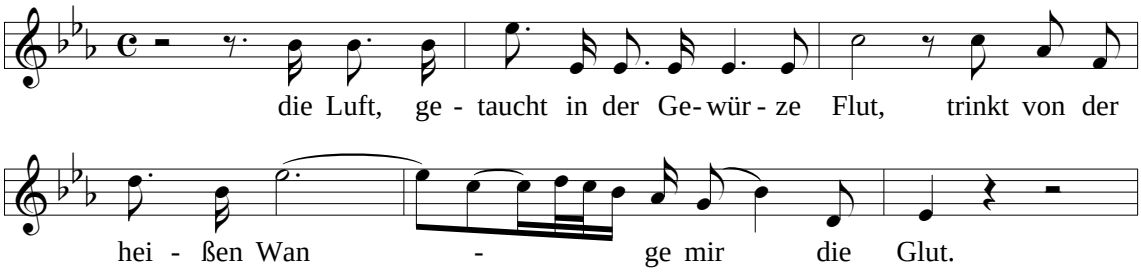
while in Johann Wolfgang Franck's setting, the poetic meter corresponds to the musical meter, as if the text scanned: " . . . In á sad cýpress gróve":



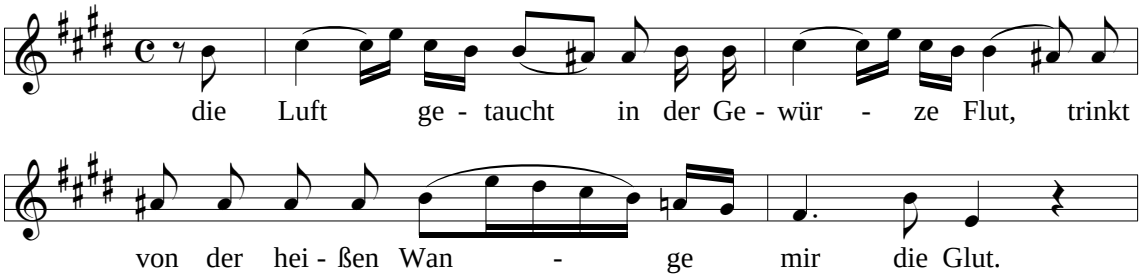
Example two: Fehn and Hallmark (1983, 235–44) contrast settings of Schiller's *Erwartung* by Zumsteeg and Schubert; Schubert probably based his setting on Zumsteeg's. Although, as Fehn and Hallmark say, "Zumsteeg's sense for the rhythmic variation of the text is good," his sense does occasionally fail, whereas Schubert's does not. For example, in mm. 92–94, Zumsteeg sets the line "die Lúft, getáucht in der Gewűrze Flút" as if the meter were perfectly regular and there were an accent

[23]Rohrer's text slightly emended after *The works of Henry Purcell* 25, ed. Margaret Laurie (Borough Green, Sevenoaks, Kent: Novello, 1985).

on "der," and in the next line he shows a certain lack of flexibility in prolonging "Wange" by *exactly* one measure, so as not to disturb the relationship of declamation to musical meter:[24]



Schubert's setting is more faithful to the rhythm of the text and therefore (Schiller being a better metrician than Zumsteeg) more plastic:



Schubert's setting is also more coherent; Fehn and Hallmark have not only discovered the stock of rhythmic patterns that he used but have also charted the complicated patterns of their deployment (see below, p. 39).

Example three: the hymn *Abide with me* (words by Rev. Henry Francis Lyte) is in iambic pentameter with frequent inversions in the first foot; the caesura is flexible and can fall on the fourth or the fifth syllable:[25]

> Abide with me; fast falls the eventide;
> The darkness deepens; Lord, with me abide!
> When other helpers fail and comforts flee

[24]Zumsteeg and Schubert cited from Schubert, *Neue Ausgabe sämtliche Lieder* 4:7, ed. Walter Dürr, Kassel: Bärenreiter, 1968.

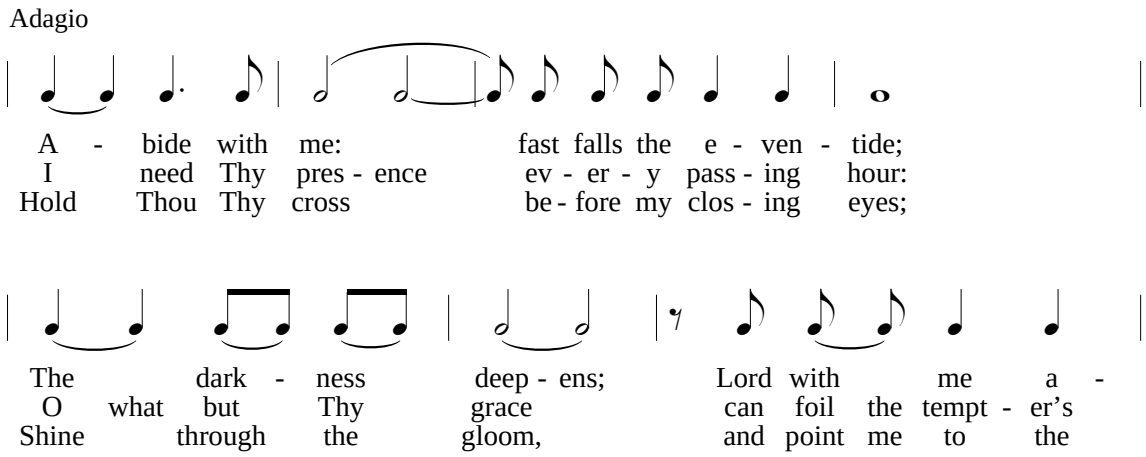
[25]Text and rhythmic patterns cited with halved note-values after *The English hymnal with tunes,* music editor Ralph Vaughan Williams. London: Humphrey Milford and Oxford University Press, 1933.

Help of the helpless, O abide with me.

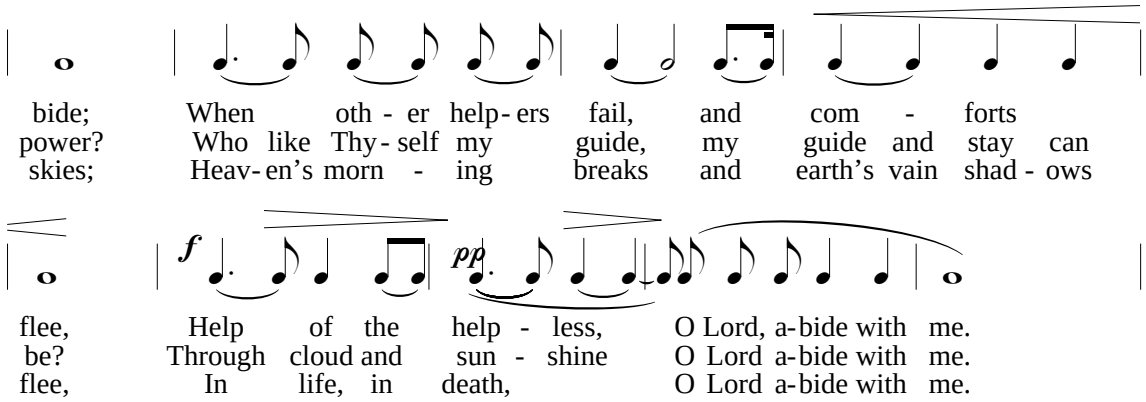
The well-known hymn tune is rhythmically flexible, but it does not respect the caesura placement (which, in any case, is not consistent in the various stanzas). The first three lines are set in the pattern:

and the last line in the pattern:

Ives, in setting the first, third, and fifth verses of the text, respected the caesura placement not only from line to line but also from stanza to stanza. He also introduced slight metrical irregularities (*ev-er-y* in verse 3, and an extra-metrical *O* in the last line of verses 1 and 3); perhaps the original poem was too monotonous for him:[26]



[26]It is only fair to note that Ives was sixteen years old when he composed this setting.



Many Romance speakers appear not to understand the principles of iambic verse. On the most unsophisticated level, there is simple linguistic interference,[27] but even some important theoreticians lack a basic comprehension of the mechanism of Germanic verse metrics. Pagnini (1974, 23, n. 11), for example, writes that in English and German, poetic accents coincide perfectly with musical accents, while Italian, French, and Spanish poetry have an irregular accentuation which leads to difficulty in musical settings. This passage is quoted approvingly by Menichetti (1993, 68); it is clearly wrong for the iambic meters which constitute the bulk of Germanic art

[27]Edgar Allen Poe reported a remarkable example:

> At Ermenonville, too, there is a striking instance of the Gallic rhythm with which a Frenchman regards the English verse. There Gerardin has the following inscription to the memory of Shenstone:
>
> This plain stone
> To William Shenstone.
> In his writings he displayed
> A mind natural;
> At Leasowes he laid
> Arcadian greens rural.
>
> There are few Parisians, speaking English, who would find anything *particularly* the matter with this epitaph.

(Orig. pub. December, 1844; quoted from *Poe: essays and reviews,* ed. G. R. Thompson. New York: Library of America, 1984.)

verse.

2.3.1 Line length and the pentameter problem

Most English art verse, and a large proportion of German art verse (including the vast majority of dramatic verse) is pentameter. In art verse, three- and four-stress lines have special characteristics. One of these is an association, via lyric verse, with music. Many poets exploit this association by embedding tetrameter "songs" (which may or may not imply an actual musical setting) in a pentameter context; virtually all of the songs in the plays of Shakespeare are examples. Most subtly, Richard Schaukel, in his translation of Verlaine's "de la musique avant toute chose!" (quoted by Wellek in Scher 1984, 71) quits tetrameter in order to quit music for poetry: "Musik, Musik vor allen Dingen! / Gewiß: doch nicht so in der Poesie." Schaukel's meter is influenced by Verlaine's, but Keats did the same thing in the fourth line of *Ah! woe is me! poor Silver-wing!:*

> Ah! woe is me! poor Silver-wing!
> That I must chaunt thy lady's dirge,
> And death to this fair haunt of spring,
> Of melody, and streams of flowery verse,—

In fact, most of Keat's trimeter and tetrameter verse is outright lyric verse or invokes music somehow.[28] The special character of three- and four-stress lines is so strong

[28]Three poems, *Stay, ruby breasted warbler, stay; I had a dove, and the sweet dove died;* and *Hush, hush tread softly, hush, hush, my dear,* were written to be set to music; the music for the last two has not been identified (Stillinger 1982). Some poems were written in song forms and have subjects appropriate to folk or popular song: *O blush not so! O blush not so; Where be ye going, you Devon maid; Over the hill and over the dale; Old Meg she was a gipsey; Shed no tear—O shed no tear;* and the lullaby *'Tis the "witching time of night."* Some poems are or invoke ballads: *Robin Hood; Ah! ken ye what I met the day; La Belle Dame sans Merci.* Also implicitly or explicitly musical are Apollo's lines in *Apollo to the Graces;* the three tetrameter sections, all of which invoke music, in *Lines on seeing a lock of Milton's hair;* the "songs" from *Extracts from an opera;* and the *Song of four fairies.* Finally,

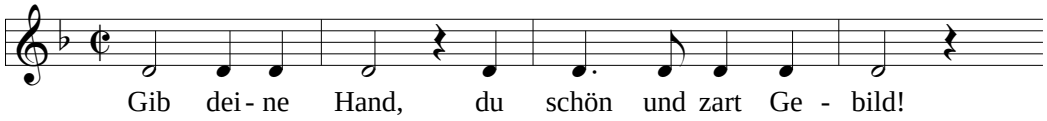
that it can be dangerous for poets to disregard it, as Shelley did in his risible miscalculation *Death* ("Death is here and death is there, / Death is busy everywhere,") and to confine one's work to such lines risks ruination, as more than one fan of Emily Dickinson has unhappily discovered after reading the malicious remark that all of her poems can be sung to *The yellow rose of Texas.*

Five-stress lines are free of these special flavors but, as Fehn and Hallmark (1983, 204) observe,

> [f]or the *Lied* composer, pentameter verse offers a special challenge. The five-foot lines are longer than those of most lyric poetry and are often metrically and syntactically more complex. Moreover, pentameter lines are less obviously compatible than are trimeter and tetrameter lines with the two-, three-, and four-bar phrase structure favored by the musical tradition.

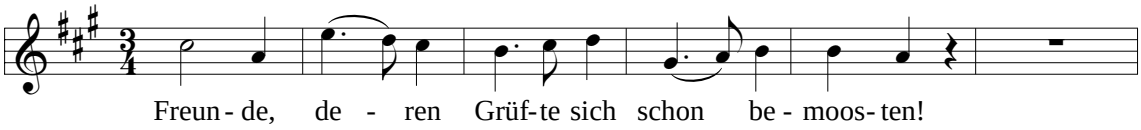
Fehn and Hallmark's two statements are causally connected: lyric verse usually has lines shorter than five stresses—such as four stresses, or alternating four and three stresses (with an implied pause at the end of the three-stress lines)—*because* pentameter lines are unsuitable for the "phrase structure favored by the musical tradition." In their studies of Schubert's pentameter settings, Fehn and Hallmark have discovered the reason for this unsuitability. When confronted with a pentameter line, Schubert nearly always took one of two courses. In the majority of cases, he compressed two of the poetic feet, usually the third and fourth, to produce the rhythmic grouping |𝅗𝅥 𝅗𝅥 |♩♩𝅗𝅥 |. Fehn and Hallmark call compression patterns X and compression of the third and fourth feet specifically X_1. Their type example is from *Der Tod und das Mädchen:*

songful in the sense of "sing-song" is the humorous *All gentle folks who owe a grudge.* An exception is *The eve of St. Mark,* although even in that work, there are three mentions of bells, one of an organ, and one of St. Cecilia in 119 lines; but here Keats is really exploiting another series of associations which tetrameter has—"folklore, naïve ditties, knights-errant, minstrelsy, fairy tales, and so forth" (Nabokov 1964, 510).



Attridge (1982, 94) connects X_1 patterns with the common verse structure of 3–3–4–3 stresses per line (e.g. the limerick, counting the two short lines as two hemistichs of one line); what they have in common is a heavily declaimed, climactic penultimate.

In nearly all the cases where Schubert did not use an X pattern, he set the feet equally, but extended the musical phrase by means of an extended note or a rest. Fehn and Hallmark call even declamation, which is generally an extension pattern, Y. The most common of these, Y_1, extends the final note or is followed by a rest. Fehn's and Hallmark's type example is from *Die Schatten:*



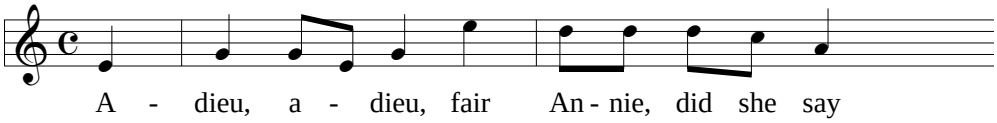
Eliminating those lines which Schubert did not set integrally (due, e.g., to interruption or repetition of the text), the most common X_1 and Y_1 patterns account for 59% of the pentameter lines, and all X and Y patterns for 89% of the lines. In only 11% of the pentameter lines for which he respected the verse metric did Schubert use a non-stereotyped setting (Fehn and Hallmark 1983, 205–211).

The stereotypes are forced on the composer by the nature of the five-foot line. For musical settings, it contrasts badly with the flexibility of the shorter lines. For example,[29] the line "Adiéu, adiéu, fair Ánnie díd she sáy," scans perfectly as iambic pentameter, but in fact it is embedded in a ballad-meter context of alternating four- and three-stress lines. Some lines that occupy the same position in the stanza in subsequent verses are:

[29]Child ballad 62, in Bronson 1959–72, 2:41.

She took her spy glass in her hands . . .
She thought she saw Lord Thomas a-coming . . .
Come down, come down, dear mother they did say . . .
Fair Annie she had a silken towel . . .

All these lines scan with four beats: "Adiéu, adiéu, fair Ánnie did she sáy." Musically, this is set to Fehn and Hallmark's X_1 pattern:



Pentameter virtually forces this pattern (or Fehn and Hallmark's Y pattern); the more flexible tetrameter allows it, but only as one out of many.

In lyric verse, pentameter is a niche meter. Lyric poems entirely in pentameter are uncommon. When pentameter lines do occur in lyric poetry, they will typically be part of a larger, non-pentameter context. A piece (or section or stanza) might have a single pentameter line at the beginning or at the end, for example. Some of the niches, or contexts, have appeared over many hundreds of years, in widely differing types of music, and in both English and German, indicating their origin in common Germanic prosodic features. In the lyric verse examined for this study, these pentameter lines fall into several easily discernable types with a residuum of unclassifiable lines. (See Appendix A for additional data.)

(1) Onsets. The first lines of a section, followed by one or more lines containing more than five stresses in rhythmically similar music so that the declamation speeds up. In popular music, if the verse begins with an onset, the chorus contains only three- and four-stress lines. An example is *A bicycle built for two.* The original song has two five-stress lines, followed by six- and seven-stress lines:[30]

[30]This and the following example are transcribed from the CD *Charlie and his orchestra: German propaganda swing, 1941–1942* (Harlequin HQ CD 03).

Dáisy, Dáisy, | gíve me your ánswer dó
Í'm half crázy | óver the lóve of yóu
We wón't have a stýlish márriage; | I cán't affórd a cárriage,
But yóu'll look swéet upón the séat | of a bícycle búilt for twó.

The declamation speeds up from the pentameter onsets. The speedup is reinforced by the internal rhyme (*sweet*:*seat*) in the four-stress hemistich, the longest hemistich in the piece. In the following contrafactum, the details are altered, but the pattern is preserved. It was prepared by the *Reichspropagandaministerium* and the German Foreign Office in 1941; on the source recording, the verse is labeled "Churchill's latest appeal to Roosevelt":[31]

Fránkie, Fránkie, | the Gérmans are dríving me nuts.
From Nárvik dówn to Égypt | they tóok all my lánding spots[32]
They've dóne such a lót of bómbing,[33] | the dócks are complétely dóne in.
Now Í'm afráid it wíll be too láte; | for héaven's sake húrry úp!

There is one extra stress in the first hemistich of the second line; only the first line has five stresses, but the type-one (onset) pattern is maintained. When due allowance is made for the singer's German accent ("afraid" ends in [-t]), the rhyme scheme is fairly well maintained also, reinforcing the sense of declamation speed up.

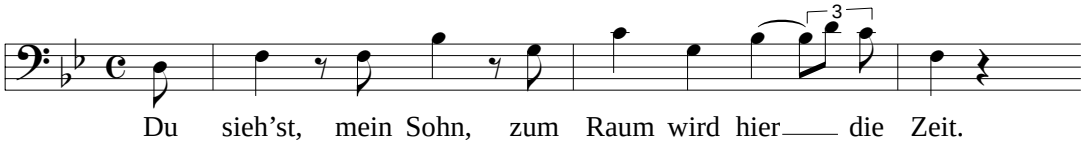
(2) Taglines: the final line of a section (in popular music, a verse or chorus). Taglines are always set with Fehn and Hallmark's Y pattern, almost always Y_1. Taglines are sometimes printed as two lines. The lineation may even vary between different editions; for example, the last line of Autolycus's merchandizing song in *The winter's tale* (1838/4.4.230): "Búy Lads, or élse your Lásses crý: Come búy!" is printed as two lines by Elson (1901, 250). The lineation of lyric verse can be somewhat haphazard, but the practice of treating combinations of lines which contain

[31]For more information, see Bergmeier and Lotz, 1997, although the transcriptions there are not always accurate.

[32]The singer, Karl Schwedler, pronounces "spots" with the vowel of "nuts."

[33]Pronounced "bum in."

a total of five stresses (especially $4 + 1$ and $1 + 4$) identically to explicitly five-stress lines confirms their functions as "tags." Gurnemanz's line "Du siehst, mein Sohn, zum Raum wird hier die Zeit," just before the *Verwandlungsmusik* in the first act of *Parsifal*, is another example of a tagline, declaimed at the rate of one syllable per quarter note:



(3) Frames: A combination of the first two types (onset + tagline); the first and the last lines of a section have five stresses, framing shorter lines. Type-three lines, frames, are interesting because they are used in art music as the basis for large-scale form. One example is from *Fidelio,* where the only pentameter lines in the opera frame the climax of the redemption-through-firearms scene in the second act. At the final tempo change (più moto), Pizarro has the five-stress line: "Ha! Há! Soll ích vor éinem Wéibe bében?" This is followed by several shorter lines, and then, when the trumpet announces the minister's arrival, Leonora, Florestan, Pizarro, and Rocco declaim five-stress lines homorhythmically:

Leonora:	Ách! du bíst geréttet! grósser Gótt!
Florestan:	Ách! ich bín geréttet! grósser Gótt!
Pizarro:	Há! ha! dér Miníster! Hőll' und Tód!
Rocco:	Ó! o wás ist dás? geréchter Gótt!

Pizarro's and Rocco's lines have five stresses only by virtue of a repeated exclamation: metric fluency follows from nobility of character.

The second act of *Parsifal* is a large frame with a smaller frame inset at the end. Klingsor's opening lines in the act form a symmetrical stress pattern centered on pentameter (number of stresses indicated):

2 Die Zéit ist dá.—
4 Schon lóckt mein Záuberschlóss den Tóren,
5 den, kíndisch jáuchzend, férn ich náhen séh.'—
5 Im Tódesschláfe hält der Flúch sie fést,
4 der ích den Krámpf zu lősen wéiss.—
2 Áuf denn! Ans Wérk!

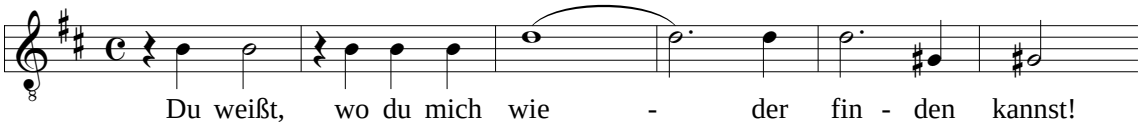
Klingsor makes his reappearance at the end of the act in pentameter. The next few lines function as onsets for this climactic scene:

Hált da! Dich bánn' ich mít der réchten Wéhr!
Den Tóren stélle[34] mír seines Méisters Spéer!

with Parsifal responding in pentameter:

Mit díesem Zéichen bánn' ich déinen Záuber:

Parsifal's final line in the act functions as a tagline, the closing part of the two frames which Klingsor had opened:



Taglines are set with even or expanded declamation. Parsifal's tagline averages one syllable per half note. The second foot is compressed but then the third foot is expanded; the line as a whole is one half-note longer than if it were evenly declaimed. Wagner has manipulated his tagline with unparalleled virtuosity, but has not broken the pattern.[35]

[34] In the printed libretto: stell'.

[35] In the printed libretto, the line reads: "Du weißt, wo einzig du mich wieder sieh'st!" Wagner may have made the change for musical reasons, for example to avoid stressing "du"; the original line made more sense, considering that Parsifal had just asked Kundry for directions. One other use for pentameter in *Parsifal* deserves mention, namely its use in narrative, perhaps influenced by the use of blank verse in drama. Very many of Gurnemanz's pentameter lines are narrative.

(4) Alternata: Five-stress lines alternating with, typically, four- or six-stress lines, such as 4–5–4–5 or 5–6–5–6. All the lines take the same amount to time to declaim, so the five-stress lines follow Hallmark and Fehn's X pattern (one compressed foot), and the six-stress lines have two compressed feet. An example is *[Somewhere] Over the rainbow.*

(5) Substitutes for four-stress lines: The substitution is revealed by comparison with other lines, which are always the majority. In some kinds of popular music, this is by far the most frequent type; it is always set with Fehn and Hallmark's X pattern, usually X_1 (third and fourth feet compressed). Unlike the other types, substitutes lines are never used systematically. An example can be found in Child ballad 62, quoted above (p. 40). See appendix A for additional data.

Perhaps the most significant distinction is between substitutions, a sort of "accidental" pentameter which might as well be something else–in fact, *is* something else at corresponding places elsewhere in the poem, by definition—and the other types, which are pentameter used as part of a pattern. The point of this categorization is merely to illustrate the obvious, that pentameter in Germanic lyric verse is sporadic or formulaic and has no relation to pentameter in art verse.

3 Romance prosodies, metrics, music

Most Romance prosodies resemble each other. With a few local modifications, the description for one will fit all the others; (modern) French is the most aberrant. Romance verse is generally syllable-counting, end-stopped, and rhymed, with concomitant downgrading of word stress in favor of line or musical stress. Accents typically mark the ends of lines or hemistichs but this is a fundamentally different matter from the dense accentual scaffolding of the Germanic languages described in the previous chapter. These points are discussed below.

Because of studies that have been done on Italian and Spanish, it is convenient to take up these two first.

3.1 Italian and Spanish

Italian and Spanish verse count syllables, but syllable counting is only one of the structural principles. Any piece of prose can be divided into lines on the basis of a syllable count, but it does not thereby become verse. Two other things are necessary. One is a formal marking for line endings, the other is a distinctive rhythm. These two are linked.

3.1.1 Non-accentual meters

Why are Italian and Spanish meters not accentual? Of course, it is possible to construct Italian or Spanish verse with regular rhythmic patterns; much popular verse works in this way, but as shown below (p. 51), these are not accentual meters, and art verse tends to shun excessive rhythmic regularity. One reason that stress cannot be used to construct a verse metric is that stress in Italian and Spanish is what linguists call *predictable.* That is, given the underlying lexical representation of

a word (i.e., in the brain of a native speaker) and the various grammatical processes which operate to produce the surface forms (such as assigning person, number, tense, etc., to verbs), the stress can be located by rules. There are a few exceptions to the rules, presumably marked as exceptional in the (mental) lexicon, but because of their rarity such words cannot form the basis of a verse metric.

The predictability of Italian and Spanish stress seems to be agreed on by a consensus of linguists. The following observations illustrate some of the factors involved.

Definitions: A heavy syllable is one which ends in a consonant or in a long vowel. A light syllable ends in a short vowel. A superheavy syllable ends in a long vowel plus a consonant.

Careful observers ever since Bembo (Saltarelli 1970, 11–12) have noted that all accented syllables in Italian are heavy. Aldrich (1966, 109) was one such careful observer:

> One has only to listen to the ordinary speech of Italians to become aware that they tend to dwell on accented syllables. Some accented syllables, moreover, are dwelt upon longer than others. An open vowel, for instance, is longer than a vowel followed by a double consonant (*vita, vitta*), and an accented penultimate is longer than an accented final (*lontano, città*).

These observations are backed up by instrumental measurements.[1]

There are basically two rules of Italian phonology operating here: (1) Accented syllables must be heavy ([vī-ta], [vit-ta]). A word such as *[vi-ta] is impossible, as is a word with a superheavy syllable such as *[vīt-ta]. (2) All final vowels are short. If a final vowel is accented, the contradiction between these two rules is resolved by doubling the initial consonant of the following word in the same phrase unless it is an *s*-impure. Examples: *parlo chiaro* [ˈparl-lo-ˈkja-ro] 'I speak clearly' ∼ *parlò chiaro*

[1]See Vogel 1982, 32–44, and Saltarelli 1983 and 1984 and refs. for Italian, and Burzio 1994, 31 and refs. for Spanish, which differs from Italian in that it does not allow doubled consonants.

[par-ˈlok-ˈkja-ro] 'she spoke clearly' (examples from Vincent, in Harris and Vincent 1988, 285). Italian orthography, like Latin, does not record vowel length, but it is obvious that if, as in Latin, we assume that native speakers knew which vowels were long, then we could assign stress by the rule: stress falls on the last heavy syllable. The only major exceptions would be stressed final open syllables (including monosyllables), which the orthography marks as exceptional, and occasional loanwords, such as *fèstival, fùtbol,* and *revòlver,* which make up only about 0.5% of the vocabulary (den Os and Kager 1986, 45). (Den Os and Kager list a handful of other exceptions such as *màndorla* 'almond' and *àcanto* 'acanthus'.) These rules are subject to regional variation; some northern varieties, for example, allow antepenult-stressed light syllables, but the rules exist.

In other words, stress can be seen as a byproduct of syllable weight, or syllable weight can be seen as a byproduct of stress. The most widely accepted view, however, is that both stress and syllable weight derive from mappings of a subsyllabic rhythmic structure.[2] This issue is of more direct interest to linguists than to verse metricians or musicologists; the important point for the latter—and a point on which there seems to be linguistic consensus—is that the prosodic structure of the *ends of words* in Italian and Spanish is predictable.

This reasoning finds a concrete expression in Italian and Spanish metric theory, where non-final syllables following the accent are extrametrical and final accented syllables have an extra, metrical, syllable added for the purpose of the syllable count. In other words, for metrical purposes, the endings of all lines of Italian and Spanish verse are considered to be Xx by convention. One other indication: Spanish art

[2]This view was first articulated by Saltarelli 1984 for Italian and Harris 1983 for Spanish. Saltarelli 1984 explains the fate of accented superheavy or light syllables in Latin. Refinements of the earlier positions can be found in den Os and Kager 1986 and, especially, Hayes 1995.

verse often assonates, matching vowels but not consonants. If a line ends Xxx, the second-last vowel does not participate in the assonance.

3.1.2 Line endings

Line endings are crucial structural points in syllabic verse. Fussell (1979, 7–8) says that one "difficulty with syllabic meter is that in order to sense the shape of the poem, the reader must halt unnaturally at line endings." Fussell is writing of English; his example is from Bridges' *Cheddar pinks* (see above, p. 12). The Romance reader may indeed measure by number of syllables (I do not know of any experiments which have addressed this issue), but if this passage is taken to indicate the importance of line endings, then the point is also valid for Romance languages. The vast majority of Romance verse formally signals the line ending.

Italian and Spanish verse mark line endings in three ways: (1) by rhyme (Nabokov wrote, "The rhyme is the line's birthday"); (2) by a predictable (feminine) accent pattern, normalized if necessary, to support the rhyme; and (3) by end stopping, that is, a sense break. Interestingly, in verse which conforms to these principles, the rare line endings that are not marked in all three ways may exhibit an adjustment of more than one of these. Menichetti (1993, 12–13) points to *Purgatorio* XX 4–5 as an example:

> Mossimi; e il duca mio si mosse per li
> Luoghi spediti pur lungo la roccia,
> [. . .][3]'

where the mandatory accent on syllable 10 of the enjambed line is also de-emphasized, reinforcing the effect of overflow. This technique resembles the "counterpoint" of

[3]'I went on; and my leader went on through the / free spaces along the rock, / . . .

Germanic verse (see p. 25), but the lack of accentual superstructure makes it a rare ornament, not a mandatory and constant part of the verse metric.

The most conspicuous exception to the rule of rhymed Italian verse is *versi sciolti,* unrhymed 11-syllable, less usually 7-syllable, lines which date from the Renaissance interest in (and imitations of) Classical meters. *Versi sciolti* are so-called because they are "freed" from rhyme, but in other respects, they are tightly regulated: they nearly always observe their syllable count literally, without the normalization common to rhymed verse (that is, an "11-syllable" line will usually contain exactly 11 syllables; Menichetti 1993, 118–19). *Versi sciolti* are frequently used for translations of the Classic epics and, by extension, for dramatic works in general. For Italian poetry as a whole, Brogan and Weismiller write, "the unrhymed *endecasillabo,* while popular and important, never became a major It[alian] meter" (Preminger and Brogan 1993, 137). One prominent exception (in numerical terms, if not in terms of literary quality) is the opera libretto where, as every musician knows, dramatic action such as recitative is frequently conducted in *versi sciolti,* often ending with a rhymed couplet or quatrain.[4]

In purely poetic terms one explanation for *versi sciolti* may lie in Cornulier's (1981) interpretation of rhyme as a device, not for ending a line, but for integrating the line into the stanza. Much dramatic poetry tends to be non-stanzaic, hence the suitability of *versi sciolti* which have the not incidental benefit of being much easier to write than the other prominent Italian non-stanzaic meter, *terza rima.*

In musical terms, the suitability of *versi sciolti* lies in the nature of text delivery. Given the strong tendency to end stopping, poetic lines will tend to coincide with musical lines in recitative; the poetic structure will thus be clear without needing or benefiting from the reinforcement of rhyme. In arias, the nature of the text delivery

[4]I am grateful to Martin Chusid for pointing this out to me.

obscures the poetic structure, hence rhyme is necessary to clarify it.

3.1.3 Verse rhythm

Italian verse and Spanish verse have a distinctive rhythm. As Menichetti (1993, 21) says, the rhythm of verse is very different from that of prose, and this difference is one of the key points in defining "verse." Italian theorists describe this rhythm in terms of stress placement within the line. For example, a 5-syllable line, in addition to the required stress on the fourth syllable, has another stress on the first or second syllable; and a 7-syllable line, in addition to the required stress on the sixth syllable, has another stress on one of the first four syllables. An 11-syllable line is considered to be a combination of a 5-syllable plus a 7-syllable line (one syllable drops), with the implication of considerable flexibility in the placement of line-interior stress, in addition to the required stress on the 10th syllable (Giammatti in Wimsatt 1972, 152–58). Lines with an even number of syllables (actually a composite, as opposed to prime, number of syllables: 9-syllables lines fall into this category) are considered to be inflexible and monotonous. Much popular poetry does have an even number of syllables in the line, and its rhythm is fairly regular, but it is still not accentual in the same way that Germanic verse is. The relatively steady ictus is a by-product of the word placement, almost an ornament, and not a structural part of the line. The difference with Germanic verse will become obvious when musical settings are discussed below.

Spanish theorists describe essentially the same rhythms in very different terms, a good indication that both they and the Italians are describing real facts about their verse and not imposing artificial conventions. In Spanish verse, the line-interior rhythmic patterns are described as developing from groupings of units of two and three syllables. Nelson (in Wimsatt 1972, 172–73) analyses a García Lorca poem as

follows (o = syllable; P = pause, which corresponds to a line ending in the poem as it is customarily printed—the lines are end stopped):

Anacrusis	Principal	Secondary	Principal	Secondary
o	ò o	ó o o	ó o	o o
La	luna	vino a la	fragua	P con su
	ó o	ò o	ó o	o
	poli-	són de	nardos.	P El
	ó o o	ò o	ó o	o
	niño la	mira	mira.	P El
	ó o o	ò o	ó o	o o
	niño la es-	tá mi-	rando.	P En el
	ó o	ò o	ó o	
	aire	conmo-	vido	P
	ó o o	ò o o	ó o	o
	mueve la	luna sus	brazos	P y en-
	ó o	ò o o	ó o	o
	seña,	lúbrica y	pura,	P sus
	ó o o	ò o	ó o	
	senos de	duro es-	taño.	[. . .][5]

The lines in this poem have four rhythms which pattern ABCCBDAC. Perhaps an Italian theorist could describe the meter as an 8-syllable line with accents at various syllables in the line:

La luna vino a la fragua	accents on 2, 4, 7
con su polisón de nardos.	accents on 3, 5, 7
El niño la mira mira.	accents on 2, 5, 7
El niño la está mirando.	accents on 2, 5, 7
En el aire conmovido	accents on 3, 5, 7
mueve la luna sus brazos	accents on 1, 4, 7

[5] 'The moon came to the forge / with her bodice of spikenard. / The boy looks and looks at her. / The boy is looking at her. / In the agitated air / the moon moves her arms / and voluptuous and pure, shows / her beasts of hard tin'. Trans. Nelson.

y enseña, lúbrica y pura,	accents on 2, 4, 7
sus senos de duro estaño.	accents on 2, 5, 7
[. . .]	

which gives the same rhythmic pattern ABCCBDAC as the prior analysis.

3.1.4 Music

Spanish and (especially) Italian verse frequently adjusts the syllable count by means of devices such as ellision and dieresis. These operate even across phrase boundaries.[6] In music, which superimposes its own rhythmic structure on the verse meter, these devices are routinely ignored. As the syllable count is obscured, line endings become more important. These are usually marked by a sense break, and it is convenient for the composer to make a break in the music, such as a phrase ending, at that point. The rhyme then confirms the line ending; music and poetic form reinforce each other.

Although line-internal accents are not structural, their positions are constrained, and so different line types have characteristic rhythmic patterns when they are set to music. The Italian patterns have been catalogued for monody by Aldrich 1966, and for the Classic and Romantic periods by Lippmann 1973–75. Verses with an even number of syllables, which tend to generate regular rhythmic patterns, may well be more common in Italian lyric verse than in art verse.

The preceding paragraph applies only to settings that respect the word accents. One of the most interesting features in the setting of Italian and Spanish, from the standpoint of an English speaker at least, is the degree to which these accents can be disregarded. An examination of almost any music with a Spanish text will reveal

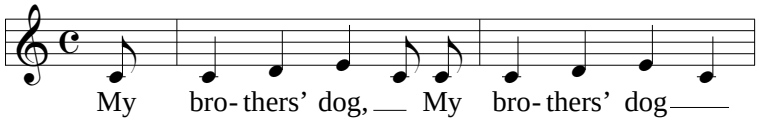
[6] *La gloria di colui che tutto move / per l'universo penetra, e risplende / . . . .* 'The glory of the One who moves all things / permeates the universe and glows / . . . .' *Paradisio* I 1–2, trans. Allen Mandelbaum (Berkeley: University of California Press, 1984; pbk. ed. New York: Bantam, 1986).

that a noticeable minority of word accents are not respected. In Italian, violation of word accent is much rarer than in Spanish, but even this small proportion would be unthinkable in setting a German or English text.

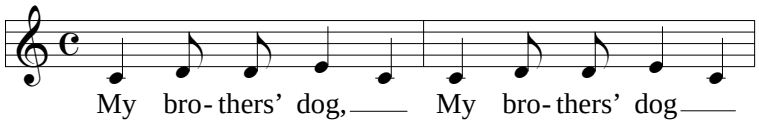
Janda and Morgan compared English and Spanish musical settings in an important series of papers (1984; Morgan and Janda 1989), and showed that "in Romance languages, especially Spanish, [native] speakers often shift stress to normally unstressed syllables in song texts, while such shiftiness is virtually unattested in several non-Romance languages" (Morgan and Janda 1989, 273–74). (Note that they dealt with word accent only, not phrase accent.) In addition to giving examples of such stress shifts from a wide variety of Spanish music, they showed experimentally that it is a productive process. They presented monolingual English and Spanish speakers with texts, instructing them to set them to the "Frère Jacques" melody, making any adjustments necessary to insure an acceptable declamation, and they encouraged comments on the naturalness of the solutions. The English verse was:

> My brothers' dog, my brothers' dog
> Will not bite, will not bite;
> Mother was remarking,
> "Spot is fond of barking
> Every day and night."

Every English speaker altered the melody in order to accommodate the accentuation of the text, for example:



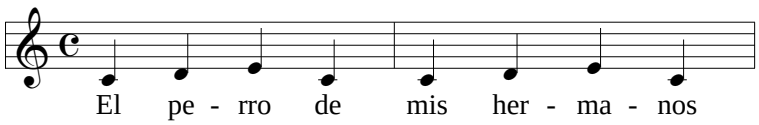
or:



The Spanish verse was:

> El perro de mis hermanos
> Me viene a molestar;
> Siempre está ladrando
> Cuando estoy hablando;
> No puedo ni pensar.[7]

Only two out of ten Spanish speakers altered the melody; "seven opted for one-to-one matching of syllables to notes despite the ensuing shift in linguistic stress," namely:



(The tenth Spanish speaker did not provide usable data.) However, as Janda and Morgan point out, accents in Spanish texts and music coincide far more frequently than they clash; it is therefore not correct to say that Spanish declamation disregards stress placement completely, but rather that musical stress can take precedence.

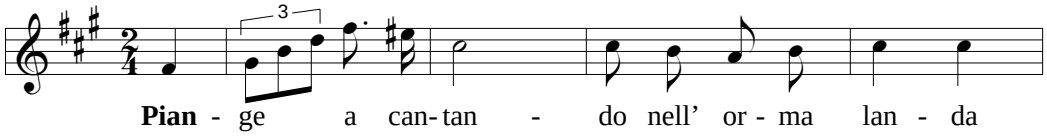
Janda and Morgan (1983, 164) also observe that stress shift is much less common in Italian than in Spanish. They suggest that this comparative rarity may be due to the greater availability of mechanisms for adjusting the words to match the musical stress. They mention in particular the deletion of unaccented final vowels following liquids (*l, m, n, r*) as in *uomo* > *uom.*[8] Furthermore, since vowel-final words are (obviously!) much more common in Italian than in Spanish, there are more sites for adjustments by elision (or avoidance of elision) and other devices. Stress mismatching in Italian texts and music was mentioned by the musical theorist Tacchinardi (1926, 226–31). Italian text stress matches musical stress most closely in non-metrical

[7] 'My brothers' dog / Comes to bother me; / He's always barking / When I'm talking / I can't even think' (trans. Morgan and Janda 1989, 287 n. 9).

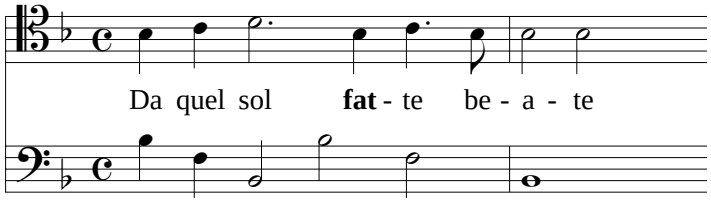
[8] A more restrictive form of this mechanism operates in normal Italian speech, where the targets for deletion are unaccented phrase-internal final vowels following *l, n,* and *r,* as in *voler' dire* (Vincent in Harris and Vincent 1988, 283).

genres, such as recitative, and most loosely in highly rhythmic genres and, above all, in strophic verse. Tacchinardi also points out that strophic settings may not express the meaning of the text equally well in all strophes; perhaps the stress mismatching can be seen as a related hazard of strophic settings, although one characteristic of Romance and not Germanic.

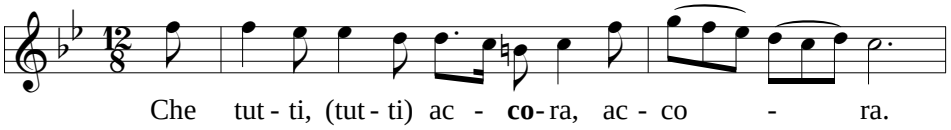
Tacchinardi gives the following, from Verdi's *Otello,* as an example of stress mismatch:



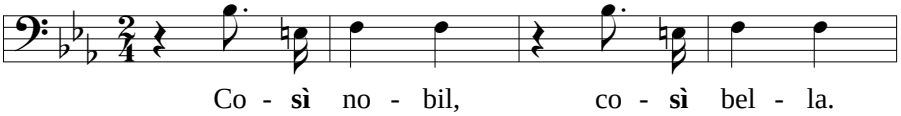
Here are a few more examples. From the beginning of the second act of Monteverdi's *Orfeo,* 1607 (strophic):



From Act 1, Scene 2 of Caldara's *Dafne,* 1719 (*DTÖ* 91, p. 14; note the repetition which shows the flexibility of text placement):

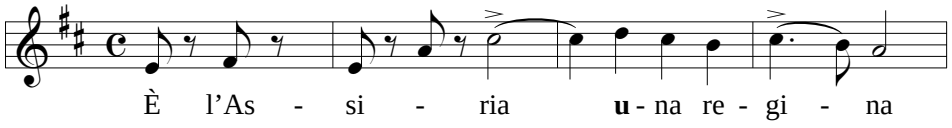


From Act 1 of Paisiello's *Nina ossia La Pazza per amore,* 1789 (ed. Fausto Broussard, Milan: Ricordi 1981, rpt. 1987; p. 16):

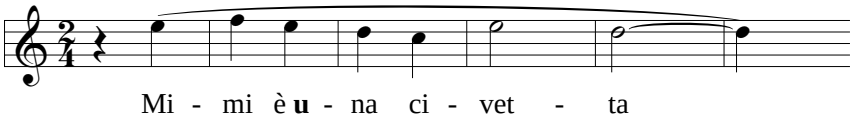


From the introductory chorus of Act 3 of *Nabucco,* 1842 (cited after Lippmann 1974,

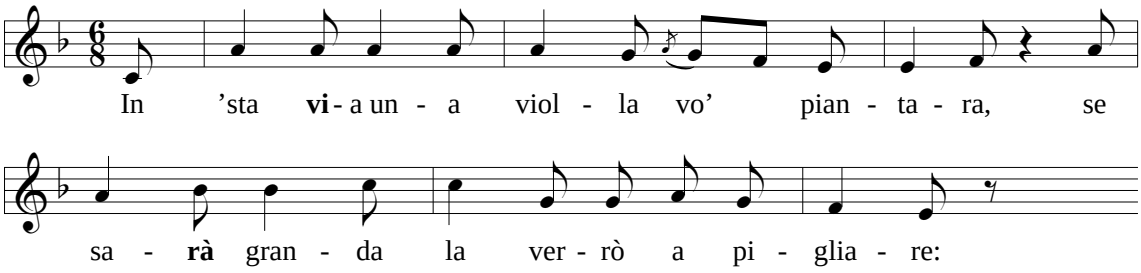
327):



From Act 3 of *La Bohème,* 1896:



From a strophic folk song (Dalla Valle et al 1987, 86–7):

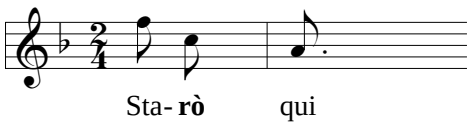


In this last example, note also the stressed clitics *una* and *la.*

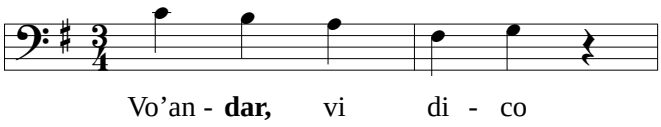
As with Spanish, stress matching is the norm, but it is not a requirement. Unlike Spanish, Italian differentiates between strophic and non-strophic (including prose) settings: mismatches between text and musical stress are much more rare in non-strophic settings. This situation contrasts strongly with Germanic where even a single mismatch between text and musical stress is not acceptable.

Although Germanic is so sensitive to misplaced accents that even an inappropriately stressed article will produce an awkward settings (as in p. 31 above), some German speakers follow the Italian convention when setting Italian texts. Some examples from *Don Giovanni:*

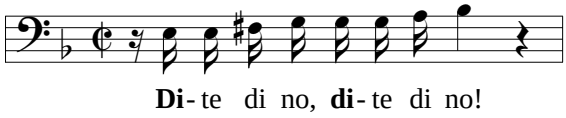
In the aria *Batti, batti, o bel Masetto,* Zerlina has:



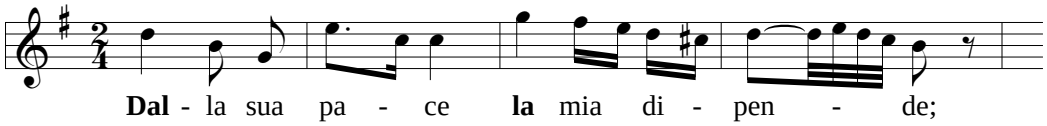
In the duet which opens the second act, Leporello has:



Towards the end of the second act, Leporello advises Don Giovanni how to respond to the statue's invitation:



Webster (1991, 133-7) has shown that Mozart sometimes used stress mismatches expressively, as in mm. 74–77, 90–95, and 96–103 of Figaro's cavatina "Se vuol ballare," where the alternate accentuations ***ro****vesce****rò*** and *ro****ve****sce****rò*** have a mimetic function. More generally, Webster shows that the structure of the Italian poetic lines tends to shape the rhetorical flow of Mozart's music. The last accent in the line, as Webster says, is the heaviest (not surprisingly: it is the only one with a fixed position, and it is the only structural accent), and therefore Mozart's "musical phrases tend to be end-oriented" (1991, 135). On the other hand, Mozart occasionally took the option of stressing the first note of the phrase, even if the text accent was weak:



As Webster points out, the weak syllable *la* is not only set on a strong beat, it is also the highest note of the phrase. So although some of Mozart's mismatches between text and musical accent are expressive of the text's meaning, others may be expressive of no more than the license permitted in Italian text settings.

3.2 Romanian[9]

Most description of Romanian (e.g., Dascăla 1989, 12) characterize the accent as free or unpredictable. A Romance language with a free accent would be of immediate interest, but the nature of the Romanian accent is not self-evident. The examples given to show how the accent varies are invariably derived forms, such as definite forms of the noun or different verbal inflections, and the authors do not always agree among themselves about the placement of the accent in their examples. For example, Beyrer, Bochmann, and Bronsert (1987, 35) give *véveriţă* 'squirrel', but Mallinson (1986, 342) gives *veveríţă* (with a stress-attracting diminutive ending) or *vevériţă* (for speakers who no longer segment the word).[10]

What is not obvious is whether stress is free in lexical items. It appears that the accent for the vast majority of non-derived words can be placed by a few rules, for which see Pop 1948, 36–46. Pop (1948, 41) also reports continual pressure in the popular language to shift the accent of (foreign) borrowings to accommodate native patterns, for example *díplomă* > *diplómă* (from Greek δίπλωμα), or *fabrícă* (from Italian *fàbbrica*). If Romanian stress were truly free, this pressure would not exist.

As with other Romance verse, the word accentuation does not determine a verse ictus. Unlike other Romance verse, there *is* a strict rhythm, usually trochaic; iambic verse, according to Ciobanu (1984, 12), is a learned creation. Although poetic and word accents tend to coincide most frequently at the ends of lines (Alexandru 1976, 1980), even here they need not. The degree of freedom may be linked to genre: in epics (lăuter) they do coincide (Bessinger 1991, 50–51), but Ciobanu (1984, 31) gives an example of an "assez rare" case from another genre (using acute accents to

[9]My thanks to Gabriela Ilnitchi who, in addition to much valuable advice from the standpoint of an educated native speaker, also provided some of the references used in this section.

[10]Ilnitchi rejected *vevériţă*.

indicate word accents): "Pe únde úmblă dóru," which, embedded in a trochaic meter, is performed with a trochaic rhythm, so that none of the word accents are respected. This is not an accentual verse metric, since there can be no "modulation" (see above, p. 25). Rather, Romanian fits in well with the general Romance pattern. Romanian music follows the verse accents rather than the text accents.

Ciobanu (1984, 33–34) believes that Romanian metrics represent a historical continuation of classical Latin metrics. The earliest Romanian verse is recorded only from the seventeenth century, and the earliest secular lyric verse dates from the eighteenth century (Feraru 1929, 29), leaving too large a gap in the historical record for Ciobanu's position to be convincing. Ciobanu notes the large differences between the metrics of Romanian verse and those of the neighboring Slavs and Hungarians, but this difference requires no historical explanations; it can be taken for granted because the underlying linguistic prosodies are completely different. The similarities that Ciobanu presents are typological, and typological similarities are to be expected, as the prosodic structure of the Romanian language is entirely Romance.

3.3 Old French

Pensom (1988) claims that Old French verse (twelfth and thirteenth centuries) was timed by stress count as well as by syllables, which would be unusual in a Romance metric. "A moment's reflection will show how unlikely it is that a language whose systems of stress were such a prominent feature of its structure could have a prosody that entirely disregarded those systems" (1988, 1). The term "prominent feature" begs the question; certainly stress was not as semantically important to Old French as it is for, e.g., modern Spanish or Italian, which have contrasts lacking in Old French (*cánto* 'I sing' $\sim$ *cantó* 'he sang'), yet stress does not have a prominent structural

role in Spanish and Italian verse except to support caesuras and line endings. The other Romance languages have similar metrics. Pensom does not explain why he believes Old French metrics must have differed.

Pensom (1988, 2–3) postulates the following rules:

1 Always stress at caesura and at rhyme/assonance
2 In decasyllables, two accents in minor hemistich (first four syllables) and two or three in major hemistich (final six syllables)
3 No juxtaposed accents within the hemistich

(The first rule is not controversial.) Pensom then establishes that these rules, with some understandable exceptions, do in fact seem to be characteristic of Old French verse. He then gives an example of their application from the beginning of the *Chanson de Roland:*

1 Cárles li réis, nóstre emperére mágnes
2 Set ánz tuz pléins ad estét en Espáigne
3 Trésqu'en la mér cunquíst la tére altáigne
4 N'í ad chastél quí devánt lúi remáigne
5 [Mur ne citet n'i est remés a fraindre]
6 Fórs Sarragúce, ki est en úne muntáigne
7 Li réis Marsílie la tíent ki Déu n'en aímet.[11]

where no line is accented like any other. But this is not an accentual metric: there is no regular ictus against which the lines can be measured. Some of the accents in the above example, such as *quí* in line 4, *úne* in line six, and *Fórs Sarragúce* instead of *Fors Sárragúce,* seem unconvincing or arbitrary. If Pensom's rules do in fact reflect real features of Old French verse, then they are heuristics for producing good rhythmic verse, and do not differ from the general Romance pattern.

[11]'King Charles, our great emperor, / Has been in Spain for seven long years. / He has conquered that haughty land right to the sea, / No fortress can resist him. / [No wall, no city, remains to be smashed /] Except Saragossa, which is on a mountain top. / King Marsile, who does not love God, defends it'. Trans. Brault (1984). Line five does not appear in Pensom 1988.

3.4 Middle and Modern French

Wallace Fowlie (in Preminger and Brogan 1993, 428):

> . . . A. E. Housman in a Cambridge conversation with André Gide (1917) . . . stated that between Villon and Baudelaire—for over 400 years—Fr[ench] p[oetry] was given over to rhymed discourse in which eloquence, wit, vituperation, and pathos were present, but not poetry. . . . Gide's first answer to this challenge was to acknowledge that perhaps the Fr[ench] as a nation do have a deficiency in lyric sentiment, but that this very deficiency accounts for the elaborate system of Fr[ench] prosody which developed in the course of those 400 years. Strict rules of versification, acting as constraints on the poet's spontaneity, caused poetry to be looked upon in France as a difficult art form which had been more rigorously perfected there than in other countries.

The period from Malherbe (1555–1628) to Hugo's *Hernani* (1830) is called "classic" (and in this section, "classic" refers to that period of French poetry; Gustafson [1995, 90] notes that that term is often used for approximately the same period in French music).[12] The preclassic, classic, and postclassic styles blur at their chronological edges. The classic style originated as a codification and refinement of existing practice, its rules had long antecedents (Lote 1949–95, 4:7), and its most influential polemic was not by Malherbe—it was Boileau's *Art Poëtique* of 1674. The nineteenth-century *vers libéré*[13] had antecedents as far back as the seventeenth century (Lote 1949–95, 8:123–126) and remained firmly rooted in classic practice while loosening

[12]The eleventh edition of the *Encyclopædia Britannica* frames the classic period colorfully. George Saintsbury wrote of the period's beginning: " . . . from the time of Malherbe dates that great and deplorable falling off of French poetry in its more poetic qualities, which was not made good till 1830. . . . [Malherbe's] reforms helped to elaborate the kind of verse necessary for the classical tragedy, and that is the most that can be said for him." A. C. Swinburne wrote of the period's end: "That [Hugo] was the greatest tragic and dramatic poet born since the age of Shakespeare, the appearance of *Hernani* in 1830 made evident for ever [*sic*] to all but the meanest and most perverse of dunces and malignants."

[13]"Not to be confused with either *vers libre,* . . . 19th-c[entury] Fr[ench] free verse proper, or with the *vers libres classique* . . . of the 17th and 18th c[enturies], that is regular lines irregularly disposed, v[ers] l[ibéré] is Fr[ench] verse 'liberated' from many of the traditional rules concerning meter, caesura, and endstopping, but still observing the principles of isosyllabism and regularly patterned rhyme" (Preminger and Brogan 1993, 1343).

some of its constraints. There is a long-standing tradition in French metrical studies of using the classic period as a touchstone, so that a classic norm is described against which other styles are compared. This procedure makes more sense for later poetry, when the classic style really was viewed as a norm, than for earlier poetry, where the unavoidable teleological implications are distracting.

3.4.1 French verse metrics

The gap between the spoken and written language is greater for French than for almost any other European language.[14] The gap between the diction of French poetry and the diction of the normal spoken language is similarly large. The conventions of French poetic diction are largely, not entirely, historical, and the system of French poetic meter resembles the systems of the other Romance languages rather more closely than the phonological facts of the contemporary spoken languages would indicate.

Like Italian and Spanish, French verse counts syllables, and places an accent at the end of each line. The nominal syllable count is adjusted; unlike Italian and Spanish, the end-stressed ("masculine") form is considered the norm, so that a French "ten-syllable" line has the same number of syllables as an Italian or Spanish "eleven-syllable" line. All of these metrics allow one optional extrametrical syllable at or near the end of the line, making for French, one syllable after the accent, and for Italian and Spanish, two syllables after the accent. French does not allow more than one syllable after the accent because the only words so accented in the language are

[14]Not just the spelling: as Harris (Harris and Vincent 1988, 244) writes, "[T]he gap between the classical model which is prescribed and what even educated speakers actually do is at times quite extraordinarily wide." To give only a few examples: most spontaneous speech drops the negative particle *ne,* does not use the form *nous*+verb, and makes extensive use of suppletion. A sentence such as *Nous n'allons pas à Paris* is less likely in French conversation than something like *On va pas à Paris, nous* (or *nous autres* [nzot]).

uncommon compounds such as *parle-je.*

Lines of verse longer than eight syllables are divided by a caesura into hemistichs.[15] In pre-nineteenth-century art verse, ten-syllable lines are divided, in decreasing order of frequency, 4+6, 6+4, or 5+5. 6+4 lines occur only embedded in a 4+6 context; often there is only one such line in a poem (Cornulier 1982, 98-100). In popular verse, and in the nineteenth century, 5+5 was the norm (Lote 1949–95, 1:215–220). Twelve-syllable lines, alexandrines, are divided 6+6. Below the level of the line or the hemistich, French metricians speak of groups of words, as in Spanish theory; these are called "measures." Six-syllable hemistichs normally, but not invariably, contain two measures. Measures end with *coupes* ('divisions'; for some reason, the word is not translated in English-language studies), which thus resemble lower-order caesuras. All of these terms are modern. Pre-nineteenth-century theorists use the terms "coupe" and "repos," as well as "césure," all to mean caesura; they almost never discuss lower-level rhythms. In scansion, caesuras are customarily marked with a double slash, *coupes* with a single slash.

E muets (see p. 68 for a definition) interact with caesuras in one of three ways; the first is by far the most common. This is the *enjambed caesura,* where the caesura falls between the accented syllable and the *e muet*; the *e muet* thus falls in the second hemistich. Additionally, the word following an enjambed caesura must begin with a vowel, so that the *e muet* does not figure in the syllable count. Example (from La Fontaine's *Les deux Pigeons,* quoted in Deloffre 1969, 18):

> Soyez-vous l'un à l'au//tre un monde toujours beau.

For an *epic caesura,* the end of the hemistich is treated in the same manner as the end of the line: a word-final *e muet* is extra-metrical. Example (unattributed in

[15]Interestingly, there is evidence that the maximum number of syllables that a person can conveniently remember is about eight (Cornulier 1982, 15–17).

Deloffre 1969, 37; the verse is 4+6):

> De vasselage // fut assez chevalers

For a *lyric caesura,* a word-final *e muet* figures in the syllable count (as in the enjambed caesura), but the caesura falls after the word rather than after the accent. Example (by Froissart, quoted in Deloffre 1969, 38; again the verse is 4+6):

> La plaisance // du cœur qui s'émerveille

These last two terms were introduced by Heinrich Diez in 1848 (Lote 1949–96, 1:195; Brogan in Preminger and Brogan 1993, 161). As Brogan says, it has been recognized since the early part of this century that they are misnomers. "Epic caesuras" are nowhere very common and are not characteristic of the genre whose name they bear. Similarly, "lyric caesura" is too restrictive a term (Cornulier 1995, 60). Some handbooks (e.g. Deloffre 1969, 37–38) incorrectly associate these caesuras with epic and lyric poetry. Epic and lyric caesuras fell out of general use by around 1500 (Lote 1949–96, 1:202, 210–11), and were formally banned by Malherbe, to be picked up again in the nineteenth century.

These various forms of caesura have their counterparts on the level of the *coupe,* and these various *coupes* were classically admissible. The *coupe enjambante* was one of the most important rhythmic tools in the kit of the classic and nineteenth-century poet; for example in the last hemistich of the following (from Baudelaire's *La Cloche fêlée,* quoted in Scott 1980, 57):

> Les souvenirs / lointains // lentement / s'élever
> Au bruit / des carillons // qui chan/tent dans la brume

For a *coupe lyrique,* the division is made after the *e muet* for expressive purposes, as in the first hemistich of the following, from Racine's *Andromaque,* act 5, scene three, quoted in Scott (1980, 60):

Mais parle: / de son sort // qui t'a rendu / l'arbitre?

Coupes do not mark a fixed number of syllables, so there cannot be any such thing as a *coupe épique.*

Thus the standard description. The notion of measures and *coupes* is not universally accepted. Verluyten (in Dominicy 1989, 35) says that the most natural accentuation of Racine's hemistich *Craignant toujours pour vous* has three accents: *Craignánt toujoúrs pour voús,* and any limitation to two measures must be arbitrary. Cornulier (1982, 69–76) says that some hemistichs, such as Vigny's famous *majestueusement* (which first figured in metric theory in Mazaleyrat 1979, 138) cannot be divided at all, and adds that, even in the world of strict, by-the-book verse, authorities frequently differ on where to place the *coupes.* But these obviously valid objections do not mean that measures are devoid of theoretical utility, provided they are viewed as normative, a statistical tendency, rather than mandatory. As Scott (1980, 46) says, "The four-accent pattern of the alexandrine is sufficiently conventional for us to speak of the classical alexandrine as an *alexandrin tétramètre.*" Verluyten and Cornulier argue that to insist on measures within the hemistich is to confuse rhythm with meter. When examining musical settings, it is not necessary to take a position on this matter, because composers have generally found it more convenient to break up six-syllable strings with an accent, even if a subsidiary one. Indeed, there are hints of *coupes* even in classical metric theory: although classical theory does not group the syllables within the hemistich, it does recognize subsidiary accents, namely "countertonic accents." These appear on alternate syllables, counting backward from the end of the hemistich. And in 1787, the Abbé Féraud described unsystematized subsidiary accents, mostly one per hemistich (Lote 1949–95, 7:245–46; Lote himself rejected the notion of subsidiary accents except for special

effect). Mazaleyrat (1979) overgeneralized subsidiary accents so far as to conclude that French verse is based on feet. Cornulier ridiculed Mazaleyrat by calling these feet *tronçons* 'stumps'. Mazaleyrat had invited Cornulier's attack by importing the term *Nebenton* to describe his overregulation of countertonic accents. Mazaleyrat, in fact, deployed his *Nebentöne* in an unsystematic and sometimes contradictory manner; his position has not been widely accepted (Gouvard 1993, 47–9; Cornulier 1995, 27).

3.4.2 The graphical conspiracy

The "syllable" of French verse metrics is not determined by the phonology of the spoken language. It is a convention, justified largely on orthographic and historical grounds (Cornulier 1995, 203–6). Cornulier (1995, 203–232) calls this reliance on orthography the *Fiction Graphique* (an equally apt term would have been *Conspiration Graphique*). The rules for syllabifying diphthongs are not recoverable from the orthography; they are largely historical. Diphthongs originating in one syllable are treated as one syllable; diphthongs originating in two syllables are treated as two syllables: thus *li-on* < LEO, but *pied* (one syllable) < PED- ; but historically unjustified exceptions are not rare, e.g. *oui* (one syllable) < *oïl* < *o il* < HOC IL-, or *chrétien* (two, rather than three, syllables) < CHRISTIAN- . Poets who respected these conventions—and even during the classic period, they were not always regarded strictly; in the nineteenth century, they were mocked—needed to use pronouncing dictionaries (Cornulier 1995, 203–206).

Against all historical and phonological evidence, Tamine (1981, 70) maintains that the French syllable has "a phonetic reality which justifies in part its pre-eminence in meter." Almost any phonetic transcription of French speech chosen at random will demonstrate otherwise (e.g. *ma p̌etite amie* [map-ti-ta-mi]; Harris and Vincent

1988, 215). Before the conventions had become fully established, verse often scanned following the pronunciation rather than the orthography. Tabourot (quoted in Lote 1949–95, 5:183), who helped establish the conventions around the beginning of the seventeenth century, wrote critically of verse such as:

> A ceste heure, ma douce amie, je prens de vous congé
> Vous penserez, s'il vous plaist, au mal que pour vous j'é.[16]

which scanned according to the pronunciation; in his transcription:

> Asteur' ma douc' amy' je prens de vous congé,
> Vous pensrez, s'il vous plaist, au mal que pour vous j'é.

Cornulier's *Fiction Graphique* has three components. First is that *e muets* count as any other syllable. The *e muet* (*e caduc, e instable, e atone*) is a written *e* with three possible realizations in speech, as catalogued and demonstrated by Valéry (quoted in *Le Grand Robert*, s.v. *E*; numbers added): "L'$\overset{1}{\text{e}}$ muet qui tantôt existe, tantôt n$\overset{2}{\text{e}}$ s$\overset{2}{\text{e}}$ fait presqu$\overset{2}{\text{e}}$ point sentir, s'il ne s'effac$\overset{3}{\text{e}}$ entièrement." The counterpart in the spoken language is usually called the "schwa," after its underlying phonological representation (i.e., as a convenience to grammarians; this formulation is from Dell in Dominicy 1989, 122). The written *e muet* and the spoken schwa are related historically, but do not correspond today. For example, a schwa may be used to break up consonant clusters whether there is an *e* in the orthography or not, as in *Arc de Triomphe* [ark$\overset{\downarrow}{\text{ə}}$dətriɔ̃f] (example from Harris and Vincent 1988, 215). Poetic convention follows the written forms, not the spoken forms.[17]

[16]'It is time, my sweet, I take of you my leave / You will think, pray do, of the ill for you I have'.

[17]Poetry since the late-nineteenth century may follow either. Cornulier (1995, 35) quotes the following from Apollinaire's *Alcools:*

> Longtemps au pied du perron de
> La maison où entra la dame

In addition to the counting of *e muets* as any other syllable, Cornulier's *Fiction Graphique* contains two other components. One involves rhyme and is not relevant here.[18] The other is that a word-final *e muet* elides to a following vowel in the same line. This rule operated in dramatic verse even where the governed words had different speakers, as in Corneille's

> Parle.
> —Ote-moi d'un doute

(cited in Cornulier 1995, 220). Classically, a word-final schwa could not follow a vowel unless it could elide to a following vowel, so that *partie unique* was permitted, although the rule forbidding hiatus banned *parti unique.*

The classic codification of the "strict rules of versification" acted as a brake, freezing poetic conventions—which tend to be conservative in any event—while the spoken language changed. Most of the apparent arbitrariness of the rules is due to change in the spoken language since Malherbe's day.[19] One application of the rule forbidding

---

> Que j'avais suivie pendant deux
> Bonnes heures à Amsterdam . . .
>
> ('Longwhile at the foot of the stoop of / The house where the lady went in / Whom I had followed for two / Fine hours in Amsterdam'.)

where the *e muet* figures in the syllable count in *Bonnes* and *heures,* but must be suppressed in *dame.* Cornulier (1995, 249–50) also writes of the *e optionnel,* but specifies that this term refers only to the (realized) spoken form; i.e., the "schwa" in this paper. Popular music may also follow either the spoken or the written forms (Dell in Dominicy, 1989). To a certain extent, Dell derives the spoken forms from the written forms; but see Dell 1971.

[18]It is that written word-final consonants rhyme only with other written consonants of the same class, even though none of these written consonants may be pronounced. For example *sang* and *flanc* rhyme with each other but not with *sans* or *flan*; similarly *bord* and *port* rhyme. In Malherbe's time, final consonants *in pausa* were pronounced and devoiced, so that final written *b, d, g, z* were pronounced [p], [t], [k], [s] (Lote 1949–95, 6:290–29, 320–21; Fouché 1952–66, 3:665–67, 675–76; and Cornulier 1995, 213–218).

[19]British disapproval of the tightly regulated nature of French verse is not recent. Pope, the chief representative of the most regulated period in English poetry, wrote: "But critic-learning flourished most in France: / The rules a nation, born to serve, obeys; / And Boileau still in right of Horace sways" (*Essay on criticism,* ll. 712–14).

hiatus between words will illustrate. Earlier poets had freely followed words ending in accented (i.e., non-schwa) vowels with words beginning in vowels. This practice declined in the sixteenth century, and Malherbe forbade it within the same line. The spoken language of Malherbe's time pronounced the *h aspiré* (as an [h] in German or in American English). The sound was later deleted from French speech,[20] but the rule remained. Words beginning with the now-silent *h aspiré* were still permitted to follow words ending in a vowel (not universally—Voltaire condemned the practice in Corneille and Racine [Lote 1949–95, 7:221-222]). This is a rare example of a poetic rule following the underlying form rather than the surface pronunciation: *h aspiré* still exists on an underlying level of the spoken language, as it is treated as a consonant in certain contexts (*la hache* 'the hachet' versus *l'ache* 'celery'). The rules which determine the surface form of the language have changed while the underlying forms remain the same. The presence of *h aspiré* cannot be determined from the orthography; many native words which lack it begin with a written *h,* usually because of an etymologizing spelling (*habiller, heure, hôtel*).

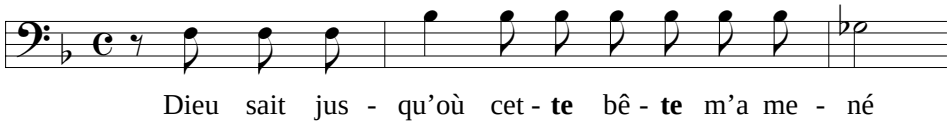
3.4.3 Recitation and music: Poetry aloud

In 1539, Gratien du Point (5^{r}) wrote that poetry and music both appeal to the ear. Earlier poetry had been mostly sung; most later poetry aside from drama was

[20]According to Fouché (1966, 3:578–581), the deletion of the [h] in speech began sporadically in the thirteenth century, becoming general in the sixteenth century, at least in regional varieties (Burgundy, Berry) and in popular Parisian. In 1673, the Académie noted that [h] deletion was characteristic of "les gens de province d'outre Loire et mesme [du] peuple de Paris," i.e., most of the population. Presumably poetic diction followed educated usage which retained [h] through the eighteenth century. This usage was reinforced by the Humanistic practice, beginning around 1550 and continuing for two centuries, of pronouncing the [h] in Latin (Fouché 1966, 3:583). On the other hand, the sound was not connected with German names in the seventeenth century; Boileau condemned the reflex memorably: " 'Childebrand' / D'un seul nom quelquefois le son dur ou bizarre / Rend un poëme entier ou burlesque ou barbare" (quoted in Lote 1949–95, 5:123).

intended to be read. Beginning in the seventeenth century, the pronunciation of the language split into three tracks; from least to most conservative these were the normal spoken language, poetic recitation, and musical settings.

Modern poetic recitation is not entirely codified; the relation of written poetry to the same poetry read out loud is not straightforward. In recitation, *e muets* may be dropped, as in normal speech, a practice condemned by metricians such as Spire (1949, 270 n. 117). Cornulier (1995, 15–17) insists on the primacy of the written form. In musical settings, this primacy is uncontested, for the *e muets* are sounded (as schwa), and this practice is characteristic of all of French art-music diction, prose as well as poetry, as in the following, from the beginning of Débussy's *Pelléas et Mélisande:*

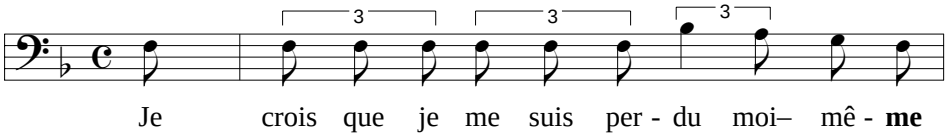


In poetry recitation, line-final *e muets* are generally not realized. In normal speech, these have not been pronounced at least since the eighteenth century, when the Abbé d'Olivet wrote that the final syllables of *David* and *vide, pic* and *pique,* and *bal* and *balle* sounded identical.[21] But these final *e muets* may have still been pronounced in affected speech or in poetry. Voltaire wrote, " 'Empire,' 'couronne,' 'diadème,' 'flamme,' 'tendresse,' 'victoire'; toutes ces désinences heureuses laissent dans l'oreille un son qui subsiste encore après le mot prononcé, comme une clavecin qui résonne quand les doigts ne frappent plus les touches."[22] In music, however, there is no ambiguity: they *are* pronounced, and again this practice is not limited

[21] *Prosodie françoise,* 1763, quoted in Deloffre 1969, 140.

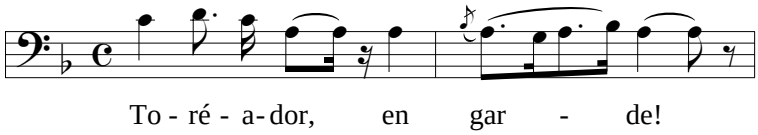
[22] " . . . all these happy endings leave a sound which still persists in the ear after the spoken word, as a harpsichord which sounds when the fingers no longer strike the keys." Quoted in Cornulier 1995, 36. Unless his dampers were poorly regulated, Voltaire must be referring to the afterlengths of harpsichord strings, between the bridge and the hitchpin rail. These are undamped and vibrate sympathetically.

to poetry, as a few measures later in *Pelléas:*



It also occurs in much popular music ("La vie en ros**e**").

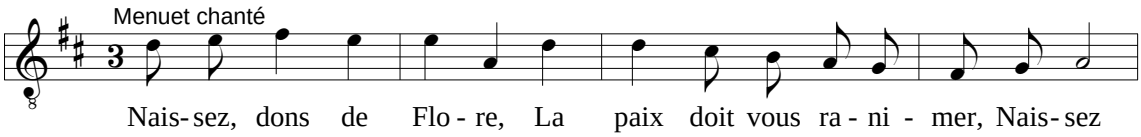
Line-final schwas may be subject to a widespread tendency to accent or lengthen finals in end-stopped verse (see p. 30 above), so that a syllable which is nonexistent in speech may bear a fairly heavy accent. The following can be marked *sempre con ritmo* without irony:



This kind of disregard of the word accent may be a special case—even in the Germanic languages, a prosodically unaccented syllable can bear the accent at the end of a phrase (see p. 30)—but French music, in fact, disregards the text accents, not with Hispanic abandon, but systematically.

What, exactly, is a disregarded accent? The accent of French speech is variable. The language has the option of accenting the beginnings of words (generally, the first syllable if the word begins with a consonant and the second if the word begins with a vowel). This kind of accent goes by such names as *accent oratoire, accent d'insistence, accent d'hesitation.* In certain speech registers it is so frequent that some linguists think that French may eventually become accented on the first syllables of word groups as a matter of course (Martinet 1980). In poetry, some theoreticians feel that it is a matter of performance only. Composers always have the option of setting such an accent, as in the first measure of the following, which also has the same word normally accented at the end of the line (from the prolog of Rameau's *Castor et*

Pollux):



But some syllables cannot receive an accent in speech. The most unambiguous of these are schwas which fall between syllables with non-schwa vowels, and clitics.[23] If any of these falls on an accented beat in music, we can conclude that the text accent is disregarded. As with Italian music, mismatch between musical and textual accent is most striking in strophic forms. This mismatch has received notice from metricians. Lote (1949–95) devotes much of his monumental work to it. Spire (1949, 418–421) tabulated mismatches in three passages from Berlioz's *Damnation de Faust* and in one passage from Debussy's *Pelléas et Mélisande* and found that 91% and 87% respectively of the text accents matched musical accents—approximately one in ten text accents map onto an unaccented note.

It is not unusual for poets who lack an understanding of music to complain that composers violate poetic conventions. Goethe's comparison of Zelter's and Schubert's settings of *Der Erlkönig* may be the best-known example. Benedetto Varchi, around 1560, issued a similar complaint in almost the same words (Lote 1949–95, 4:43); other Italians, such as Bardi and Doni, also wanted to reform the settings of verse. In the complaints of the French, however, there was a distinctively French characteristic, and this was that they claimed that their native poetic and musical techniques were

[23]Cornulier (1995, 244–45) lists the clitics as: the definite articles *le, la, les;* the indefinite and contracted articles *un, une, des, du, au, aux;* the possessives *mon, ma, mes, ton, ta, tes, son, sa, ses, notre, nos, votre, vos, leur(s)*; the demonstratives *ce, cet, cette, ces,* when they appear before a noun; *ci* and *là,* when postposed with a hyphen; pre-verbal *je, tu, il(s), elle(s), (l')on, ce, ça, nous, vous, me, te, le* (pre- and postverbal), *la, les, se, lui, leur, en, y, ne,* and *moi* and *toi* when they are connected to a preceding verbal imperative with a hyphen.

fundamentally flawed. Goethe had no criticism of what German music was capable of, he merely preferred one composer to another. The Italian reformers imported foreign (classical Latin and Greek) meters for certain types of lyric poetry, and they developed a new type of musical setting for them. What was uniquely French was the continuous series of attempts to reform the settings of native verse types.

The Dutch priest Issac Vossius, in 1673, started an early, somewhat bizarre, attempt at reformation (Lote 1949–95, 4:180–207). Vossius believed that French poetry was accentual, like poetry in his native tongue, and tried to regularize these accents in music, but he did not identify the hemistich-internal accents very well. Although Vossius' efforts were taken up by the great Dutch poet Constantijn Huyghens, they had no effect in France.

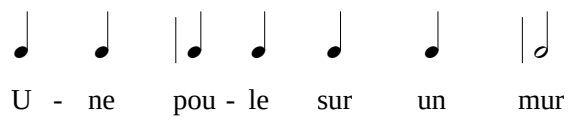
In the eighteenth century, perhaps influenced by the cult of rationality, French writers issued a series of polemics advocating the matching of text and musical accents (for a list, see Gouvard 1993, 46). It is not likely that nobody had noticed until that time that poetic and musical technique were fundamentally flawed; these grumblings probably represent the theorizing of *philosophes* and dilettantes such as J.-J. Rousseau, of whom Berlioz wrote in his *Memoires:* "[Il] croyait fermement avoir écrasé Rameau tout entier . . . avec les petites chansons, les petits flons-flons, les petits rondos, les petits solos, les petites bergeries, les petites drôleries de toute espèce dont se compose son petit intermède" (quoted in Spire 1949, 399 n. 342). Berlioz notwithstanding, the essentially anti-musical polemics of Rousseau *et al.* are worth noting, for they continue uninterruptedly until the present, and their sometimes strident views have found their way into modern reference works (e.g., Lote 1949–95, 1:XI–X; 4:5).

The work of Nicolas Étienne Framery (IV) may be taken as typical. Framery writes only of strophic music, and says that it is the responsibility of the poet to insure

that the accents match from strophe to strophe, not just at the ends of hemistichs, but also for subsidiary accents (*repos*) within the hemistich. He cites the *Marseillaise* as a good example to follow (IV, 15–18); although it has some faults in the prosody, the hymn is redeemed by the intensity of its patriotic sentiment. (Coincidentally, Dell [in Dominicy 1989, 120] uses the *Marseillaise* to illustrate non-synchronization of textual and musical accent; the second verse begins [showing the musically accented syllables in boldface]: *Que veut cet-**te** hor-**de** d'es-**cla**-ves.*)

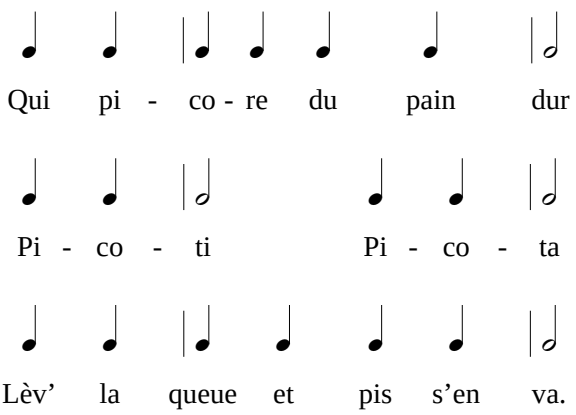
Not all efforts to reform French musical diction were disreputable. Lully apparently adopted the Italian recitative as the French *récit simple* (Palisca 1986), and later musicians such as Rameau,[24] apparently speaking of the *récit simple,* advocated the matching of textual and musical accent. (For textual stress and unstress, they used the terms "long" and "short," which were the only grammatical terms available to them.) But they did not speak of strophic verse—they did not advocate a reform of French verse metrics.

In spite of the efforts of dilletantes such as Rousseau and Framery, very little French verse is accentual. The most successful type of French accentual verse described in the literature (Cornulier 1988 and refs.) is the nursery rhyme, significantly called *comptine,* from *compter* 'to count'. French nursery rhymes follow the universal pattern (Burling 1966) of four lines with four isochronic (equal-timed) accents per line. It is not clear whether the accents are deployed hierarchically. Cornulier (1988,) transcribes a particular nursery rhyme as follows:[25]

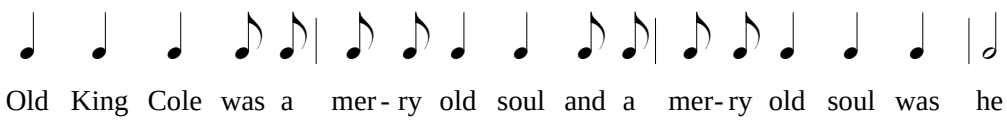


[24] *Traité de l'harmonie,* p. 162; quoted in Palisca 1986, 492. The idea that Rameau is speaking of *récit simple* is Palisca's.

[25] Very roughly: 'Henny, henny, in the yard / pecking at some bread so hard / Peck, peck, peck, sad to say, / Lifts her tail and goes away'.



which is the reverse of the English pattern, placing the strong accent at the end rather than the beginning, as in:



This issue can be sidestepped by transcribing in 2/4, but Cornulier does not discuss the hierarchy of accents. His point is that the musical transcription is misleading because it implies that the accents fall on the beginning of the poetic "measure" rather than at the end, and he presents an alternative notation.

It is possible (as he suggests) that he overlooks some of the subtleties of musical notation; at the same time, it is interesting that the native speaker of an end-stressed language should make this point—and repudiate the work of his linguistic ancestors who developed the musical notation in the first place. The nursery rhymes of the southwestern Sumatran language Bengkulu, printed in Burling 1966 and cited by Cornulier, are transcribed as explicitly end-stressed, and some lines realize the first rather than the last, accent of a line by a rest (the rest may be filled in with a hand clap), confirming the end-stressed pattern. It may not be a coincidence that the cipher notation used for music by the speakers of the prosodically similar (although not identical) languages of Java and Bali stresses the end of each note group, as if

we were to notate the last line of *Mary had a little lamb* 3 2123 3332 2321.[26]

A difference between French and English nursery rhymes, as Cornulier points out, is that the French nursery rhymes can disregard the linguistic accent. He cites as an example a variant of *Une poule sur un mur* with the imperfect form *picotait* in place of, and accented the same as, *picore.*

That French adult verse has never adapted an accentual metric seems indicated by Cornulier's (1983, 164) speculation that the English limerick might use a nursery-rhyme metric in order to throw its characteristic obscenity into greater relief. The limerick is accentual because virtually all English popular verse is accentual; there is no evidence that it adopted its metric specifically from the nursery rhyme. It might be fair to conclude, however, that accentual verse in French is rare and specialized; chanted slogans are the only other type which Cornulier mentions.

3.4.4 The poetic roots of declamation in music

A hoary tradition in French metric theory holds that verse is a "species" of music, a species defined by equally timed syllables and rhyme. The close connection between poetry and music has always been the subject of discussion. Some comparisons have not been particularly incisive, such as Point's (1534, 5^{r}) claim that music depends on five rules (not specified) while poetry depends on the five Latin vowels, but this particular "species" formulation goes back to Johannes de Garlandia (Lawler 1974, 6–7; according to Lawler, Johannes's citation of Boethian roots is not entirely accurate), and it appeared sporadically for some five hundred years after Johannes. Its last gasp may have been in one of J. J. Rousseau's *Lettres philosophiques,* cited

[26]Several notational systems introduced in the last century and early in this one used the Western method of placing the accented note immediately after a bar line. These were all short-lived experiments, developed under heavy influence from Western notation; some were not developed by practicing musicians (Sumarsam 1995, 113 and 136–41).

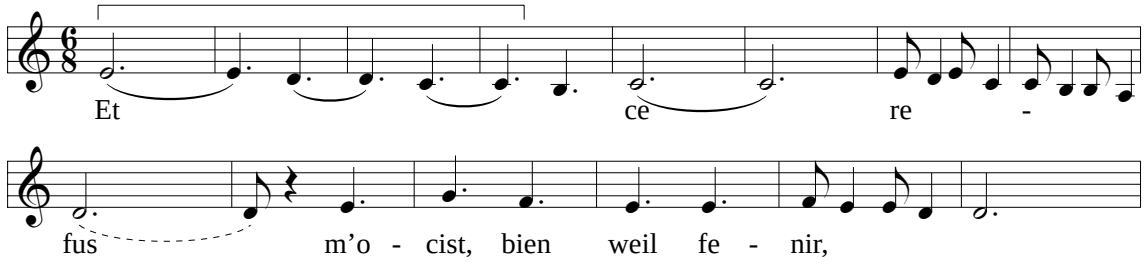
by Lote (1949–95, 7:26 n. 1): "La poësie est une espèce de musique."[27] The "species" formulation is put forth in several fifteenth- and sixteenth-century treatises, such as Jean Molinet's *Rethorique vulgaire* of 1493 and the anonymous *Art et science de Rhétorique* of 1524–25 which is largely a copy of Molinet (Langloit 1902, LXV–LXVI, 216, and 265), and it does not necessarily represent the rote parrotings of earlier authorities; it actually has some connection with contemporary practice, for the rhythmic systems of verse and music *were* identical. On a trivial level, this position is obvious: how could it be otherwise, given the prevalance of sung verse, especially in Johannes's day? But there are more fundamental similarities. One is that the syllable count of a French verse line is nearly always respected, whereas in Spanish and Italian the various poetic devices for normalizing the syllable count (ellision, dieresis, etc.) are routinely disregarded in musical settings.

The similarities go deeper. Two scholars have described characteristics of preclassic French verse settings in which the musical rhythms and the verse rhythms may differ—as is normal in the Romance languages, such difference are usually resolved in favor of the musical rhythm—but both derive from a single underlying verse metric. This metric dominates both poetry and music, although not all music: the reason that verse is a subset of music is that there are other musical rhythms, such as melismas and dances, which have nothing to do with these rhythms. Cornulier (1995, 111) opines that the great accomplishment of the classic period of French verse, as codified by Malherbe, was the liberation of verse from music.

Lote (1949–65, 1:242–5) describes one way in which the rhythms of pre-classic poetry and music relate independently to an underlying poetic meter. Ten-syllable

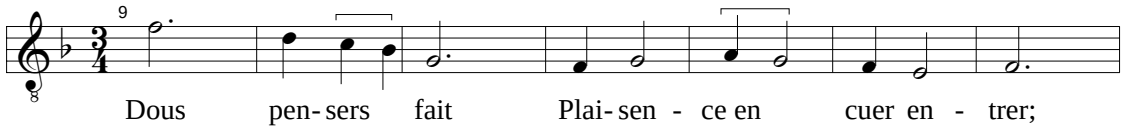
[27]The opposite statement, "La poésie ne doit pas être une musique," also attributed by Lote (1949–95, 7:17) to Rousseau—Lote points out the contradiction—is in fact attributed in Lote's source, Fauget 1932, 13, to Rousseau's opponent, Voltaire.

lines normally divide 4+6—theorists prescribe this division (Lote 1949–95, 1:234)—and music which sets them typically has a rest after the fourth syllable or, at least, sets the fourth syllable on a strong beat. Some—not many—poetic lines place the caesura at a different point, but the music sets them as if they divided 4+6 without regard to the sense of the text. In other words, the music follows the underlying poetic meter without regard for the surface rhythm. Lote's examples (1949–1964, 1:243), from Machaut, are highly suggestive, although they depend on the text underlay, a detail of performance practice we cannot assume. Lote's first example is perhaps the most convincing. Machaut breaks the line "Et ce refus m'ocist, bien weil fenir" after the fourth syllable although the text divides 6 + 4 :[28]



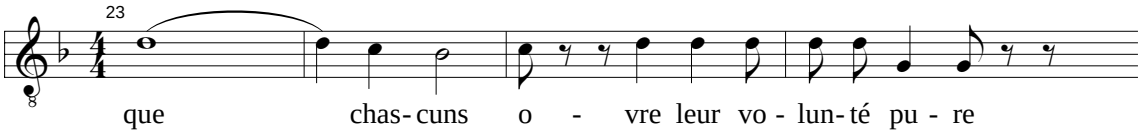
This ballade is strophic. Lote assumes, along with the editors of the modern editions, that the same text underlay would be used for all the stanzas. Here are a few more examples where the text underlay is less open to the possibility of adjustment.

In the chanson royal *Joie, plaisence et douce norriture,* Machaut breaks the musical line after the fourth syllable, although the text divides 6 + 4:[29]

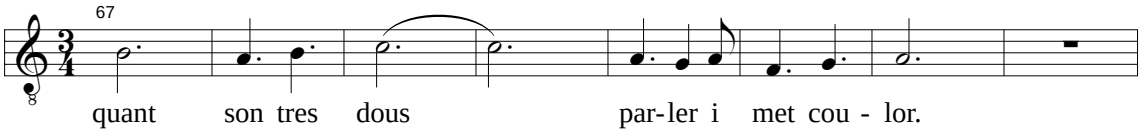


In the ballade *Fuions de ci,* Jacob Senleches maintains the 4+6 pattern in the music although it breaks a word:[30]

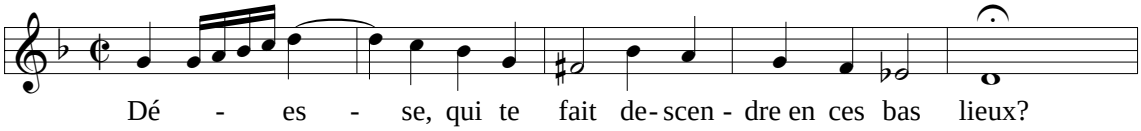
[28]From *S'amours ne fait.* Ludwig 1926, 1 (Lote's source); Schrade 1956, 3:1
[29]Schrade 1977, 1:107, and 3:37.
[30]Quoted from *Polyphonic music of the fourteenth century,* vol. 18, ed. Gordon K. Greene;



And in the anonymous motet *Se päour d'umble astinance/Diex, tan desir estre amés de m'amour,* in Ivrea and Chantilly, the musical setting of the following 6+4 line divides 4+6:[31]



One more example, cited by Lote (1949–95, 4:54–55), this published in 1600 by Pierre Bonnet, where the poetic line breaks irregularly ("Déesse, / qui te fait descendre / en ces bas lieux?") but the music divides the line at the alexandrine caesura 6+6:[32]



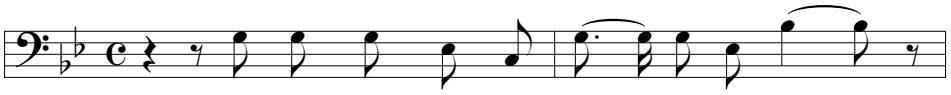
All of these examples are instances of the pan-Romance ability to disregard text accents, but the uniquely French practice is to disregard the accents systematically, not in the interest of imposing an alien metric, such as the Greek and Roman metrical schemes, but rather to set an autochthonous metric.

Irregular caesuras dwindled during the classic period, but poets could use the caesura as a simple touchpoint followed by an emphasized word, and the composer could write through the caesura if the sense of the text demanded it. Lote (1949–95, 6:361) gives an example from Lully's *Armide* (IV, 1), where the poetic line divides conventionally 4+6, but Lully emphasizes the word after the caesura, "Armide":

texts ed. Terence Scully. Monaco: Oiseau Lyre, 1988.

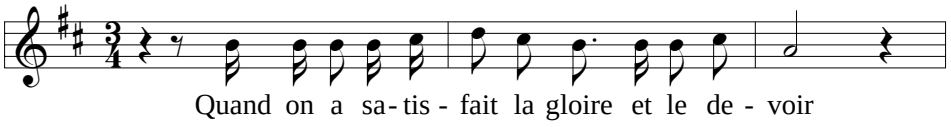
[31]Quoted from *Polyphonic music of the fourteenth century,* vol. 5, ed. Frank Ll. Harrison; French texts ed. Elizabeth Rutson. Monaco: Oiseau Lyre, 1968.

[32]Quoted, in Lote as here, from Gérold 1921, 55.



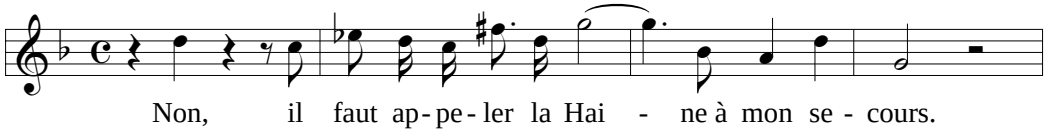
In this example, at least, poetry liberated itself from music, as Cornulier says, and music has also liberated itself from poetry. This example is not typical; it is the only one which Lote found in his examination of seven Lully operas. Far more frequently, Lote maintains, Lully observed the caesura at the expense of the sense,[33] but Lote's conception of the nature of the caesura may be too narrow.

Lote views the caesura as a *point de repos,* a pause which, given the prosody of the language, means a point of emphasis. But theorists have disputed much about the nature of the caesura (Cornulier 1995, 58). Scott (1980, 29) has a particularly subtle conception: he calls the caesura a "conventionalized point of attention," and this view makes many of Lote's perceived irregularities fall into place. For example, Lote divides a line from *Amadis* (I, 2): "Quand on a satisfait la gloire // et le devoir," and a reciter might indeed want to pause after "la gloire," but it is also clear that the caesura divides the line into two parts (after *satisfait*), and the second is further divided into two enumerative measures. The caesura places glory and duty on an equal footing, rather than making duty seem like an afterthought, as Lote's division does. Lully's setting captures this subtlety, respecting the caesura but also emphasizing the ends of the (poetic) measures in the second hemistich:



[33]Lote's choice of Lully as an example of French awareness is validated by the universal praise that Lully received for his settings of the language, not all of which was opportunistic (during Lully's lifetime) or formulaic, and it is also validated by the evidence of the settings themselves. This level of awareness is not surprising in an alert and observant foreigner—and Lully's alertness and powers of observation have never been questioned.

Many of Lote's examples of irregularly divided lines (1949–95, 6:360–364) are susceptible of a similar analysis. Lote's (1949–95, 8:111–137) major point is unexceptionable, however, and that is that composers in the eighteenth century treated the caesura much more freely than Lully did. One example Lote presents is J.-J. Rousseau's criticism of Lully for dividing a line from Quinault's libretto for *Armide* (III,2): "Non! Il faut appeler // la Haine à mon secours." Gluck, explicitly following Rousseau's criticism (Lote 1949–95, 8:83), set the line as follows:



Lote presents numerous examples which similarly disregard the caesura in the interest of textual expressivity, not only by Gluck and Piccini (non-French, although the latter followed a text marked up for the purpose by the librettist Marmontel), but also by native French speakers such as Rameau and Grétry. These examples, as Lote (1949–95, 8:148–153) says, are all exceptional. The rule is to observe the caesura. But the verse rhythm did not determine the musical rhythm as strongly as in previous centuries. Lote (1949–95, 8:190) concludes: "En somme, le XVIII^{e} siècle admet à la nécessité de pauses expressives ou qui aident à l'intelligence du text"—this point holds for both poets and musicians.

Boone (1987, 233–236) describes patterns of fifteenth-century French verse settings which correspond to trochaic and iambic verse in the Germanic languages. In the Germanic languages, the accent patterns of music and text coincide. In the Romance languages, they do not, and it is easy to see that in Boone's patterns, the musical patterns derive from underlying poetic meters in the same way that Lote's patterns do. One pattern, which is very much the less common of the two, applies to verse with an odd number of syllables in the line. Every other syllable is deployed

on a strong beat, beginning with the first. The other, more common, pattern applies to verse with an even number of syllables in the line; even-numbered syllables are deployed on strong beats but syllable number two is not regulated. Boone defines a "strong beat" as a beat falling on the level of the semibreve in 𝅝 and 𝅝. and on the level of the breve in 𝅜 and 𝅜.. Extra-metrical syllables, such as feminine endings and epic caesuras, do not figure in the description.

These two patterns can be subsumed under one rule, as follows: assign a strong beat to the last metrical (counted) syllable in the line, and then to every other metrical syllable moving leftward until the fixed caesura. In a ten-syllable line, the caesura is fixed on the fourth syllable, so this is the last syllable (moving rightwards) that is regulated. Eight-syllable lines do not have a fixed caesura poetically, but musically they break 4+4, so the fourth syllable can be considered a caesura for musical purposes. Lines with an odd number of syllables have no fixed caesura, so the entire line is regulated. This formulation differs from Boone's in that the fourth syllable of alexandrines is not regulated. Alexandrines are rare in early music—du Fay did not set any except in the anomalous *Le belle se siet au piet de la tour.*[34]

Boone's patterns can be subsumed under a different rule, more complex but intuitively more appealing.

> (1) Successive syllables cannot bear the accent.
>
> (2) Accent the final metrical syllable in the line and then every syllable capable of being accented, moving leftwards.
>
> (3) Optional: Accent the line-initial syllable, de-accenting the second syllable to conform with (1).

[34]As Hamm first pointed out, du Fay wrote only the second cantus part of that piece (Fallows 1994, 61). The 5+5 lines are not anomalous; they are typical of popular verse (Lote 1949–95, 1:215–220), but the combination of five- and six-syllable hemistichs within the same line is very odd. The lines are not set integrally—there is a good deal of text repetition, unusual in du Fay's works. Finally, the poetic forms of the lines are not handled consistently. Du Fay sets "Qui pleure et souspire // et mainne grant dolour" with an epic caesura, but the composer of the first cantus part elides "souspire" and "et."

This formulation makes no reference to the caesura and regulates the fourth syllable of alexandrines.

It is obvious that these patterns relate first to poetic meter and then, more deeply, to linguistic prosody. Poetically, they are exactly the "trochaic" and "iambic" of the Germanic languages: the iambic tolerates first-foot variations (trochaic substitutions, suppression of accent, and so on) quite easily, whereas the trochaic is much more rigid (see p. 23). This does not imply that the French "iambic" derives from Germanic; on the contrary, the variability of the first two syllables in iambic is very widespread and not confined to Germanic and French.[35] It prevents the verse (and the music) from invariably starting with an upbeat. Furthermore, there is no notion of a hierarchy of accents, as in Germanic accentual verse—or in music. The underlying principle is poetic, not musical.

The linguistic principle at work is alternating stress and unstress, a characteristic of poetic or musical declamation in French noticed at least as far back as the eighteenth century (Framery IV, 3–4). Verluyten (in Dominicy 1989) in fact maintains that this principle is basic to the language rather than merely a statistical tendency. In any event, the statistical tendency has not been questioned, and music has generalized this. As usual in the Romance languages, conflicts between music and text rhythm are resolved in favor of the former.

[35] In can be observed, for example in classical Greek (where the iambic metron [a double foot, the basic unit] is defined as $\breve{} - \breve{} -$, with the first syllable unregulated), and Modern Greek (which is accentual like the Germanic languages; trochaic substitutions are common in iambic verse).

4 Latin and Greek

Because of the importance of Latin and Greek poetic theory and practice to western Europe, a few words about them are in order.

Classical metrics were quantitative, based on duration. Many modern metricians disbelieve the statements of the ancient grammarians to this effect; Stetson's (1945, 71) mocking phrase "the delicate ear of the ancients" turns up frequently. Allen (1987, 132) quotes S. Chatman (1965, 43): "I do not deny that time is the medium through which meter flows, or even that length itself is a component of 'stress'; what I do deny is that the mind has some elaborate faculty of measuring and identifying time spans and that this is what it does in meter."[1]

The problem with this point of view is that is usually derives from experience with a few closely related (Germanic and Romance) western European languages, none of which have a prosodic system similar to that of the classical languages. We, who are accustomed to accentual and syllabic poetry, regard other systems somewhat uneasily. Nevertheless, durational poetry should pose no conceptual enigma. The principle of many verse metrics is the alternation between marked and unmarked syllables. The marked elements cannot be predictable, otherwise the poet would have

[1] Stetson's context is extremely belligerent:

> The stock notions of an "accent" which is pitch and nothing more, and of a rhythm which is quantitative and nothing more, are mere figments. Any rhythm however quantitative depends on stresses for its grouping; any rhythm however accentual has something of quantity, duration; that is due to the nature of movement. Pitch changes cannot group; the mere "prominence" or "differentiation" of a syllable cannot draw together the movement of a foot or breath group of which a stress marks the crest. "The delicate ear of the ancients" is fanciful sensory psychology. At least the utterances of the frogs have not changed and Aristophanes' choruses transcribe them.

With the possible exception of the frogs, which I have not investigated, all of Stetson's assertions are wrong, as the rest of the chapter shows.

nothing to work with. Germanic languages use stress, as the position of stress is not predictable vis-à-vis the end of the line. In modern Germanic languages, syllable weight cannot be used for marking in this way because it is not distinctive—that is to say it is predictable from other factors, including stress placement. For example, although English does have different vowel lengths (*not, naught, gnawed*), these lengths are not independent quantities but are predictable from the environment. In other languages, syllable weight, and specifically vowel length, cannot be predicted, and therefore can be used to mark syllables in a verse metric. Durational poetry can be observed in contemporary languages such as Arabic, Japanese, and Hungarian. As will become evident below, Japanese is prosodically similar to Greek, while Arabic and Hungarian, which have either fixed stress (Hungarian) or stress determined by syllable weight and word boundary (Arabic, with different varieties exhibiting different rules), are prosodically similar to Latin. Furthermore, most classical poetry was sung or chanted, and the idea of a metrically free melody with (relatively?) fixed durations does not seem at all uncomfortable (some performance traditions of Ambrosian hymns, or Serbo-Croatian or Mongolian epics for example).[2]

The differences between Latin and Greek meter are profound and important; they appear to devolve from underlying differences in the languages. It is not known what native Latin verse was like. Some examples of the native Saturnian meter survive, but they are corrupt and their interpretation is controversial. It would fit in well with the typology advocated in this study if the Saturnian counted syllables, regularizing accent at line endings—like present Romance meters—and some scholars advocate such an interpretation, but the evidence is slight and ambiguous (Thomas in Preminger and Brogan 1993, 1117).

[2]The foundations for all future discussion of these matters are Allen 1973, 1978, and 1987. Devine and Stephens 1994 is a state-of-the-art investigation of Greek prosody which includes a large number of cross-linguistic comparisons.

With this marginal exception, all surviving Latin meters were adapted from Greek. This adoption caused difficulties. For one thing, Latin contains many more heavy syllables than Greek, which means that Latin lines typically contain more spondees than their Greek counterparts. More fundamentally, Latin poets seem to have had a greater consciousness of word accent than Greek poets. There is a very strong tendency in Latin verse to accommodate the accent in the last two feet of the hexameter line, a tendency absent in Greek. Furthermore, both early and late Latin poetry display *iambic shortening,* which allows a syllable on either side of a stressed syllable in an iambic context to be considered short. Iambic shortening is another instance of the influence of word stress on the meter; it is part of a continuing process which makes accented syllables heavy and lightens open unaccented syllables. There is nothing like it in Greek.[3]

The reason for the difference may lie in the different underlying prosodies of the languages. Latin and Greek both differentiated between long and short vowels, and between heavy and light syllables, but there the similarity ends. There was another timing unit in Greek, the *mora,* described by theorists as equivalent to one short vowel or one-half of a long vowel. The mora subdivides the syllable; in Greek each syllable contains from one to three morae. Morae are necessary to describe place of the pitch accent. Accented long vowels could bear the pitch on either the first or the second mora, thus (representing long vowels as double): [eé] or [ée], corresponding to a rising pitch (acute) and falling pitch (circumflex) respectively. Orthographically these were ή and ῆ. Stressed short vowels, of course, could only be acute [é], orthographically έ. (This description deals only with citation forms. Certain adjustments were made in

[3]Classical grammarians, and following them some modern scholars, have very complicated explanations for iambic shortening, for which see Pulgram 1975, 172–79. The complications arise from an effort to describe meter entirely in terms of syllable weight, as in Greek, and a corresponding disinclination to deal directly with word stress.

context; their phonetic realization is a matter of dispute.)

The situation is similar in Japanese, a language with the advantage of being much more accessible to contemporary observers than classical Greek. Japanese pitch assignment also works at the mora level (Pierrehumbert and Beckman 1988, 118–26). In both Greek and Japanese, the location of the accent is unpredictable (although subject to certain limitations). Japanese poetry counts morae; in fact normal (non-technical) Japanese does not even have a word for "syllable" (McCawley, 131). (The term *onsetsu* is usually translated as "syllable," presumably because there is no common word in English for "mora.") The "syllabic" component of the Japanese writing system is really "moraic." The word *ippon* 'one', for example, has two syllables (ip-pon) but four morae (i-p-po-n) and, when written in so-called syllabics (the word is normally written with Chinese characters), has four characters (Shibatani in Comrie 1987, 868).

Japanese verse counts morae and disregards accents in exactly the way that Chatman denied is humanly possible. Light syllables have one mora and heavy syllables, which can end in either a long vowel or a consonant ([n] is the only syllable-final consonant allowed in classical poetry), have two. The number of morae is indicated at the beginning of each line in the following:

5 shūtome wa
7 tome no jibun no
5 ishugaeshi[4]

5 inu no kuso
7 dan dan ato e
5 īokuri[5]

Greek was a mora-timed language, which means that the mora was the predom-

[4]Romanized text (slightly normalized) and translations from Carter 1991, 413. 'The mother-in-law / takes revenge for her own time / as daughter-in-law'.

[5]'"Dog shit ahead!"— / so the word gets passed on / back down the line'.

inant rhythmic unit, and it is no more unreasonable to find mora-timed verse in Greek than to find stress-timed verse in a stress-timed language such as English or syllable-timed verse in a syllable-timed language such as Italian. A mora-counting verse is purely quantitative and, unlike Latin verse, does not tend to regularize to word accents.[6]

Allen points out that the mora is an artificial construct, that it does not correspond to duration. "As is recognized by Dionysius of Halicarnassus . . . the light first syllable of ὁδός is of less duration than that of στρόφος . . . " (Allen 1987, 110). True, but irrelevant. The syllable also does not correspond to duration, but for metrical purposes various languages regularize its duration, as can be easily seen from the musical setting of a language with a different syllable structure from our own. Consider the following stanzas by Stefan Witwicki (the first and fourth stanzas of *Czary*):

> To są czary, pewno czary!
> coś dziwnego w tym się święci;
> dobrze mówi ojciec stary,
> robię, gadam bez pamięci.
> [. . .]
> W dzień się myślą, przy niej stawię
> w nocy kształt jej biorą mary;
> ona przy mnie w snach, na jawie:
> jestem pewny, że to czary![7]

In a sample reading by a native speaker of Polish, these syllables ranged in length from less than 200 milliseconds for syllables with a single consonant to over 500

[6]The above is something of an oversimplification: Greek was both mora- and syllable-timed (see p. 90), and Greek verse took into account both morae and syllables. See below, p. 93.

[7]'This is spellcraft, surely spellcraft! / Something strange will happen here; / My old father is right when he says / I'm acting and speaking out of mind. // During the day I stay with her in thought, / At night she appears, like a ghost; / she is with me in my dreams and when I am awake; / and I am sure this is spellcraft!'.

milliseconds for syllables with complex consonant clusters.[8] The length of the pre-vocalic consonant clusters is particularly striking to the ear of the English speaker. Nevertheless, for musical purposes the syllables are considered to be equal. Chopin set this text at the rate of one syllable per eighth note.

The conventions of "mora" and "syllable" are not, in fact, arbitrary. The timing of the syllable does not begin until the first vowel, which is the element that carries the pitch. This situation is automatically expressed in the terminology of non-linear phonology which divides the syllable into an optional onset (pre-vocalic consonants) and a rime (sometimes "rhyme"); the rime is then further divided into the nucleus (vowel), which is the highpoint of the syllable, and an optional coda (post-vocalic consonants). The primary division is between onset and rime; for verse-metric purposes, onsets are extra-metrical. Moraic verse is timed analogously.

Neither Greek nor Japanese is purely moraic; both have syllabic components. In fact, the evolution of the two languages may have gone in opposite directions. Pre-classical Greek may have been purely moraic; modern Greek is syllabic. Classical Greek may represent a stage where syllabic components are beginning to develop. In standard Japanese, on the other hand, the moraic component may be a recent development, as there are geographically peripheral varieties which are wholly syllabic (Devine and Stephens 1994, 155).

We have no information on the Greek stress system. Allen assumes that stress occurred independently of the melodic accent, but stress might have been one *expression* of a melodic accent. A distinctive pitch is typically one element which

[8]Some sample measurements (in milliseconds): *świę-* 429, *bez* 179, *W dzień* 426, *my-* 200, *mnie* 453, *w snach* 568, *ja-* 192. These measurements made on home equipment are, I hope, accurate enough to make the point that syllables differ in length, but they should not be taken too literally. My thanks to Wojciech Typrowicz for reading and translating the poem.

distinguishes a stressed syllable in stress-accent languages; a pitch-accent language simply differentiates between two or more pitches or pitch contours on the stressed syllable. The loss of a pitch accent would thus mean only the loss of a pitch distinction on a stressed syllable, not the shift of the stress to a previously pitch-accented syllable. (See the extended discussion in Devine and Stephens 1994, 215–23.)

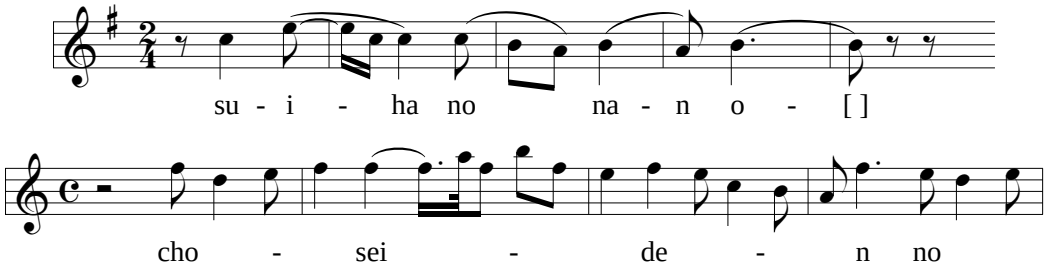
This association of pitch with stress seems indicated by other Indo-European languages which distinguish pitch. The stress systems of Greek's sister languages are unknown, although Vedic Sanskrit (Whitney 1888, 28) and Old Slavic (Carlton 1991, 187) had pitch accents, but in the modern Indo-European languages which distinguish pitch, only the stressed syllable carries the pitch accent. Swedish and Norwegian require two syllables to carry the contour pitch. The other languages express pitch only on the stressed syllable; thus Serbo-Croatian (Carlton 1991, 331) and the tonal varieties of Slovene (Lencek 1982, 163–65), Lithuanian (Senn 1966, 74–77), Latvian (Gāters 1977, 24), and Panjabi and Lahnda.[9] Many of these languages have geographical varieties which lack distinctive pitch, such as the Doric dialect of (ancient) Greek. Only the Slavic and Baltic languages have a possible historical continuation of the Indo-European pitch system, but all these languages may indicate some kind of typological similarity—these are the ways in which Indo-European pitch systems tend to work.

Many non-Indo-European languages, however, do have independent pitch and stress systems. Allen cautiously hypothesizes such independent systems for Greek

[9]The situation in Panjabi is complicated. There are three tonal levels (high, mid, low), while the other Indo-European tonal system distinguish only two levels. The mid tone is unmarked. The low tone can be expressed only in stressed syllables. This restriction does not hold for the high tone, but in some varieties of Panjabi, high-toned syllables do tend to attract stress, a situation which strengthens the typological argument (Bhatia 1993, 343-45). In the varieties of western Panjabi known by the blanket term Lahnda, the northern (Hindko) types have two tones (Shackle in Asher and Simpson 1994, 4:1892). I have no information about the southern (Siraiki) types.

(1987, 131–3), and this position has been supported in more recent studies. On theoretical grounds, Hayes (1995, 49–50) allows the mora as a pitch-bearing, but not a stress-bearing, unit. Devine and Stephens (1994, 208–11) point out that classical descriptions mention pitch but not loudness (but, by the same token, many casual descriptions of modern English stress mention loudness to the exclusion of pitch or duration), and argue that Greek had independent pitch and stress, such as occurs in (their list) Chamorro, Welsh, Onondaga, Danish, certain types of Scottish English, and Malayalam. However, none of these languages have *distinctive* pitch (that is, utterances differentiated solely by pitch), so the parallels are not close. Devine and Stephens suggest a parallel with Japanese (1994, 211-12), which also has a feature called ACCENT linked with pitch; exactly what is meant by "accent" is a matter of debate, as in English—it does not correlate with intensity any more than English stress does. Although Devine and Stephens say it is a "pure pitch accent," the studies they cite point to adjustments of length and voicing to differentiate accented from unaccented syllables. It may be that Japanese (and Greek) accents *sound* louder for a number of complex acoustic and psychological reasons, just as in English (see p. 7). All these authorities are careful to hedge their arguments; there is no real evidence either way. The independence of pitch and stress in Greek remains an open question.

Which brings us to music. In Japanese music, each mora is set individually (McCawley 1968, 131), much as we set syllables individually. Two examples, the first from Malm 1986, 70, and the second from Adriaansz 1973, 276:



The Japanese practice raises the question of whether Greek music might have had a moraic component. In brief, the answer seems to be no, that Greek music was purely syllabic. Although the accentual systems of the two languages have many similarities, the verse metrics are different. Greek verse was based on syllable weight, the binary distinction of heavy and light, not a simple mora count; a super-heavy syllable such as [-ōn], which had three morae, counted the same as a two-mora heavy syllable.

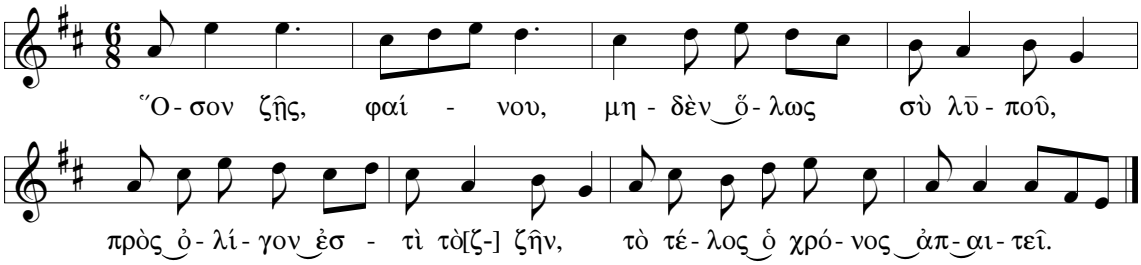
This difference in verse is not the only source of difference in the two musics. In Greek verse, unlike Japanese, all morae cannot be set to music, because many of them cannot carry pitch. In the word ἵππον 'horse-ACC', the second mora is a [p], which cannot be set to a musical note. Japanese verse avoids this problem by forbidding words such as [ippon] with a moraic [p]. However moraic [n] *can* carry a pitch and, assuming the word after ἵππον begins with a consonant (Greek syllabification generally disregards word boundaries), could conceivably receive its own musical note. The most likely candidates for this treatment are syllable-final resonants, that is [-l], [-r], [-m], [-n], and [-ŋ] (the final sound in *sing*). The question, then, is whether Greek music set individual morae as far as possible, as in Japanese music, or whether syllable-final consonants were treated as in Italian, where they are realized by shortening the previous vowel (Colorni 1970).

Most of the surviving Greek music fragments date from after the loss of distinctive vowel quantity, which Allen (1987, 94) dates to the second or third century A.D. on the basis of spelling errors but (unfortunately—most of the fragments are papyri) to the second century B.C. in Egypt, where he suggests it is a regional feature.[10] Stress- and syllable-counting poetry do not survive from before the fourth century; obviously

[10]Due to Egyptian = Coptic influence? In Coptic, vowel length was apparently determined by the nature of the syllable (open or closed), but there were exceptions, some for historical reasons, and it is not clear whether the Egyptians before the Christian era would have had trouble with the Greek length distinctions (Gardiner 1957, 428–33).

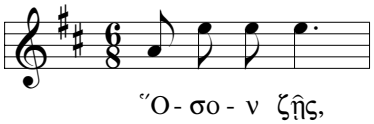
the classical poetic forms were maintained artificially long after the features upon which they depended had disappeared from contemporary speech. Perhaps it is not preposterous optimism to hope that some features of classical music were maintained as well.

The ambiguities inherent in the problem are well illustrated by the best-known piece of Greek music, the Song of Seikilos, Pöhlmann 18, inscribed in the first century A.D.:[11]



All of the heavy syllables are set as long notes or several short notes; all of the light syllables are set as single short notes. The first syllable of ἐστὶ, which is long, is divided into two notes, but the second mora [s] cannot carry a pitch. Presumably, it was performed on an extension of the previous short [e], with a closure at the end to prevent the vowel from sounding like a long vowel, similar to the way in which the Italian word *ros-so* can be sung with a melisma on the first syllable. The second syllable of the first word, ὅσον, is also heavy, with a short vowel plus a moraic [-n]. This may have been performed in the same way, with a lengthening of the short vowel followed by a closure for the consonant, but [n] can bear a pitch, and it is also possible that the performance was something like:

[11] 'While you live, shine forth / do not be sad at all. / We have only a little while to live; / time demands the end [of life] in repayment'. Trans. Anderson 1994, 224. Syllabification is indicated in the transcription so that syllable weight can be easily seen. E and ο are always short; η, ω, diphthongs, and vowels with a circumflex are always long. Ambiguous α, ι, and υ are here marked with diacritics. Z, ξ, and ψ are double consonants, so syllables preceding them are heavy. The numbers refer to Pöhlmann 1970. Unless otherwise indicated, all transcriptions and secondary information are from this work and West 1992.



as happens in Japanese music.

The notation of the Delphic paeans, composed and inscribed on the wall of the Athenian treasury at Delphi in 127 B.C., argues against this latter possibility. The notation does not indicate rhythm directly, but heavy syllables which have two-note melismas are indicated by doubling the vowel, and this notation is used not only for long vowels, such as ΤΑΑΣΔΕ (= τᾰ́σδε), Pöhlmann 19, line 5, but also for short vowels in closed syllables, such as ΔΕΕΛΦΙΣΙΙΝ (= Δελφίσῐ̆ν), Pöhlmann 19, line 6. Are these syllables treated differently depending on whether they end in a resonant or not? It is convenient to use symbols for the kinds of syllables: V̆R for a syllable ending in a short vowel plus a resonant, V̆C for a syllable ending in a short vowel plus a non-resonant consonant, and so on.

Devine and Stephens (1994, 192–94) maintain that melismas are more frequent in V̆R than in V̆C syllables, and that the difference is statistically significant. The present conclusions do not agree with theirs; but they are extrapolating from music in order to describe features of Greek speech, whereas the present study remains with the music, so the conclusions are not directly comparable.

One problem is that their statistics cannot be conclusive. They do not indicate how they classify superheavy syllables—that is, syllables which end in long vowels and consonants V̄R and V̄C. Furthermore, there is a residuum of syllables which cannot be classified, for example KYYNΘIAN.[12] Furthermore, syllabification is not always fixed but is, at times, up to the discretion of the poet: the first syllable

[12]The word was not native Greek; it could be either Κῠ̆νθίαν or Κῡνθίαν (Joseph in Comrie 1987, 412). At least one other ambiguous, non-native word occurs three times in the two hymns, namely various forms of Παρνᾰ̆σσός (classically Παρνᾱσός).

of τέκνον could be either light [te-knon] or heavy [tek-non]. In practice, the poet's syllabification is clear from the meter, about which more in a moment. Any statistics must involve a considerable margin of error over a fairly small number of samples.

First, we consider the clearest cases. In Pöhlmann 19, there are approximately 18 V̆R syllables of which 4 have melismas and there are approximately 15 V̆C syllables of which 1 has a melisma.[13] The difference is not very impressive compared to the 27 melismas on long vowels. In Pöhlmann 20, ignoring the purely syllabic final section in aeolic meter, there are approximately 26 V̆R syllables of which 5 have melismas; and there are approximately 23 V̄R syllables of which 3 have melismas.[14] Again, not an impressive difference, considering that two of the V̆R melismas are on the same word (ἀμβρόταν and ἀμβρόται).

However, we can also consider all heavy syllables in both pieces, those with long vowels as well as those with short vowels. The transcriptions of the pieces in Pöhlmann and West are perfectly regular and resolve nearly all the ambiguous weights. Virtually all of the heavy syllables transcribe with long notes or two-note melismas, and light syllables transcribe with short notes, while maintaining a regular meter. When thus transcribed, of course, the coincidence of V̆R and V̆C is perfect. There is thus no evidence that V̆R and V̆C were performed differently.

One final question about Greek music—how far was the pitch accent respected in the music? Certainly the pitch accent was not respected in strophic music: there was no accentual correspondence between strophe and antistrophe. Some authorities feel that in the fifth century the pitch accent was disregarded in music generally (Gentili

[13]The melismatic syllables and their line numbers are: ΔΕΕΛΦΙΣΙΙΝ 6, ΜΑΑΝΤΕΙΕΙΟΝ 8, ΛΩΤΟΟΣ 14, and ΓΕΕΝΑΝ 27.

[14]ΑΑΓΛΑΟΣ (this a reconstruction by Pöhlmann) 8–9, ΑΑΜΠΕΞΕΙ 12, ΚΥΥΝΘΙΟΝ (assuming Κῠνθίαν) 13, ΠΡΩΡΟΚΑΑΡΠΟΝ 13–14, ΑΑΜΒΡΟΤΑΝ 18, ΑΑΠΛΕΤΟΥΣ (the last two syllables—not relevant here—reconstructed by Pöhlmann) 24, and ΑΑΜΒΡΟΤΑΙ 25.

1988, 12–13; Anderson 1994, 219–20), to which may be added the footnote that in the typologically similar pitch-accent Scandinavian languages (see p. 91), the pitch accents play no role in musical settings, and they are conventionally suppressed in the (spoken) recitation of verse. There is also the possibility that strophic and nonstrophic verse may have been treated differently. Devine and Stephens (1994, 166) write that "[I]n the Greek settings that show any respect for the accent, mismatches between melody and accentuation are rare." The restriction of the first clause eliminates strophic verse; and Devine and Stephens conclude that music generally followed the pitch accent in nonstrophic verse and disregarded it in strophic verse. Thus also Allen 1987, 118–20, and West 1992, 198–200. A possible parallel might be Italian music, which tends to respect the stress in nonstrophic music more than in strophic music. However, as Devine and Stephens point out, their conclusion "cannot automatically be extrapolated back to the music of the pre-Hellenistic period" (1994, 169). It is not known when the pitch-accent system was replaced by a stress-accent system in living speech; this may have occurred as early as the fifth century in Attic (Devine and Stephens 1994, 215). All of the strictly musical evidence, therefore, may date only from a period when the pitch accent was not maintained in living speech. Anderson rightly calls the correspondence between pitch-accent and music evident in the Delphic paeans "archaizing" (1994, 219–20).

Could Latin be described as a mora language? It is possible that the long-short vowel contrast is encoded in terms of morae; Jackobson and others have advocated such an analysis[15] but their position is convincingly refuted by Allen. Most scholars feel that the contrast is a matter of syllable weight. Hayes (1995, 50–54) encodes syllable weight on the mora level in order to avoid the need for examining the

[15]See the refs. in Allen 1973, 16.

constituents of the syllable, but he expresses misgivings about his analysis, stating specifically that his theory does not depend on this encoding. In any event, there is no need for the concept of mora as there is in Greek and Japanese, for accent placement; indeed, Jacobs (1997) shows that Hayes' moraic analysis fails to account for the accentuation of enclitics.

In view of the still-repeated myth that classical Latin had a pitch accent (e.g., Väänänen 1981a, 32; Brogan in Preminger and Brogan 1993, 5; Scott in Preminger and Brogan 1993, 440), it is worth reiterating that it had a stress accent only, as Allen (1973, 151–54) shows with the following evidence: (1) The pitch system described by the Latin grammarians agrees with that of Greek down to the smallest detail. It is inconceivable that two so different languages could have agreed this closely—far more closely than, say, modern Swedish and Norwegian—"and we can only assume that the grammarians have slavishly misapplied the Greek system to the description of Latin." (2) One or two grammarians do, in fact, mention a stress accent. (3) It may be a universal that languages which have a melodic accent and a contour pitch on a single syllable, such as the Greek circumflex, are mora timed (as Greek) rather than syllable timed (as Latin).

Two other of Allen's points are perhaps less urgent. They are (1) historical deletion of unaccented syllables in various periods of Latin, and (2) coincidence of stress and meter in classical Latin verse, especially in the final two feet of each line in hexameter. These points assume that any putative pitch accent in Latin would have been independent of the stress accent, not a very secure position from which to argue (see above, p. 90).

There is one further indication that classical Latin did not have a pitch accent. Pulgram (1975, 116) argues that educated Romans may have affected a Greek intonation. He presents very little evidence for this affectation, but it is instructive to see

how it might have worked. In Greek, the type of pitch accent (acute or circumflex) was generally predictable from the vowel length and the placement of the accent. The only major exceptions were words in which the accent fell on a long vowel in a final syllable (including monosyllables). Distinctive pairs such as φώς 'man' versus φῶς 'light' were rare.

In Latin, the number of monosyllables with long vowels is very small: *dīc, rēs,* and a few grammatical particles. (Note, however, that *hic* and *hoc* had short vowels. A heavy syllable is needed in order to scan correctly in verse, but the original forms doubled the consonant: *hicc* and *hocc* [Allen 1978, 75].)[16]

The number of Latin polysyllables accented on the final long vowel is also extremely small. All of them derive from contraction or deletion of a final syllable. Fouché (1952–66, 2:126–27) lists: *adhūc, illāc, illīc, illūc, istūc, etc.,* with reduction

[16]These are still marked in some dictionaries, such as Traupman 1966, with long vowels. Simpson (1959) marks *hōc,* but *hĭc,* evidently recognizing a problem, but arriving at the wrong conclusion.

Incidently, Allen (1978, 75) is wrong about the pronunciation in Shakespeare's England; he writes:

> There is a passage in *The Merry Wives of Windsor* (Act IV, scene I) where Sir Hugh Evans is testing the Latin of his pupil William Page:
>
> > EVANS: What is he, William, that does lend articles?
> > WILLIAM: Articles are borrowed of the pronoun, and be thus declined: Singulariter, nominativo, *hic haec hoc.*
> > EVANS: Nominativo, *hig hag hog.*
>
> After further exchanges, Mistress Quickly objects: "You do ill to teach the child such words. He teaches him to hick and to hack, which they'll do fast enough of themselves." Which seems to suggest that in Shakespeare's time *hic* and *hoc* were pronounced with short vowels.

The spellings *hick* and *hack* carry no information about the length of the vowel; it is arbitrary to maintain that *hick* represents a short vowel *hĭc,* while *hack* represents a long vowel *haec.* Mistress Quickly was not a phonetician. However, Evans' Welsh-influenced pronunciation clearly indicates long vowels, since Welsh [k] would be maintained after a short vowel, but change to [g] after a long vowel (Pilch 1975, 91).

of the deictic particle *-ce* > *-c;* the imperatives *abdūc, addīc, calefāc,* with deletion of a final *-e;* contracted nominative singulars of the type *Aripnās* < *Arpinātis, cujās* < *cujātis, nostrās* < *nostrātis;* the second-person singular present indicative *calefīs;* and the contracted third-person singular perfects *-āt* < *ūit* and *īt* < *īuit.* These would already be marked as exceptional, since they do not follow the law of the penult. In short, the functional load of a pitch accent in Latin would have been virtually zero. Not only is there no evidence for a distinctive pitch accent in the language, but there *could* have been no such accent.

PART II:

Specifics

5 The pronunciation of Latin in medieval Paris

The period under discussion is the century centered on the year 1200; hereinafter "Gothic." Parisian Latin from 1150 to 1250 will be called "Gothic Latin." These terms are for convenience only.[1]

This chapter is highly tentative, partly because the need to prevent it from bloating dictated an examination of only a small amount of primary source material;[2] a more interesting reason stems from the nature of phonological theory, which for the past thirty years has dealt with various abstract levels instead of what linguists have derided as "uninteresting" surface phonetics. Linguists are more interested in how a phonological system works than in how it sounds. One unfortunate result is that many philology manuals and textbooks, which are not concerned with linguistic theory, are necessarily based on obsolete linguistic studies. Reenen (1994, 36) listed three overlapping categories of problems for these works: "Handbooks repeat each other. . . . Historical linguists with an interest in data rely blindly on handbooks. . . . Text editors tend to adapt editions of medieval texts to the handbooks." For Old French, it is common to come across pronunciation recommendations based on Thurot (1869) and Pope (1952). This is equivalent to an essay on Bach chronology, written by a non-musicologist for a lay audience, based on Spitta and on Blume's *MGG* article. The present chapter indicates the kinds of things we know or can be reasonably expected to know, and how we know them. It is not a cookbook.

[1] With thanks to Edward Roesner for suggesting them.

[2] For the theorists examined, see p. 108. In addition to the poems contained in other works cited *passim,* I examined the poems by Hugo of Orléans ("Primus") in Langosch 1954, the conductus in Knapp 1965, the poems by Adam of St. Victor in Vecchi 1953, and the poems attributed to Adam in *Analecta hymnica medii aevi* (cited by index number from Lütolf 1978). Fassler (1984) dates Adam to the half-century preceding the Gothic period, but the attributions in *Analecta hymnica* are stylistic, and stand a reasonable chance of being from the right place and time.

5.1 The evidence

A large and varied body of evidence indicates that in the centuries following the Gothic period, the French pronounced Latin as if it were French.[3] This position may be a useful point of departure for investigating the earlier Gothic Latin, but it is no more than that. The reasons are sociological rather than purely linguistic—literacy in the vernacular, and hence interference between it and Latin, became increasingly prevalent following the Gothic period. (This was a general European phenomenon, perhaps linked with the increasing number of readers among the laity [Selig 1993, 16].) One result was the proliferation of etymological (or would-be etymological) spellings in post-Gothic French. According to Beaulieux (1927b, 151), these began right at the end of the Gothic period and increased in number over the succeeding centuries. The increasing prestige of written French after the mid-thirteenth century must have affected the pronunciation of Latin, so we cannot automatically extrapolate backwards from the post-Gothic to the Gothic.

No one disputes that Gothic Latin pronunciation was constructed on the base of the vernacular, but it was not necessarily identical with that base. Foreign-language learners today have an "accent" due to the preponderant influence of their native language, but they may also imitate some foreign pronunciations successfully. Walsh (1986, 211) maintains that Latin "could only have been pronounced with vernacular phonetics . . . [without] access to native speakers from the Augustan age or detailed and accurate phonetic descriptions of Classical pronunciations." But Augustan phonetics are a red herring. Ancient and medieval grammarians display no awareness that the sounds of their language had changed over time, although they were well

[3]Beaulieux 1927b, 119–26 summarizes the kinds of evidence. Hardly any modern scholar refrains from quoting the sixteenth-century pun (by Étienne Tabourot, also "Tabouret," nephew of the author of *Orchésographie*), *habitaculum:habit à cul long.*

aware of geographical and social variants.

Medieval Latin pronunciation had many features deriving from antiquity even though they do not follow the spelling. This fact is not surprising since Latin was taught orally (Murphy 1980, 172), so that the traditions of the spoken and written language were, to a certain extent, separate, as they are in vernacular languages. Nor is this fact difficult to reconcile with Wright's (1982) position that the tradition of Latin pronunciation in post-Carolingian France derived from reforms instituted by Alcuin of York under the patronage of Charlemagne and adopted gradually over the next two centuries. According to Wright, Alcuin recommended a facilitative spelling pronunciation such as that used in his native England and presumably similar to that used in the eastern, German-speaking, part of Charlemagne's empire. Alcuin's most important recommendation was that every letter or digraph be pronounced, and this recommendation may have been accepted in general (except for *h*), but many of Alcuin's more specific recommendations, such as [ke] and [ki] for *ce* and *ci,* were not taken up precisely because change in the spoken language had made them difficult for French speakers. (See below, p. 135, for *ce* and *ci.*) Furthermore, Alcuin does not discuss accent placement, where some of the most interesting differences between ancient and medieval pronunciations are to be found. Norberg (1958, 1968, and 1985) has described accentual traits which are identical in Latin poetry from everywhere in Europe. It is no exaggeration to speak of an orally transmitted tradition of Latin pronunciation, modified by the local vernacular, but deriving ultimately from antiquity. The tradition was broken when increasing literacy in the vernacular led to a pronunciation of Latin according to vernacular spelling conventions.[4]

[4]I do not know who introduced the erroneous idea—it may have been Erasmus—that written Latin represents an early and coherent form of the spoken language. In fact, "classical" Latin was an artificial creation. One example will illustrate. In the earliest Latin inscriptions there are spellings such as *cosol* and *cesor,* representing the historical loss of

Even if the claim that Gothic Latin was pronounced like French were unobjectionable, a knowledge of Old French phonetics would not be enough in itself to detail how French speakers pronounced Latin, because the French writing system underspecified some sounds (*o* represented two sounds, *e* represented four), and it is not self-evident how the French would have mapped these onto the Latin orthography. To take an example from modern English, it cannot be predicted *a priori* whether the first vowel in *sanctus* would have the [æ] sound of *cat* or the [ɑ] sound of *father,* and in fact both sounds have been used in different places and times in the English-speaking world. (Neither one approximates more than roughly the classical [a]; see the note on p. 146, for a description of this sound.) So, the assumption that Latin was pronounced like French cannot solve the matter.

Even if it could, it would not be safe. For example, the Old French accent *tended* to fall on the final syllable of the word, but that does not mean that the French would have accented Latin on the final syllable. The accent of native words in modern German *tends* to fall on the first syllable, but one does not hear a modern German reciting "Láudamus te. Bénedicimus te. Ádoramus te. Glórificamus te"; nor do German musical settings indicate such an accentuation. The reason that Germans do not stress the first syllable of Latin words is that initial accent is not obligatory in German. There is a considerable minority of German words not accented on the first syllable—words with unstressed ("inseparable") prefixes (*befállen, verdérben*), loan words (*Musík, Natúr*), and hybrids with stress-attracting suffixes (*lautíeren* 'to read

n before *s* (it was also lost before *f*) with lengthening and presumably nasalization of the preceding vowel. The *n* was later restored in spelling. Some modern authorities suggest that it *may* have been pronounced in affected speech, but there is no evidence that it was, and it certainly was not pronounced in everyday speech: there are Pompeii graffiti without the *n*, similar misspellings feature prominently in lists of spelling errors compiled by ancient grammarians, and the *n* is generally absent from Romance (Allen 1978, 28–30). Modern spelling-pronunciations such as [konsol] may be pedagogically useful but they correspond to no unaffected pronunciation in antiquity.

phonetically'). The predominant classical Latin accent pattern, as prescribed by the grammarians and hence very well known to the Gothic French, is stressed penult followed by unstressed final, which is also the pattern of a considerable minority of Old French words, and the accented syllables prescribed for Latin usually correspond to the accented syllables in their often very recognizable French descendants. We cannot even assume that the French would have had any kind of bias towards end-stressing. According to Banitt (1972, 1:47–48), Hebrew in thirteenth-century Champaigne was penult stressed, a curious fact as classical Hebrew was predominantly end stressed, and this pattern would have been obvious to any literate Jew (accent placement is indicated in punctuated scripture). Antepenult stresses may also have been known to Old French speakers from compounds such as *chante-je,* which were much more common than in the modern language (although Morin [1991, 5]) asserts that the stress would have moved one syllable rightwards before enclitic *je*). A few Latin loan words in Old French may have had antepenult stress (*angele, virgene*; Pope 1952, 230; Walker 1981, 24–5), which is one piece of evidence that the classical stress position was maintained.

All languages have obligatory phonological rules, and those for Gothic French would have affected Gothic Latin. To illustrate, modern German has a rule which realizes word-final /d/ as [t], and this rule is obligatory, affecting every item in the vocabulary. German speakers may not be aware of it until it is pointed out to them. Old French had a similar obligatory rule, making it likely that Latin words ending in *Vd* (*V* represents any vowel) were pronounced [vt], a supposition supported by such spellings as *inquid* for *inquit* (Norberg 1952, 72) or *set* for *sed* (Lawler 1974, xxiv), by rhymes such as *quidquid*:*reliquit* and *stravit*:*David,* and by statements of grammarians (see below, p. 132, for references on this rule). A German speaker will not misplace the accent in an English word except through ignorance, but will

have a great deal of trouble pronouncing a word-final [d]. There is no reason to believe that an Old French speaker would have misplaced the accent of Latin except through ignorance, but word-final *d* would have been pronounced [t]. It is essential to differentiate between tendencies, or optional rules, and obligatory rules.

A further essential difference is between rapid "conversational" speech and slow, careful "declamatory" speech.[5] The phonetic systems for different speeds of speech differ in characteristic ways. Slow speech typically follows language-specific constraints while rapid speech makes general, cross-language, adjustments in the sonority (Laeuffer in Wanner and Kibbe 1991, 19–36). Slow speech may be heavily influenced by orthography, in which case it is fair to call it "affected." Presumably, much of the Latin of interest to musicians, such as that set to music, is declamatory.

French was not invariably written with Latin characters; Hebrew characters were also used, and the Hebrew writing system makes some distinctions which the Latin writing system does not. The most important Hebrew-character document for the present paper is the Basel glossary (Banitt 1972), written in southwest Champaigne in the first quarter of the thirteenth century. This and other glossaries are not easy to use. Morin (1991, 51) writes:

> The surviving manuscripts may reflect several chronological and dialectal strata: they probably are rejuvenated, recast or compiled copies of older texts not necessarily written in the dialect of the copyists. Several persons, who did not necesssarily have the same linguistic usage, participated in the actual production of one given copy: several copyists, punctuators [who added, inter alia, many of the symbols for vowels], and at least one corrector and/or revisor (cf. Banitt 1972, 58–71). The copyists were also influenced by the—usually conservative—Latin orthography [that is, the Latin-character spelling sometimes influenced the Hebrew-character spelling]. . . .

The single strongest influence, of course, was the orthography of the Hebrew lan-

[5] Some linguists use terms such as "allegro" and "lento," which are happy for musicians, but etymologically hopeless.

guage. The medieval French understanding of Hebrew orthography is very well known from grammarians, by far the most important of whom (and the only one consulted for this study) was David Qimḥi (1160–1235; edited and translated by Chomsky 1952). Qimḥi summed up and disseminated a grammatical tradition deriving from Spain and owing much to Arab grammarians. The application of his Hebrew orthographic rules to French must be evaluated with caution; nevertheless, the glossaries provide some information unavailable elsewhere.

5.1.1 Theorists

The principle grammarians of antiquity known to the Middle Ages were Donatus (fl. c. 354–363), who taught St. Jerome, and Priscian (fl. c. 500). The principle poetic theorist was Horace.[6] The various Gothic treatises on poetry contain some information on stress placement.[7] Even more useful is Johannes de Garlandia's *Compendium gramatice,* composed ca. 1234–1236 (ed. Haye 1995). An interesting supplemental source is Abo of Fleury's *Questiones grammaticales* which, although it far antedates the Gothic period—it was written between 980 and 982—contains some

[6]An edition of Donatus, with a wealth of ancillary information, is Holtz 1981. The translation of the *Ars minor* by Chase (1926) is obsolete. The best edition of Priscian still seems to be that by Martin Hertz in Keil 1855–59. Horace's *Ars poetica* is translated in Hardison and Golden 1995.

[7]The most useful of these for this study was Johannes de Garlandia's *De arte prosayca, metrica, et rithmica,* also called the *Parisiana poetria,* composed c. 1220–1235, ed. and trans. Lawler 1974. The translations from this treatise quoted in this study follow Lawler's. The other Gothic (i.e. Parisian) treatises are: Matthew of Vendome's *Ars versificatoria* (c. 1175); Geoffrey of Vinsauf's *Poetria nova* (c. 1208–13); Geoffrey's *Documentum de modo et arte dictandi et versificandi* (after 1213); Gervase of Melkley's *Ars versificaria* (c. 1215); and Eberhard the German's *Laborintus* (perhaps around 1250). Texts of these are in Faral 1924; additional text for Geoffrey's *Documentum* is in Lawler 1974, 327–92. A newer edition of Matthew's treatise is in Munari 1988, which was not consulted. A translation of, and commentary on, Geoffrey's *Poetria nova* is in Hardison and Golden 1995. "Johannes de Garlandia" in this study refers to the grammarian who is generally believed not to be the same person as the tautonymic musical theorist. His *Orthographia,* listed in Bursill-Hall 1976, 162, has not been edited and was not consulted.

explicit information on pronunciation, as Abo wrote it to instruct English students in proper (i.e., French) Latin.[8] Numerous extracts from other theorists are printed in Thurot 1869, but they are arranged by subject in order to provide a single, coherent narrative, which makes them difficult to evalute.

Several weakness are endemic to these theorists. One is the tendency to generalize wrongly, that is to formulate incorrect rules. As any linguistics student will testify—or any glance at the modern linguistics literature will attest—this weakness is not confined to the Middle Ages. For an example by the fifth-century grammarian Pompeius, see p. 135.

Another weakness is a respect for authority. Many of the theorists' descriptions simply copy those of previous theorists, and all of their terminology is classical. It is not certain that they would or could have described a grammatical system at variance with that of their sources; they had a concept of Grammar which (as in much modern linguistic theory) was not language-specific. One of the most striking, and long-lived, examples of their terminological inadequacy is the use of the classical terms "long" and "short" to describe (1) vowel quantity, (2) syllable weight, and (3) stress placement. Music theorists also used "long" and "short" to indicate factors other than literal length (Roesner 1990, 47). Furthermore, theorists rarely differentiate between speech and spelling, and they are mostly concerned with the latter, even in the treatises on reading. The result is that, for example, Johannes de Garlandia can write "After *c,* after *p, t,* and after *r*, the *spiritus* breathes," giving the Greek words *Chremes, Thraso, Philippus,* and *Pirrhus* as instances,[9] using grammatical terminology as if it referred to pronunciation, yet he was certainly referring only

[8] Guerreau-Jalabert 1982. The translations from Abo cited in this study follow Guerreau-Jalabert's French translation.

[9] "Post *c,* post *p, t,* post *r* spiratio spirat. / *Chremes, Thraso, Philippus* erunt, *Pirrhus* tibi testis" (Haye 1995, 74).

to spelling (see p. 136). Finally, the theorists' chosen mode of expression may be clumsy. Johannes's editor Haye (1995, 37) complains, "The *Compendium gramatice* is mainly written in the plain, unattractive hexameters of a versemonger."[10] Without uselessly condemning Gothic theorists for failing to appreciate modern esthetics, it is nevertheless fair to point out that clarity was not, as it is for their modern (French) descendants, always their principle goal.

5.1.2 Rhyme

Much information about the sounds of Gothic Latin comes from examining rhymes.[11] Rhyme was introduced into French (vernacular) verse as an organizing principle during the course of the twelfth century. The word itself was borrowed from French or Occitan *rime* into other European languages; the source of the French and Occitan word is a matter of dispute. There are three theories. Traditionally, the word was believed to have derived from Latin *rhythmus,* ultimately from Greek ῥυθμός. (The English word was formerly spelled "rime"; the current spelling is an etymologizing one from the early seventeenth century, based on this theory.) A second theory is that the word is Germanic, from Old High German (or perhaps Old Low Franconian) *rîm.* A third theory is that the word comes from Latin *rimare.*

The first theory dates back at least to the fourteenth century (Zumthor 1975, 125–43). As many scholars have pointed out, one difficulty in getting from *rhythmus* to *rime* is making the *th* disappear. Zumthor hypothesizes that *rhythmus* might have been pronounced [rīmə]; he quotes a single citation in du Cange (1883–87) of the form *rimus,* as well as several citations of varying forms of *arithmetique* and *algorithmus.* The *arithmetique* variants may not be relevant, since the primary stress does not

[10] "Das *Compendium gramatice* ist überwiegend in schlichten, poetologisch unattraktiven Hexametern geschrieben."

[11] For some examples, see below, pp. 131, 132, 134, 135, 136, 139, 140, 146, 150, and 151.

fall on the syllable with *-thm-*.[12] Zumthor admits that varying forms of *algorithmus* are "less frequent." In fact, du Cange gives none. There is, in sum, virtually no documentary evidence for this theory. The *OED* invents the forms **ridme* and **ritme* to plug the gap (the asterisks indicating non-attested forms).[13]

The Old High German word *rîm* meant primarily "number," and by extension, "row, series," certainly a reasonable term for the poetic technique, especially when it is used structurally rather than rhetorically. Von Wartburg (1950) inferred a Frankish cognate for this word which was borrowed into France; this suggestion has been supported by several scholars more recently (Zumthor 1975, 125–26). It is listed in several dictionaries such as Random House's, Bloch and von Wartburg 1975, Hachette-Tschou's French etymological dictionary (Picoche 1971), *Le petit Robert* (Rey and Rey-Deboue, 1991), and Duden's *Herkunftswörterbuch.* Hellquist's Swedish etymological dictionary (1980) lists both this and the first theory.

Guiraud (1982, 466–67) proposes a third theory, which is championed in *Le grand Robert* (Rey 1985)[14] and in Robert's etymological dictionary (Rey 1992), both of which quote Guiraud *in extensio,* although Guiraud gives no evidence for his proposed etymology. He says:

> *Rime* (et son doublet masc. l'a. prov *rim*) vient du latin *rimare* « rechercher », « examiner avec soin, scruter ». La *rime,* c'est quelque chose que l'on cherche; tous les poètes vous le diront.
>
> Observons, encore une fois, que l'origine germanique d'un term rhétorique est très improbable et à plus forte raison d'un mot commun à l'ensemble des languages romanes. . . .

[12]Consonant clusters which were permitted at the end of the accented syllable were simplified if they fell before it; see below, p. 131.

[13]The *OED* is totally incoherent on the English word: "Soon after 1600, probably from a desire to distinguish between 'rime' and 'rhythm', the intermediate forms *rhime, rhyme* came into use." The notion of an intermediate form to distinguish between two other forms is puzzling.

[14]In contradistinction to *Le petit Robert,* although the latter is supposed to be an abridgement of the former.

Rey (1992) effectively, although unintentionally, counters Guiraud's last phrase with the observation: "De fait, le mot français est passé dans les langues romanes," which means that the widespread distribution of the word in Romance says nothing about the possibility of an ultimately German origin. In spite of what Guiraud says, it is not a rhetorical term that is at issue, but the term for a structural technique. Zumthor is more sober when he says that *rime* would be the only literary term imported from German into French; still, one suspects that French national pride is infecting their etymological studies.

None of these sources points out that the structural use of rhyme is far older in German vernaculars than in French. Systematic use of the technique in German goes back at least to Otfrid von Weissenburg's *Liber evangeliorum,* which was completed between 863 and 871 (Hoffmann 1967, 27–45). Otfrid's sources of inspiration are not known; Hoffmann lists Latin *carmina rhythmica,* Leonine hexameters, and Irish verse as possibilities.[15] The evidence is at least consistent with the possibility of the importation of the practice, and the term, from Germany into France, perhaps early in the twelfth century. Indeed, Posner (1993, 275) suggests that the very practice of writing in the vernacular might have been introduced to France from Germany.

In any event, virtually all Latin accentual poetry, and some quantitative poetry as well, at this period was rhymed. An important difference between rhyming in accentual and quantitative poetry is that the latter does not take stress into account (*áquilo*:*pílo*; Norberg 1968, 187–88). Gothic Latin and French macaronic verse had similar rhymes which ignore stress (Väänänen 1981b), as did Latin accentual verse from after the Gothic period, when the language had become end-stressed (Norberg 1958, 47). It appears that the rhymes were expected to be exact. Unfortunately,

[15]Although Hoffmann suggests Anglo-Saxon intermediaries between the Irish and the Germans, no intermediaries are necessary. Irish monks were active as scribes on the continent, including in German-speaking areas (Fowkes 1997).

there are no vernacular French rhymes from the Paris region until the mid-thirteenth century (Reenen 1988a).

5.2 Music and speech

The music settings of Romance-language poetry by native speakers, described in chapter three, regulate the alignment of musical accent and textual accent with varying degrees of strictness, but in no case is the regulation total, as it is for the Germanic languages. Contrafacta and mensurally notated pieces indicate that Gothic Latin settings could also disregard the textual accent. The degree of stress mismatch between text and music can be expected to be high, as in Spanish, rather than low, as in Italian, because Latin poetry presents comparatively few opportunities for adjustments in order to accomodate the textual accent. In Italian, composers frequently drop a word-final syllable, for example, but this practice does not occur in Spanish or in Gothic Latin. Some authorities (Treitler 1979; Spottswood 1985, 57–77) call attention to the stress mismatches without pointing out that stress mismatch is a Romance-wide characteristic. Indeed, Gothic composers might have used stress mismatch as an esthetic device, as Fassler (1987) suggests, in order to avoid monotony, a reasonable suggestion given the unvarying patterning of Gothic accentual verse. It follows that no firm evidence about stress placement in spoken Gothic Latin can be found from examining the music.

Old French was a syllable-timed language, and had a syllable-counting verse metric. Was the syllable-timed prosody of the vernacular carried over into Latin? The verse metrics of the preeminent types of Latin poetry described by the theorists (quantitative and accentual) differ sharply from those of French, but these are prestige forms based on ancient models, and they were not the only metrics possible.

After listing forty-four types of accentual verse, Johannes de Garlandia says:

> . . . as far as I can see there are no more to be found, unless you want to write like the dabblers who do not care about rules as long as the last words rhyme, that is, as long as one verse matches the one before it with the same number of syllables, like this:
>
> > "Beatus vir qui non abiit in consilio impiorum,"
> > Et qui sibi caute cauit ab enormitate uiciorum.
>
> If you carefully count the syllables in this poem you will find they answer, but the artist has wandered from the principle of his art as I have explained them.[16]

Syllable-counting poems, written in imitation of vernacular models, lacked prestige; few can be expected to survive, except for utilitarian purposes such as the bad model in Johannes's treatise. Knapp (1979) describes another utilitarian syllable-counting form with accents regularized at line endings to support the rhyme; this was the conductus. The metric is essentially that of vernacular poetry. Its existence strongly implies that the prosody of spoken Gothic Latin was that of Gothic French.

5.3 Stress placement

Medieval grammarians describe stress placement clearly, but the only terms available to them were those pertaining to vowel quantity, which should therefore be discussed first.

5.3.1 Vowel quantity

There is little doubt that vowel quantity was ignored in actual pronunciation, although it was well known as a theoretical construction. The quantity distinction in

[16] " . . . ut estimo non poterun plures inveniri; nisi aliquis uelit rithmum facere sicut layci qui non considerant artem sed tantummodo similes exitus, ita uidelicet ut subsequens uersiculus in pari quantitate respondeat uersiculo precedenti, sic: [. . .]. Si quis diligenter considerat in tali rithmo reperietur paritas sillabarum, sed artifex extra predictas artis regulas euagatur" (Lawler 1974, 194–195).

unaffected Latin speech was completely gone by the third and fourth centuries, possibly earlier in some varieties of popular speech (Väänäen 1981a, 30–1). It does not survive directly in any variety of Romance (although various Romance varieties redeveloped the distinction subsequently; French developed it and lost it several times). Medieval authors wrote quantitative verse, but the ability to construct quantitative verse was a sign of erudition. An obvious comparison is the construction of such verse as part of traditional English classical education, although the English pronunciation of Latin completely ignores vowel quantity. (Unique among modern authorities, Rigg [1996] maintains that the composition of quantitative verse does imply distinctive vowel length in pronunciation, but he presents no evidence.)

As might be expected, there are frequent errors in medieval quantitative verse. A few examples by Johannes de Garlandia; the first is from his *Parisiana poetria.* Johannes wrote a long poem to demonstrate the classical meters. The first section is in the Asclepian meter, which he defines as a spondee, two choriambs, and a pyrrhic: – – – ◡ ◡ – – ◡ ◡ – ◡ ◡ . The fifth line of the first stanza scans wrong:

> Paucīs | psaltērium | dīc mihi mī|litis,

Another error is in the third foot of the following hexameter, from the *Compendium gramatice* (Haye 1995, 76):

> De *cio* | dic *cito* | cĭtō | sed *cie*|*o* dare | *scito.*

Two successive lines in his hexameter *Tragedy of the copulating washerwomen* do not scan correctly (Lawler 1975, 138):

> Mīlitis | inclūsī | et uī|uendī | cōpia | cuique
> Ut peci|it prōcē|rum reue|rencia | digna da|bātur[17]

[17]The first line will scan with *inclŭsĭ,* the second with *prŏcĕrum.*

These and other errors in scansion imply that Johannes' spoken Latin did not differentiate vowel length.

A stronger indication of the disregard of vowel length in pronunciation is the occurrence of *Scheinprosodie* (Norberg [1958, 10] adopted the term from Meyer [1905–36]), where only syllables long by position count as heavy, in other words, quantitative verse which ignores vowel quantity, scanning $\bar{\text{v}}$ and $\check{\text{v}}$ alike. This kind of metric would not have been possible if vowel quantity had been differentiated in speech.

The medieval grammarians continue a venerable tradition. Donatus and Priscian also describe a system of distinctive vowel quantitity which was not present in their speech. It is not surprising that vowel quantity was ignored in spoken medieval Latin: it was not distinctive in any Romance vernacular (that is, it was predictable in approximately the same manner that it is in the modern Romance vernaculars; see p. 48). For this reason, it is ignored in modern pronunciations of Latin—except when the vernacular does have distinctive vowel length. Hungarians and Finns, for example, do not have any trouble in reproducing the classical Latin vowel quantities.[18] Medieval theorists adopted the terminology of vowel quantity and quantitative verse to describe post-classical language and verse, but this does not imply that classical pronunciation was respected. From our point of view, they adapted the available terminology to fit the circumstances of a changed language. From their point of view, they were explaining how to apply their universal terminology. For them, vowel quantity was ever and anon an entirely theoretical construct. With this point in mind, it is easy to understand their classification of accentual verse.

[18]For Hungarian, at least through the nineteenth century, see Sylvester 1539, 7. There is Hungarian quantitative verse, based on Classical models. Finnish Latin can be heard on news broadcasts by Finnish Radio; see <`http://www.yle.fi/fbc/latini.html`>.

5.3.2 Rhythm in prose and verse

The metric system of Latin accentual poetry—and presumably the prosodic system of spoken Latin—was essentially the same throughout Western Europe, at least partly because the stress systems of the vernaculars were similar. The placement of the (vernacular) stress varied from language to language, but the *nature* of the stress was the same in two respects: (1) The stress was word-based—the modern French phrased-based system is an innovation; and (2) there was a system of secondary stresses, generally appearing on every other syllable counting from the primary stress. Secondary stresses are not universal—they do not occur, for example, in Russian, which is famous among metricians for having only one stress per word. They do occur in all modern Germanic and Romance languages (for French, only until the nineteenth century [Morin 1991, 49–50]; the contemporary language has a different but analogous process [Hoskins in Mazzola 1994, 35–47]). There is excellent evidence that they occurred as an obligatory process in Old French (Morin 1991, 49–76; see below p. 148). Given this obligatory stress system of the vernacular, secondary stresses could hardly have been avoided in Gothic Latin; there is also independent evidence for their existence in that language from the construction of accentual verse.

5.3.3 Stress placement in practice

In *rhythmica,* accentual poetry, the word stress is aligned with the poetic ictus. The position of the word stress generally agrees with that of classical Latin: *Ut quéant láxis rèsonáre fíbris* has the poetic scansion: *Út queant láxis / Résonáre fíbris.*[19] The poetic ictuses fall on either primary or secondary word stresses, including monosyl-

[19]As in the other chapters of this study, acute and grave accents indicate (where the normal orthography of the language permits) primary and secondary stresses, but only acute accents are used for poetic scansion—in scanning, a syllable is either stressed or unstressed, for present purposes.

lables. In triple meter, secondary stresses could fall on every third syllable from the primary stress rather than every second syllable—the meter helps determine the accentuation: *Út tibi técum, sícut est aéquum, cóngratulémur* (Norberg 1958, 19–20). Medieval Latin accentual verse thus works in the same way as accentual verse in the modern Germanic languages, where the meter helps determine the placement of secondary stresses: "Explórers, dendrólogists" (Nabokov, *The ballad of Longwood Glen*) as opposed to "His fórm appéared out óf the míst, / Art Lóngfellów, dendrólogíst" (construct). Norberg (1985, 30–31) points to an identical situation in medieval Latin: *órdo monásticus écclesiásticus ésse solébat* as opposed to *túnc ecclésiásticús.* As he says, the secondary accents are "facultif du point de vue du vers." As with Germanic accentual verse, the poetic scansion of medieval (including Gothic) Latin is a generalization and regularization of the stress system of the spoken language. The poetic scansion *ecclésiásticús* does not imply that the word was pronounced with an accent on the last syllable in normal Latin speech any more than the poetic scansion *dendrólogíst* implies an end-accent in normal English speech. The scansions do, however, rule out *ecclesiastícus* and *dendrológist.*

Poetic scansion cannot enable us to determine whether the primary stress of, say, *comprimĕre,* was on the antepenult or the final, but there are several kinds of evidence that it was on the antepenult. One is the theorists' description of (classically) antepenult-accented words in prose as "dactylic" rather than "iambic" as in verse—prose scansion did not count secondary accents (see below, pp. 124 and ff., and 127). Another is the explicit prescription for antepenult stress in treatises which do not depend on ancient models (see below, p. 122).

Occasionally, the stress placement of accentual poetry differs from that of classical Latin. Norberg (1958, 10–22; 1968, 20–21; 1985) has listed the following differences, which generally continue patterns from antiquity:

1. Resyllabification of the clusters Cl and Cr (C represents a consonant); classically they began syllables and did not make position, but as far back as the Imperial period, there is often the syllabification *in-teg-rum* rather than *in-te-grum,* resulting in an accent shift *íntegrum* > *intégrum* (see also Niedermann 1953, 16–17, and Guerreau-Jalabert 1982, 93–96). Johannes de Garlandia prescribes this syllabification and demonstrates it in the fourth foot of the following quantitative hexameter (Haye 1995, 71):

   Quat[t]uor | at liqui|das per | mĕtra li|quescere | cernas
   'But you discern four liquids [l, m, n, r] resolved by the meter'

2. Reanalysis, displacing the accent rightward from prefixes (*rénegat* > *renégat; ínnocens* > *innócens; mortíferum* > *mortiférum.* This is a development in spoken Latin, not an error in interpreting written Latin, as indicated by Romance forms such as Italian *rinnéga,* Spanish *reniega,* French *renie,* and goes back to late antiquity (see also Niedermann 1953, 17).

3. Confusion of verbs, e.g., in *-ēre* and *-ĕre,* under the influence of the vernacular.

4. Variability of foreign words—Greek words may or may not have their stress placement accommodated to Latin patterns. Biblical names are often end-stressed; this end-stressing is not limited to French Latin.

5. Monosyllabic forms of *esse* are enclitic: *géns est, cónditór est.* Disyllabic forms could be enclitic: *Nos vero Israél sumùs.*

6. Monosyllabic pronouns could bear the accent.

7. Monosyllabic prepositions were usually proclitic, but could bear the accent before monosyllables (*dé te* rhyming with *in discréte*). If they were proclitic,

the accent would recede from a following disyllable whose first syllable was classically light (*pér fidém, ín crucé, ín diés, quód valét, ét piaé*). This was the continuation of a classical process which resulted in, e.g., *óbviam, dénuo* < *de nóvo, ílico* < *in lóco*. Thus far, Norberg's rule. The rule in Gothic French was slightly different: the accent could move left onto a clitic from any disyllable, even if its first syllable was classically heavy: *ín nōbís, quós culpá* (Fassler 1993, 165), *quám nullá* (Vecchi 1953, 68). This extension of the accent-regression principle follows naturally from Gothic Latin pronunciation in which the classical syllable weight was disregarded.

8. Disyllabic prepositions could also be proclitic (*intér quos, apúd me, híc supér apóstolós*). Rarely, a polysyllabic content word could form a single accent group with a following disyllable word with a classically light first syllable: *sermó tuús, pauló minús, usqué modó.* This and the previous rule continue an accent pattern from as far back as Plautus and Terence, first described explicitly by Quintilian (Joseph in Wanner and Kibbe 1991, 187–89).

9. Enclitic *-que* and *-ne* are sometimes treated as separate words.

10. Syneresis (combining of vowels: *ómniûm cléricórum*) and diaresis (the opposite: *suëtus, cuï, linguä*) used by poets at their discretion, both practices deriving from antiquity.

11. Syncopation of light internal syllable forms (*avunclus, Barthlomeus*) derives from late antiquity. (See also Niedermann 1953, 32–36).

12. Other accent shifts are due to changes in antiquity (*mulíĕrem* > *muliérem*), or analogy. (See also Niedermann 1953, 15–16; this shift is due to a tendency to shift éV > eV́ and íV > iV́.)

When these or similar principles are applied, most of the apparent irregularity in the stressing of Gothic Latin, and perhaps Medieval Latin in general, disappears. For example, Beare (1957, 285–87) objects to an accentual dactylic scansion of the following lines by Abelard (accent marks added):

> Ó quanta quália súnt illa sábbata,
> quáe semper célebrat súperna cúria!
> quáe fessis réquies, quáe merces fórtibus,
> cúm erit ómnia déus in ómnibus!

on the grounds that the classical accentuation pattern would have been *O quánta, sunt ílla, quae sémper, supérna, quae féssis.* But if we allow the rule that the accent could move from a disyllable onto a preceeding clitic, and we assume the etymologically justifiable and transparent analysis *super*+*na*—there is evidence from theorists that the adverb *superne* was pronounced with the accent on the first syllable (see p. 123)—then the verse scans perfectly.

5.3.4 Stress placement according to the theorists

The most accessible body of evidence about stress placement is that contained in theoretical treatises, which contain both rules and examples to illustrate those rules. A concern for correct stress placement is a preoccupation of many medieval grammarians, perhaps due in part to Donatus's characterization of bad pronunciation as a barbarism.[20] The vocabularies of written and spoken languages are very different, and the lack of indication of stress placement in written Latin would have been troublesome even to those with a good command of the spoken language. Abo devoted the first and major part of his treatise to accentuation; a century earlier, Micon de Saint-Riquier wrote *De prima syllaba* ("On the most important syllable") which is

[20] "Barbarismus fit duobus modis, pronuntiatione et scripto" (Holtz 1981, 653).

devoted entirely to determining the length of the penult, and hence the placement of the accent. A century after Abo, Aimer devoted a large part of his *Ars lectoria* to accent placement. There are many other treatises dealing with the subject (Guerreau-Jalabert 1982, 88–90).

The various practically oriented treatises on reading have no direct ancient counterpart, and thus provide some kinds of independent evidence on stress placement. An anonymous twelfth-century Cistercian *De arte lectoria,* quoted in Thurot (1869, 392–93), says:

> Hear, reader: in every word of however many syllables, one [syllable] is ruled by the accent, and one accent is master therein. Therefore this syllable where the accent rules is lengthened and raised in reading. All the others are lowered and pronounced without pause. Examples: when I say *dominus,* the syllable *do* is higher and accented. When I say *paterfamilias,* only the final syllable is accented, the others are lowered [see p. 123 below]. When I say *tribulationes* or *tribulationibus,* only the syllable *o* is lengthened and held, and all the others are lowered and pronounced quickly. Therefore, whoever wishes to read suitably must observe this: that every word contains a syllable which he must accent but he should pronounce the others quickly and smoothly.[21]

The accented syllable is lengthened and raised in pitch, as is normal in, say, modern Italian or Spanish. The limitation of the accent to only one syllable per word is traditional, but the description of the realization of the accent is not. There is none of the ultimately Greek differentiation between acute, grave, and circumflex, as in classical and most medieval grammars.

In his *Doctrinale* from around 1200, Alexander de Villa Dei differentiates classical

[21] "Audi lector: omnis dictio, quotcunque sit sillabarum, uno regitur accentu, et unus accentus in ea dominatur. Illa ergo sillaba in lectione tenebitur et elevabitur que habuerit dominantem accentum; cetere omnes deprimentur et sine mora pronunciabuntur. Verbi gratia: cum dico *dominus,* hec sillaba *do* elevatur et accentatur; cum dico *paterfamilias,* sola ultima sillaba accentatur, cetere deprimuntur; cum dico *tribulationes* vel *tribulationibus,* hec sillaba *o* sola tenetur et accentatur, omnes autem alie deprimuntur et instanter [Du Cange (1883–87) s.v. "instans" gives: "momentum, temporis punctum"] proferuntur. Quicunque igitur convenienter vult legere, hoc observare debet, ut in omni dictione sillabam illam que accentari debet, cum aliqua morula teneat, alias autem cursim et rotunde pronunciet."

from contemporary usage.[22] Alexander describes three accents: the middle, used only on final syllables, the acute, used only on non-final syllables, and the grave, which occurs on all syllables not bearing a middle or acute. All words, except for enclitics, contain one middle or acute accent. Given the complimentary (predictable) distribution of the middle and acute accents, it is clear that Alexander is describing a system of stress versus unstress. Alexander's rules for accent placement are largely taken from Priscian. He prescribes the classical accent placement, on the penult if that syllable is heavy, otherwise on the antepenult, but on the final in a few contracted words such as *illic* and *istic* (this was the classical rule as well) and for certain (mostly) bisyllables which were never utterance final (*ergo, circum,* etc.). Non-Latin words were end-stressed unless they had Latin case endings added (*Michaél, Michaélis*). A large number of compound adverbs had antepenult stress (*alíquando, éxinde, délonge,* etc.); other Gothic theorists give similar rules.

In one class of words, the theorists prescribe an accent placement which varies from classical practice; these are words ending in *-ās* (mostly accusative plurals) as in the compound *paterfamiliās* (with an archaic genitive ending; Posner 1996, 123), mentioned above. The Cistercian *De arte lectoria,* quoted in Thurot (1869, 392–93, n. 3), also prescribes final accents on *nostrās, vestrās,* and *magnās.* Most likely, this prescription is a precaution against shortening the final syllable to [əs]: all of the treatises say that the "accented" syllable is lengthened.

5.3.4.1 Rhythm in prose Rhythm in prose was based on stress, not quantity, and is unambiguously described as word-based, not phrase-based. Geoffrey of Vin-

[22]The following paragraph is drawn from Thurot 1869, 392–407. According to Thurot (1869, 32), the text of the *Doctrinale* varies widely in the various MSS. Alexander was Norman; the accent system of his speech might or might not have differed from that of the speech of Parisians.

sauf describes two types of feet in prose:

> It follows that every monosyllabic word is called a semispondee, that is one half of a spondee, without regard to the accent. Similarly, every two-syllable word without regard to the morae is called a spondee. Similarly, every polysyllable word, that is with more than two syllables no matter how many syllables there are, is known by its penultimate; for if this is short, the three last syllables of the word makes a dactylic foot, receding from the second[-last] syllable where you [would] mark a spondee. If, on the other hand, the penult is long or all the syllables are short, you mark spondees on the second[-last] syllable.[23]

A word accented on the penult is a spondee, and a word accented on the antepenult is a dactyl. (Note the use of "spondee" and "dactyl" to categorize individual words, which is the use of late antiquity [Janson 1979, 100]; other medieval treatises follow it as well.) Monosyllables may or may not be accented. Geoffrey's classification reflects classical stress patterns quite accurately, but it is not our classification. In the modern adaptation of classical terminology, classically heavy ("long") syllables are stressed and light ("short") syllables are unstressed. A modern "spondee" means two successive stresses (Paul Fussell suggested "Amen" as an example in English). In Geoffrey's system for accentual verse, a "spondee" is a word which has the stress pattern of a quantitative spondee, *érgō* Xx, stress–unstress. We now call this pattern "trochee" by analogy with the classical ¯ ˘ (heavy–light) foot, but that term would not make sense in Geoffrey's system. All isolated Latin monosyllables are heavy (Allen 1978, 112); light syllables exist only embedded in a larger context. "Semi-spondee" is therefore a suitable term for monosyllables, whereas "semi-trochee" would

[23] "Vnde sciendum omnis dictio monasilleba dicitur semispondeus, idest dimidius spondeus, nulla discrecione facta de accentu. Similiter omnis dictio dissilaba absque discrecione temporis dicitur spondeus. Similiter, omnis dictio pollesilleba, idest duas sillebas excrescens, quotquot sillebarum fuerit, cognoscitur penes suam penultimam; nam si illa breuis fuerit, tres ille vltime sillebe istius dictiones faciunt dactilicum pedem; remanentes sillebe quocumque fuerint binario numero designate factiunt spondeum. Si vero penultima longa fuerit vel acuta omnes sillebe binario numero designate faciunt spondeos." From the *Documentum de modo et arte dictandi et versificandi,* ed. Lawler (1974, 329).

be needlessly ambiguous and cryptic. Geoffrey's use of "dactylic" is, similarly, not the modern use: *vḗritās* is dactylic for Geoffrey because of its stress pattern, but not for us. (See also Janson 1975.)

Johannes de Garlandia uses the identical system:

> A three-syllable word whose penult is short is called a dactyl, although the other syllables may be long. Any two-syllable word, or two-syllable portion of a polysyllabic word, with the rhythm like that of [quantitative] spondees is called a spondee in prose.[24]

Johannes's description is less complete than Geoffrey's in that he does not mention words with more than three syllables and light penults; he defines the rhythmic spondee by reference to the metrical spondee without defining the latter; and he does not define the syllable as the "semispondee," so it is not evident why the strong–weak accent pattern is called a "spondee" instead of a "trochee." But, unlike Geoffrey, he implies the existence of secondary accents ("[a] two-syllable portion of a polysyllabic word").

5.3.4.2 Rhythm in verse operates like that in prose with the additional constraint that, as Johannes says, "the words in an accentual poem should fall in a regular pattern."[25] He explains that accentual verse used two types of feet, quasi-iambic and quasi-spondaic, which were named in imitation of the quantitative feet. The terminology of accentual verse differs slightly from that of prose. "Spondee" is used in both, but in verse, a word with a short penult is an "iamb," not a "dactyl"—Johannes defines *iambus* as "a word whose penult is short, for an iamb must consist

[24] Dactilus dicitur dictio trissillaba cuius penultima corriptur, licet alie sillabe producantur. Spondeus dicitur in dictamine dictio dissillabla, uel partes polisillabe dictionis acentis ad modum spondeorum" (Lawler 1974, 104–105).

[25] "ordinate debent cadere dictiones in rithmo" (Lawler 1974, 180–81).

of short and long."[26] The most likely reason for this difference is that in verse, the two basic units are binary, and "dactyl" would not be appropriate. (Johannes's own explanation is not satisfactory; see p. 128.)

As most commentators have pointed out, it is the last word in the line that determines the meter. Johannes does not make this point explicitly, but it is obvious from his examples. This kind of categorization is necessary because Johannes follows the medieval practice of confining named feet to individual words. If the beginning of the line defined the meter, the rhythmic feet would have often spanned two words. The only hole in Johannes's terminology would be a monosyllable at the end of a line, but Gothic poets tended to avoid these except for forms of *esse* (Norberg 1985, 54); Matthew of Vendome specifically forbade them (Parr 1981, 102).

Johannes's first example, "the simplest accentual pattern," is "iambic dimeter which has two measures and each measure has two stresses, like this: Iam lucis orto sydere."[27] This must be accented: Iam lúcis órto sýderé. Any putative "French" word-final accentuation is ruled out by this example: "Iám lucís ortó syderé" could hardly be an example of "the simplest accentual pattern."

One—and only one—accentual verse which Johannes presents conspicuously fails to fit a simple meter, and he presents it in terms that indicate its exceptional status:

[26] "Iambus in hoc loco [i.e. in the section on *rhythmica*] intelligatur diction cuius penultima corripitur; iambus enim constat ex breui et longa" (Lawler 1974, 160–61).

[27] "quis rithmus sit simplicior . . . iambicum dimetrum, quod constat ex duobus metris, et metrum ex duabus percussionibus, ut illud: . . . " (Lawler 1974, 160–61). The hymn, for Prime, is not accentual but quantitative. (Iam lucis orto sídere / Deum precémur súpplices, / Ut in diurnis áctibus / Nos servet a nocéntibus.) Johannes, in fact, uses it as his example of quantitative iambic dimeter, and says that that meter "consists of iambs which you can vary by placing spondees in any place" ("constans ex iambis positis indifferenter cum interposicione spondeorum"; Lawler 1974, 198–99). Incidentally, the whole of *Iam lucis* except for the doxology rhymes, rather than simply assonates, provided that final consonants are deleted, following the pronunciation that may have been current in Italy after about the ninth century.

> In addition to the eighteen types of accentual poems I have described, there is a nineteenth, the ten-syllable iambic, which Statius is said to have employed, as in the accentual poem called "The Lament of Oedipus":
>
> Díri pátris infáusta pígnorá,
> Ánte órtus dampnáti témporá,
> Quía véstra sic iácent córporá
> Méa dólent intrórsus péctorá.
> [scansion marks added]
>
> This is an authentic type of rhythmic pattern from antiquity.[28]

The accentuation of the line-final words defines the verse as iambic. The irregular accentuation of each line marks it as exceptional in Johannes's system, but all the lines do scan the same and thus the words still "fall into a regular pattern," as he requires in rhythmic verse.

Spottswood (1985, 52–53), who wrongly assumes the modern definition of "iamb" (that is, the pattern xX for the entire line), quotes this poem as a *typical* example of Johannes's rhythmic verse, and scans as follows [adopting her spelling and punctuation]:

> Dirí patrís infáusta pígnorá,
> anté ortús damnáti témporá;
> quiá vestrá sic iácent córporá,
> meá dolént intrórsus péctorá.

adding, "In Garlandia's scansion the poetry acquires a French accent." But Spottswood's scansion is not likely, and is not particularly French: If this were French, the schwas in the final syllables could not bear the accent in *ante* and *dolent*, nor is it clear why *infausta, iacent,* and *introrsus* should be accented on the penult but *vestra, dolent,* and *ortus* on the final. Furthermore, end-accentuation is ruled out by Johannes's next sentence: "One may ask why it is called iambic and not dactylic." This

[28] "Preter predictor x et octo modos rithmorum, est nonus decimus, rithmus decasillabus iambicus, quo utebatur Statius, ut dicitur, sicut habetur in rithmo *De Querela Edippi,* sic: [. . .]. Iste modus rithmi auctenticus est ab antiquo tempore" (Lawler 1974, 180–181).

question could not have been raised if the accentuation and terminology had been Spottswood's, as a dactylic in Spottswood's (modern) terminology is not accented on the last syllable. (Spottswood ignores Johannes's use of the term.)

Johannes answers the question thus:

> A dactylic seems to have a falling movement, since the penult is always short; but the last syllable may be long or short. This pattern is thus called iambic and not dactylic, both because the Holy Church uses the iambic meter more frequently for certain hymns, and more particularly because it has the falling movement characteristic of iambic quantitative verse.[29]

The meter of "Oedipus's lament" resembles that of hymns—the preeminent accentual verse of the time—and hence it uses the same terminology. "[T]he falling movement characteristic of iambic quantitative verse" refers to the stress pattern of iambic quantitative verse, which is ´ ˘ ¯ at the end of the line, provided the final word consists of at least three syllables. It is not clear, however, why Johannes considers the falling movement of iambic verse worthy of mention, as there is no contrast on this point with dactylic verse.

5.4 Strength of accent

Many modern authorities agree that Old French had a much stronger accent than the modern language, although their evidence is surprisingly weak. Pope (1952, 15; 102–119), provides a typical list: (1) diphthongization of stressed [e] and [o]; (2) widespread enclisis; (3) closing of secondary stressed [ɛ] and [ɔ]; (4) reduction or effacement of unstressed vowels. But all of these phenomena except the first can

[29] "In fine uidetur cadere dactilus cum semper corripitur penultima; sed ultima aliquando corripitur, aliquando producitur. Rithmus uero iambicus dicitur ideo et non dactilicus quia Sancta Ecclesia utitur frequentius metro iambico in quibusdam hymnis, et quia precipue cadunt in scandendo ad modum metrorum iambicorum" (Lawler 1974, 180–181).

be found in other Romance languages, including Modern French,[30] and the first is, as Posner (1996, 247) says, "plausibily linked to lengthening of the tonic syllable," which may or may not imply a strong accent. There is no question the phenomena are conditioned by the accent, but it does not follow that the accent must necessarily have been acoustically strong. Posner (1996, 285–86) makes the related point that phenomena often attributed to the weakening of the word accent in Middle French are common in other Romance languages which exhibit no such weakening.

Some authorities maintain that Old French had a strong accent for historical reasons. The area of the langue d'oïl was roughly the area of Frankish settlement; Old French might have acquired a strong accent from Germanic influence. Rickard (1989, 13), for example, suggests, "In speaking Latin, first as a foreign language and eventually as their native language, it seems that the Franks carried over into it the strong expiratory stress of Germanic." Other scholars attributed a strong accent to a Celtic substratum (Pellegrini 1980, 65–66). These explanations for the origin of a strong accent are satisfactory only insofar as a strong accent can be shown to have existed.

Adams (1989) presents better evidence for a strong accent, namely the verb-second (V2) word order of unmarked Old French sentences. She does not mention the rarity of this word order: it appears in all Germanic languages except English, and

[30]All Romance languages, however, diphthongized stressed free [ɛ] and [ɔ], as in Spanish *hielo* and *puedo*, and Italian *siede* and *buono,* with diphthongs under stress, versus *helamos, podamos, sediamo* and *bontà.* Enclisis can be found in European Portuguese (*da-mo* 'give it to me'; *o pai deu-me um bolo* 'father gave me a cake'); Italian *per darmelo* 'to give it to me'; and Rumanian (*eu i-am dat-o-lui* 'I gave it to him'). It was more common in older stages of Romance (Posner 1996, 171–72). Pope attributes the closing of the secondary stressed vowels to their weakening under the influence of the strong primary stress, but closing of weak vowels can be found in Portuguese, Catalan, and Sardinian (Harris and Vincent 1988, 133–34, 174, 317). Reduction of unstressed *e* is one of the most frequent phonological processes in Modern French. The examples in this note are from Harris and Vincent 1988.

some languages geographically contiguous with these (Old French and Swiss—but not Italian—Rhaeto-Romance), but it is exceedingly rare outside of this area.[31] Adams links V2 order with two phenomena which are otherwise unrelated: a verb-fronting rule, which gives the order VSO (verb-subject-object), and heavy word stress, which moves one constitutent in front of the verb for rhythmic reasons. Both of these phenomena are necessary for V2 order—they must coincidentally occur in a language, which would account for its rarity. Adams contrasts Old French with the Celtic languages (unmarked word order: VSO) which front the verb but supposedly lack heavy word stress. Unfortunately, her analysis of the Celtic data is faulty. She writes (1989, 11), "Unlike the [other Celtic languages], Breton has optional V2 effects." This is not correct. Optional V2 effects are ubiquitous in all the Celtic languages; it is impossible to pick up any Celtic text of more than minimal length without finding examples.[32] Most authorities, including Adams' source for her Breton data, attribute V2 order to topicalization.[33] In fact, it is a well-known language universal (based on observation, not theory) that VSO languages have alternative word orders, typically placing one element in front of the verb (Greenberg 1966). In any case, even given that the notion of "heavy word stress" is ill defined, the idea that the Celtic languages lack such a stress is, acoustically, odd. Adams' description may

[31]There is disagreement about Gaulish, a Celtic language. The traditional consensus was that it was V2, but many authorities now believe that it was SVO with traces of the ancestral Indo-European SOV (Eska and Evans 1993, 40). There are only about two dozen complete sentences surviving from the language. Kashmiri has also been described as a V2 language (Wali and Koul 1997, xix).

[32]It is uncomfortable to have to give supporting evidence for the existence of a ubiquitous phenomenon, but one datum will serve as an indication. In a short article in Welsh, picked up at random (a review of Anrhefn's record *Bwrw cwrw* in *Sothach,* March 1989), there are approximately twenty-nine indicative sentences with finite verbs (the exact number depends on how the terms are defined), and approximately eleven of these, over a third, exhibit V2 order.

[33]Timm 1987; also see the reply article Delanoy 1990, which points out that the concept of "word order" is problematic in Breton.

be valid if we postulate a formal feature HEAVY which we do not attempt to define acoustically—in which case the differentiation between V2 and VSO languages needs further elucidation, and the evidence for acoustically heavy word stress in Old French vanishes.

5.5 Consonants

5.5.1 General considerations

Morin (1986, 168) writes: "The syllabic structure of Late Old French is rather uncontroversial." His discussion can be summarized as follows: Word internally, the only consonants that could close syllables corresponded to written *l, m, n, r,* and *s.* These were underlying forms; for their phonetic realizations, see the entries for the letters, below. Impermissable consonants were deleted. These rules were obligatory in French and thus carried over to Latin as well, so that Bernard de Morlais rhymes *benedicta*:*vita*, *ipsi*:*missi*, *sanctis*:*tantis* (Norberg 1958, 48); and Hugo of Orléans rhymes *aptat*:*retractat* and *Laërtes*:*superstes* (Langosch 1954, 204 and 212).

Word finally, one consonant could follow the word-internal syllable close; this Morin calls "extrasyllabic." Morin continues:

> Actually, syllables with an extra-syllabic consonant must have had a much more limited distribution than stated above. They probably appeared only in utterance-final position. . . . It is difficult to determine with certainty when this process began. We would expect words to be transcribed with their final consonant, whatever their exact pronunciation in connected discourse, as scribes would normally write words as they are pronounced before pause. We have no reason to believe that syllables had not already lost all extra-syllabic consonants within utterances in Old French, just as they had word-internally.

Morin does not imply that the scribes copied word by word, but only that they knew that spellings are derived from pausal forms. The standard English spelling *and*

reflects the form of the word in isolation rather than the more normal contextual form, sometimes spelled *'n'*.

To summarize, there was a distinction between pausal and non-pausal forms in Old French. Underlying word-final consonants tended to delete from speech when immediately followed by another consonant; the "full" forms were pronounced only at the ends of breath groups, usually including the ends of poetic lines. These deletions were not reflected in spelling. According to Fouché (1952–66, 3:663-64), final-consonant deletion became general in non-pausal positions in the Île de France during the second half of the thirteenth century, although his evidence indicates that final consonants were retained prepausally, especially in declamatory style, for many hundreds of years.

There is no orthographic evidence for the use of non-pausal forms in Latin, but one would not expect any. I do not know how to determine if pausal forms were generalized to non-pausal positions. Poetry would have been recited (or chanted) many times slower than conventional speech; much of what we now call "music" (as opposed, say, to poetry recitation) would have been declaimed even slower. Depending on the definition of "conservative," one could maintain that the conservative position would be to assume that the pronunciation followed the orthography, but this position begs the question of how the orthography was interpreted. However, the evidence of rhymes indicates that final consonants were probably retained prepausally in declamatory style. Rhymes such as Bernard de Morlais' *mediatrix*:*patris* (Norberg 1958, 48) were perfect in sound, but not to the eye.

In French, word-final *-b, -d,* and *-g* were devoiced (as in modern German or modern Occitan) to [-p], [-t], and [-k] (Walker 1981, 17). This was an active process (Callahan 1984, 346–47). The only word-final *b*'s in Latin are proclitics such as *ab* and *sub* which may not have been devoiced in normal speech. Latin words ending in

-d show numerous spelling variants such as *apud* ∼ *aput* and *sed* ∼ *set* which go back to pre-Carolingian times (Guerreau-Jalabert 1982, 101–102), and these words were optionally proclitic (see p. 119). If they were clitic, their final consonant would have deleted before a consonant in the following word. (One would expect the orthography to show the pausal or isolation, i.e., non-clitic form; see p. 131.)

Double consonants (between vowels) were pronounced single—these are just a special case of the rule simplifying consonant groups. Spellings such as *gramatica* were ubiquitous. Johannes says never to use single consonants instead of double ones "for the sake of brevity"[34]—presumably graphic brevity—which implies that they were pronounced alike. Double *r,* however, may have been pronounced double. French words show the etymologically correct distinction (*chère* < CARA, *terre*), and the variation *r* ∼ *rr* in Gothic Latin spelling is very much rarer than the corresponding variation for other letters (Beaulieux 1927b, 70); see the entry for *r,* below.

Musical sources sometimes show careful syllable divisions such as sig-num and suscipio (Knapp 1965, 137–38). These probably follow orthographic principles learned by the scribes, which derive ultimately from the scansion of quantitative verse; it is unlikely that they represent phonological analyses.

One type of consonant group deserves special mention, namely the "glide consonants" inserted into certain clusters. In pre-Gothic French, [-ml-] and [-mr-] were not permitted; they became [-mbl-] and [-mbr-]. Similarly, the clusters [-nr-], [-ñr-], [-lr-], [-l^{y}r-], [-sr-] and [-zr-] had [d] inserted between the two members (Walker 1981, 18–19). This rule was obligatory, and therefore may have affected pre-Gothic Latin pronunciation, but "learned" words which entered French during the Gothic period do not show the glide consonants: *genre* (not *gendre*) < GENERE, *banlieue* (not

[34] "Numquam scribatis unam causa brevitatis" (Haye 1995, 81).

bandlieue) < *ban* + *lieue* (Dumas 1993, 100). Either the glide consonant was not inserted in declamatory style, or—more probably—the rule described by Walker and Dumas was not obligatory for foreign words by the Gothic period, possibly due the influence of Picard and the prestigious Occitan (Pfister 1973).

In written Gothic Latin, there are other consonant clusters which frequently have extra consonants inserted (extra vis-à-vis classical Latin), especially between a nasal and a stop. Spellings such as *hiemps, verumptamen,* and *idemptitas* (Norberg 1968, 52) do not indicate that the words were pronounced with the added consonants, but only that words with and without the added consonants were pronounced alike—spelling, after all, is determined by convention, not by phonological analysis, and this particular convention may derive from the earlier period described by Walker. Johannes de Garlandia says, ambiguously, that *p* is written in such circumstances "ex usu." The Hebrew-character French of the Basel glossary confirms that the consonant was not pronounced; e.g., אֵיקוֹנְטֵיש <econtes> 'et comptez', or קוֹנְטַאה <kontā> '[il] compta (Banitt 1972, 2:55).

The third-person plural verb ending *-ent,* was probably [ə̃t] in declamatory style, at least before a pause. It rhymes only with itself. The Hebrew-character evidence is not clear: אַפְּרִירְט 'apprirent' could be <aprirt>, as Banitt (1972, 83) transcribes, or <aprirət> with presumed nasalization of the schwa.[35]

5.5.2 Individual consonants

C (before *a*). [k]. In native words, CA- became *cha-* ([ča-], later [ša-]) at an early date, but Occitan loanwords from the twelfth century, such as *cabrer* 'to rear up' and *cadeau* 'gift' (Posner 1996, 241) show that this historical change had been completed

[35]Morin (1991, 54–55) discusses schwa nasalization. Herslund (1976, 109) denies that the schwa could nasalize, but he does not justify his position.

prior to the Gothic period.

C and **G** (before *e* and *i*) were [ts] and [dž] (like the English *j*) originally; then they lost their first elements and became [s] and [ž] (like the consonant sound in American English *Asia*). Most authorities place this change in the thirteenth century, but the dating is extremely imprecise.[36] It certainly is not reflected in the (Champenois) Basel glossary. The identity of French and Latin *ci* is guaranteed by macaronic rhymes such as (Latin in small caps) AMICI:INIMICI:LAICI:*d'ici*:*ici* (Väänänen 1988b, 371).

In the Hebrew of the Basel glossary, there are a few scribal misprints of ז׳ for ג before *e* or *i* (Banitt 1972, 55), showing that <g> before [e] or [i] was pronounced [dž] in that language as well.

Theorists considered [ts] and [dž] to be the basic sound of *c* and *g,* probably because the names of the letters were [tse] and [dže] (Beaulieux 1927a, 75).

DIv and **TIv**. The same as *z* and *c* before *e/i:* [dz-] and [ts-], becoming [z-] and [s-] sometime in the thirteenth century. The developments in antiquity were [di] > [dj] and [ti] > [tj], [j] being a sound like the English consonantal sound *y* (the first sound of *yeti*). That is, *hodie,* originally three syllables, became a two-syllable word. [dj] and [tj] subsequently became [dz] and [ts]. This happened in antiquity, as attested by misspellings such as *azutoribus* for *adiutoribus* at Pompeii, and *oze* for *hodie* in the second century (Väänänen 1981, 62). Pompeius in the fifth century condemns the pronunciation without the [-s-]: "We ought not to say 'Titius' as it is written, but as 'Titsius'"—which does not necessarily imply that any native speakers actually said [titius]; this may have been a mistake made by foreigners learning to read. Pompeius adds that *di-* and *ti-* at the beginning of a word *are* pronounced as

[36] Jong (1995) places it in the early fourteenth century in word-final position ([dits] > [dis]; spelled *diz*), but this dating depends on her probably untenable view that orthography represents actual pronunciation rather than a learned tradition.

written; his example is *dies.* Pompeius's generalization is incorrect: the correct rule is that when the *i* is stressed, a preceding *d* or *t* is pronounced [d] or [t], as the stressed [i] never developed into [j] (Wright 1982). Abo of Fleury similarly recommended [dz-] and [ts-] in the tenth century (Guerreau-Jalabert 1982, 102–103; 236–37). Spelling variants $d \sim z$ and $t \sim c \sim z$ continue through the thirteenth century. See also **Z**.

GN. Probably [n] rather than the palatalized [ñ]. Bernard de Morlais (twelfth century) rhymes *agni*:*tyranni* (Norberg 1958, 48); similar rhymes continue for several centuries (Marchello-Nizia 1979/92, 92–92). Fouché (1952–66, 3: 872–732) lists spellings in *-n-* for *-gn-,* and Latin loan words which entered French at this period which show *-n-* instead of *-gn-* (*physionomie, pronostic*). According to Fouché, the pronunciation [ñ] was introduced as a learned feature gradually during the fourteenth century; he says specifically that *-gn-* was pronounced [n] in medieval French Latin. Given the lack of palatalization in the loan words cited by Fouché, it is unlikely that the graphic *gn* could have indicated a sound other than [n].

H. Written *h* was silent in Latin. It had not been pronounced in any context since before the end of the Republic. Some grammarians refer to it as an "adspiratione," adopting Greek terminology, but it was not pronounced. In some Latin words, it indicated hiatus, as does the modern French "h aspiré" (Niedermann 1953, 99-100). It left no trace in any Romance language. It is, therefore, inconceivable that any tradition of Latin pronounciation which did not derive from the spelling could have pronounced [h] (Fouché 1952–66, 3:578; Allen 1978, 43–45). In Gothic Latin, spelling variants such as *ic* $\sim$ *hic* and *omines* $\sim$ *homines* confirm that *h* was not pronounced. (In the Hebrew of the Basel glossary, <h> was written with similar irregularity [Banitt 1972, 50].)

There are several complications. One is that speakers of Old French did pronounce *h* at the beginnings of German loanwords (this sound subsequently deleted, whence