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Metrical Theory and Verdi's Midcentury Operas

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Both historical and recent theories of meter have tended to assume that meter is a single phenomenon, definable in a single (though perhaps complex) way. Most American theories of meter have been based on a limited repertoire: instrumental music by German composers. Examination of Verdi's midcentury operas, from *Macbeth* through *La traviata*, suggests that different theoretical approaches may be appropriate for different repertoires. National traditions of composition, depending often on national poetic traditions, may require different ways of hearing and counting, and thus different ways of modeling meter. The metrical theories of Fred Lerdahl and Ray Jackendoff, David Temperley, and Christopher Hasty are found to have a German bias. Adjustments in theoretical assumptions, expressed as preference rules, are suggested to deal with Italian music of the mid-nineteenth century and earlier.

The operas composed by Giuseppe Verdi between 1851 and 1853—*Rigoletto*, *Il trovatore*, and *La traviata*—form the first climax of the composer's long career, and they remain his most popular operas today. In this study, I examine music from these operas and two slightly earlier ones, *Macbeth* and *La battaglia di Legnano*, from the standpoint of recent theories of rhythm and meter. Musical meter is my principal subject, but the meters of Italian poetry serve as an indispensable countersubject. In nineteenth-century Italian opera, poetic meters often determine musical rhythms, as Friedrich Lippmann demonstrated almost forty years ago (Lippmann 1973–1975).

This study has three objects. One is to show some of Verdi's typical procedures in *pezzi chiusi*, the 'closed pieces' around which operatic numbers—arias, duets, and so forth—are organized. A second is to suggest that the way one perceives metrical structures in Rossini or Verdi might differ from the way one perceives them in music by Schubert, Schumann, Bruckner, Tchaikovsky, and other composers from Central and Eastern Europe. My third and broadest aim is to problematize meter itself by demonstrating the mutability of some of its central concepts, such as 'accent.' Even within a single historical period, concepts of meter may differ radically; these differences often include a national or linguistic component.

This study continues the line of thinking that I began in an earlier essay (Rothstein 2008). There I distinguished between *German meter*, in which a relation of near-identity typically obtains between melodic groups and metrical time-spans, and *Franco-Italian meter*, in which grouping and meter are often radically out of phase. The terms 'group', 'grouping', 'meter', 'metrical time-span', and 'out of phase' are used here in the sense familiar from the work of Fred Lerdahl and Ray Jackendoff, which serves as my theoretical point of departure. As will become evident, I believe that Lerdahl and Jackendoff's theory (Lerdahl and Jackendoff 1983) is biased in favor of German meter; it requires adjustments if it is to accommodate Italian opera of the *primo ottocento*, a period that effectively ends with Verdi's midcentury masterpieces.

The plan of this study is as follows. First I examine, at some length, the relation between poetic and musical meters in nineteenth-century Italian opera. Next I analyze several passages by Verdi. The final section, more speculative in nature, returns to theoretical issues.

Italian prosody and musical rhythm

Like the texts of German Lieder, the texts of Italian *pezzi chiusi* consist of rhymed, metered verses. Unlike German verse meters, Italian verse meters are denominated according to the number of syllables per line, not according to the number of accented syllables. Meters commonly used in *pezzi chiusi* include *quinario* (five syllables per line), *settenario* (seven syllables), *ottonario* (eight syllables), and *decasillabo* (ten syllables). Meters with even numbers of syllables are consistent in both the number and placement of accents: thus, for example, accents in *ottonario* fall on syllables 3 and 7; in *decasillabo* they fall on syllables 3, 6, and 9. Meters with odd numbers of syllables are more variable; the first syllable of a line, for instance, might be either accented or unaccented. Common to all Italian verse meters, both even and odd, is the accent on the penultimate syllable, which the composer-theorist Bonifazio Asioli (1769–1832) called the *accento comune* or 'common accent' (Asioli 1836). The *accento comune* corresponds to the *accent tonique* at the end of each line in French verse. As we shall see, however, its penultimate placement is subject to certain exceptions.

French verses end with either a 'masculine' or a 'feminine' ending (*désinence*). Italian verse-endings come in three varieties, not two. The *piano* ('plain') ending is the norm; here the *accento comune* is followed by a single unstressed syllable, as in **Ver**-*di*. Less common is the *sdrucciolo* ('sliding') ending, in which there is an extra unstressed syllable following the *accento comune*, as in **brin**-*di-si*. The ends of stanzas are conventionally marked by a *tronco* ('truncated') ending, where nothing follows the *accento comune*: *a-**mor'*** is a typical example, typical also in the omission of a final vowel (the complete word is *a-**mor**-e*). The use of a *tronco* ending permits the use of a strong-beat ('masculine') cadence in the vocal line, a conventional sign of closure.

A peculiarity of Italian metric denominations is that all lines are counted as if they were *versi piani*—i.e., verses with *piano* endings. The extra syllable in a *verso sdrucciolo* is not counted; *Li-biam ne' dol-ci **fre**-mi-ti* is thus regarded as a seven-, not an eight-syllable line. In *versi tronchi* the missing final syllable *is* counted, making *Ed in pen-**sier'*** a five- and not a four-syllable line. Further complications arise through the elision of adjacent vowels. *La don-na è **mo**-bi-le* may appear to contain seven syllables, but two of these are not counted: *è* (which elides with the preceding vowel) and one syllable of the *sdrucciolo* ending.

Lines in *quinario* and *ottonario* generally contain two accents; lines in *decasillabo* contain three; in *settenario* there may be either two or three. In any of these verse meters (and in others), each line is typically set to two bars of music. The first accented syllable is normally placed on the downbeat of the first complete bar; the *accento comune* is placed on the downbeat of the second bar. In lines with three accents, two are typically placed in bar 1, one (the *accento comune*) on the downbeat of bar 2. A famous example of the latter type is Cherubino's aria 'Non so più cosa son, cosa faccio' from Mozart's *Le nozze di Figaro*.

Not surprisingly, the correspondence between prosodic and musical rhythms in Verdi's midcentury operas continues a longstanding Italian tradition (see Moreen 1975). Here is Damien Colas's description of an aria by Rossini:

The cantabile of Idreno's aria in Act 2 of *Semiramide* sets the lines of the first quatrain in a way often found in Rossini [Example 1]. The first eight bars of the vocal line consist of three melodic segments: the first two (1 and 2) correspond to the first two lines (*a* and *b*) and the third groups together the second two lines (*c* and *d*). Each melodic phrase is made up of three parts: α = the anacrusis, which comes before the first [down]beat; β = the kernel of the melody, constituted of whole bars (1 bar for each of the first two phrases, 2 bars [sic] for the third phrase); γ = the melodic desinence, corresponding to the syllables at the ends of lines, placed after the last stress. The space allotted to each of the building-blocks α, β and γ in a given phrase reflects the prosody of the line. For *tronchi* verses the desinence is absent (e.g.,

the termination of the third phrase on 'cor,' bar [9]). For lines in which the first prosodic stress falls on the first syllable (e.g., 'Pénsa alla patria, e intrepido'), it is the anacrusis that is missing (Colas 2004: 106–107).

Example 1
Example 8.1 from Colas 2004: 107. Rossini, *Semiramide*, Aria Idreno (No. 14).

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The verse meter in Example 1 is *ottonario*; prosodic stresses fall on syllables 3 and 7 of each eight-syllable line. Colas's three melodic segments, which he also terms 'phrases', correspond clearly to units of grouping in Lerdahl and Jackendoff's sense.[1] Of the three parts that Colas identifies within segment 1, the 'kernel', β, is a metrical time-span rather than a group; no group in this excerpt ends just to the left of a bar line. Colas's 'anacrusis' and 'desinence' are neither groups nor metrical units; instead they express the relations 'before the first prosodic/metrical accent' and 'after the last prosodic/metrical accent.'

Example 1 is instructive in other respects as well. Notice, first, that the vocal line of segment 1 consists of four half-bar units, with the two accents falling at the beginnings of units 2 and 4. Segment 2 shows the same pattern, as does each half of segment 3. One could therefore count the musical setting of each poetic line as '1–**2**–3–**4**', with '2' and '4' representing strong beats of the meter, although this is not the conventional way of counting in Western music.[2] Notice, secondly, that the accompaniment begins one half-bar *before* the melody, suggesting a possible conflict between melody and accompaniment over the placement of the strong beat. We will see similar relations between melody and accompaniment—also between verses, melodic groups, and metrical units—in examples by Verdi. Indeed, one often finds the same relations in Mozart's Italian operas.

Metrical preference rules
As I have already stated, I use Lerdahl and Jackendoff's theory of rhythm as my point of departure. That theory includes rules of two kinds. *Well-formedness rules* dictate what

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1   Colas's segments 1–2 together form an antecedent phrase, to which segment 3 acts as consequent.
2   Precedents exist, however, in Momigny 1821 and Westphal 1880.

kinds of structures are possible under the terms of the theory. *Preference rules* provide criteria for deciding which of the possible structures is preferred by a listener in a given instance. Here I will be dealing almost entirely with metrical preference rules, because our examples often exhibit some degree of metrical ambiguity, while their grouping structures are clear. Instead of Lerdahl and Jackendoff's metrical preference rules (MPRs), I will use the MPRs offered by David Temperley in his book *The Cognition of Basic Musical Structures* (2001). Temperley's MPRs, which mostly derive from Lerdahl and Jackendoff's, are more concise, and they avoid reference to Lerdahl and Jackendoff's concepts of 'time-span reduction' and 'prolongational reduction.' More important, Temperley includes two rules that Lerdahl and Jackendoff omit. On the following list (reproduced from Temperley 2001: 357–358), these rules appear as MPR 8 and the second part of MPR 9.

- MPR 1 (Event Rule): prefer a structure that aligns strong beats with event-onsets.
- MPR 2 (Length Rule): prefer a structure that aligns strong beats with onsets of longer events.
- MPR 3 (Regularity Rule): prefer beats at each level to be maximally evenly spaced.
- MPR 4 (Grouping Rule): prefer to locate strong beats near the beginnings of groups.
- MPR 5 (Duple Bias Rule): prefer duple over triple relationships between levels.
- MPR 6 (Harmony Rule): prefer to align strong beats with changes in harmony.
- MPR 7 (Stress Rule): prefer to align strong beats with onsets of louder events.
- MPR 8 (Linguistic Stress Rule): prefer to align strong beats with stressed syllables of text.
- MPR 9 (Parallelism Rule): prefer to assign parallel metrical structures to parallel segments. In cases where a pattern is immediately repeated, prefer to place the stronger beat on the first instance of the pattern rather than the second.[3]

Temperley's MPR 8 is not found in Lerdahl and Jackendoff's book, but linguistic stress is treated in a later study co-authored by Lerdahl (Halle and Lerdahl 1993). The second part of Temperley's MPR 9, along with several other rules found in either Temperley or Lerdahl/Jackendoff, was first articulated almost a century ago by a little-known German theorist, Eugen Tetzel. Tetzel's article 'Der Grosse Takt' (Tetzel 1921) contains what is probably the first list of metrical preference rules for levels larger than the notated bar. What I will call Tetzel's Rule runs as follows: 'The initial statement of a motive or phrase, in relation to its later imitations [or repetitions], falls on the strong point, even if the motive itself begins with an upbeat (for example, the main theme of Beethoven's Fifth Symphony)' (Tetzel 1921: 609).[4] For greater precision, I rephrase the rule thus: *When a motive is immediately repeated at the same or another pitch level, in the same or another voice, the strongest beat in the first statement is normally stronger than the strongest beat in the second statement.*

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3   Here is a table of concordance between Temperley's MPRs and those of Lerdahl and Jackendoff:

  T's MPR 1 corresponds closely to L & J's MPR 3

  T's MPR 2 corresponds closely to L & J's MPR 5a

  T's MPR 3 corresponds approximately to L & J's MWFR (Metrical Well-Formedness Rule) 4

  T's MPR 4 corresponds closely to L & J's MPR 2

  T's MPR 5 corresponds approximately to L & J's MPR 10

  T's MPR 6 corresponds closely to L & J's MPR 5f

  T's MPR 7 corresponds closely to L & J's MPR 4, and approximately to their MPR 5b

  T's MPR 8 is new

  T's MPR 9, first sentence, corresponds closely to L & J's MPR 1

4   'Das *erstmalige Auftreten eines Motivs oder einer Phrase* geschieht gegenüber deren Nachahmungen beim Schwerpunkt, auch wenn sie auftaktig gebildet sind (z.B. das Hauptthema von Beethovens c moll-Symphonie)' (emphasis in original).

A rule that, curiously, is missing from Temperley's list is one that is found in both Tetzel and Lerdahl/Jackendoff. In Tetzel's words, 'Suspensions occur in principle on strong points, while their resolution occurs on weak parts [of the metrical unit]' (Tetzel 1921: 609).[5] This is equivalent to Lerdahl and Jackendoff's MPR 8: 'Strongly prefer a metrical structure in which a suspension is on a stronger beat than its resolution' (Lerdahl and Jackendoff 1983: 89). This rule, which I will call the Suspension Rule, will prove important in some of our examples because it affects the metrical status of the cadential $^6_4$ chord.

Temperley's Linguistic Stress Rule does not differentiate among stressed syllables; there is no hierarchy of linguistic stresses. In Italian, however, the *accento comune* is, in principle, not only the last but also the strongest accent in a poetic line; the same principle applies, *mutatis mutandis*, to the French *accent tonique*. This suggests a higher-level version of the Linguistic Stress Rule, which I will call the End-Accent Rule: *Prefer a metrical structure in which the beat that carries the 'accento comune' (in Italian) or the 'accent tonique' (in French) is the strongest beat in the musical setting of a poetic line*. In Example 1, this means that the downbeat of bar 3 would be preferred over the downbeat of bar 2. In fact, under this rule every two-bar vocal segment in Example 1 would likely have its strongest beat at the end: the downbeats of bars 3, 5, 7, and 9 would be preferred over the downbeats of bars 2, 4, 6, and 8.

It is obvious that the End-Accent Rule conflicts directly with the Grouping Rule, Temperley's MPR 4. Almost by definition, the *accento comune* will be found at or near the end of a melodic group, whereas the Grouping Rule encourages a listener to place the strongest beat in a group at or near its beginning. This conflict neatly encapsulates the difference between German and Franco-Italian metrical types. In German meter, the Grouping Rule is a significant factor in metrical perception; in Franco-Italian meter, the Grouping Rule is easily overridden by the End-Accent Rule. Because German poetry has neither *accento comune* nor *accent tonique*, vocal music in German lacks the End-Accent Rule, so the Grouping Rule will govern unless other MPRs strongly contradict it.[6]

Occasionally we will find need for an additional rule, the Stability Rule, which supplements the Harmony Rule and relates to Lerdahl and Jackendoff's MPR 9. The following formulation is my own: *Prefer to align strong beats with the onsets of relatively stable harmonies, weaker beats with the onsets of less stable harmonies*. Historically, the Stability Rule is an extension of a rule first expressed by Johannes Tinctoris in the fifteenth century: consonances belong on 'good' (strong) beats, dissonances on 'bad' (weak) beats. Because not only single notes but entire chords may act as suspensions or appoggiaturas, the Stability Rule may be overridden by other preference rules in a given context.

To summarize, the metrical preference rules used in this study are nine: the Length Rule; the Grouping Rule; the Harmony Rule; the Linguistic Stress Rule; the End-Accent Rule; the Parallelism Rule; the Suspension Rule; the Stability Rule; and Tetzel's Rule. Because Lerdahl/Jackendoff and Temperley assign different numbers to several of these rules, I will refer to each rule by name rather than by number.

Although instrumental music is largely outside the scope of this study, the principles that apply to vocal music often apply to it as well. As several scholars (e.g., Rumph 2007) have pointed out, Cherubino's aria 'Non so più' begins with the same melodic rhythm as Mozart's Symphony in G Minor, K. 550. Example 2 shows the two beginnings side by side. The aria text is in *decasillabo* meter; the same poetic meter is expressed covertly by the symphonic theme. In both cases, *accenti comuni* fall on the downbeats of bars 3 and 5, so the End-Accent Rule favors these as strong beats at the two-bar level. Because several other

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5   'Die *Anwendung von Vorhalten* geschieht allerdings grundsätzlich auf Schwerpünkten, während ihre Auflösung auf den leichten Bestandteilen stattfindet' (emphasis in original).

6   See the discussion of Schubert's 'Wiegenlied' in Rothstein 2008. In Rothstein 1995 I called the Grouping Rule 'the Rule of Congruence', referring to congruence (in the geometric sense) between melodic groups and metrical time-spans.

MPRs also favor these downbeats, most analysts (including Lerdahl and Jackendoff) have read these as the strongest beats in the symphonic theme. In Benjamin 1984, however, the same theme is analyzed according to the Grouping Rule, so that its strongest beats fall on the downbeats of bars 2 and 4. Benjamin's analysis is unique to my knowledge, but what it expresses is simply a hypertrophic form of German meter: as Benjamin admits, he allows the Grouping Rule to override every other musical factor in the definition of large-scale meter (hypermeter).

Example 2a
Mozart, 'Non so più', vocal line and bass, bars 1–5.

Example 2b
Mozart, Symphony K. 550, melody and bass, bars 1–5.

Four-cycles; Franco-Italian hypermeter

Let us return to Example 1 for a moment. As we know, Rossini has set each line of poetry to four half-bars of music. At this tempo (Andantino), the half-bar represents a slow beat. A pattern in which music is consistently grouped into units of four slow beats, regardless of how those beats are notated, will here be termed a *four-cycle*. By 'slow beat' I refer to a steady pulse in the range of ca. 20–60 beats per minute (bpm).[7] German metrical hearing, with its tendency to perceive phrases and metrical units as congruent, will suggest that a four-cycle be counted '**1**–2–3–4' (first beat strong), corresponding to the metrical theories of Gottfried Weber, Moritz Hauptmann, Anton Bruckner, and Heinrich Schenker (Weber 1817, Hauptmann 1853, Grandjean 2001, and Schenker 1935/1979). Franco-Italian metrical hearing, with its tendency toward end-accent, will encourage counting a four-cycle as '1–2–3–**4**' (last beat strong), as in Hugo Riemann's metrical theory (Riemann 1903). Translated into more conventional terms, the Franco-Italian counting could be expressed as '2–3–4–**1**.'

In Rothstein 2008 I presented many examples of German and Franco-Italian counting at the level of the notated bar, with special emphasis on bars of four beats. German counting at higher levels—henceforth *German hypermeter*—is exemplified by metrical analyses in the Schenkerian tradition, including writings by Schenker, Carl Schachter, Roger Kamien, Ryan McClelland, and the present author.[8]

A tradition of Franco-Italian counting at higher levels—*Franco-Italian hypermeter*—goes back at least as far as Asioli. Example 3 is reproduced from Asioli 1836. The theme, by Haydn, is originally notated in 3/8. Asioli explicitly refers to the downbeats of Haydn's bars 3 and 7 as the *accenti comuni* of their respective four-bar phrases. Therefore, he reasons, if Haydn's theme is re-notated in 12/8, it must begin with a half-bar upbeat, or

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7   Many theorists have posited ca. 40 bpm as the slowest that can be apprehended as a salient pulse stream; I disagree. The early twentieth-century theorist Theodor Wiehmayer regarded 40 bpm as the normal lower extreme, but he maintained that this speed can be lowered to at least 20 bpm in some circumstances. See the discussion of 'expanded sound-feet' (*gedehnte Klangfüße*) in Wiehmayer 1917: 64–66.

8   See Schenker 1935/1979, Schachter 1999, Kamien 1993, McClelland 2006, and Rothstein 1989.

Example 3
Asioli 1836, Haydn theme notated in two ways—first in 3/8 (the original notation), then in 12/8.

else the *accenti comuni* will be incorrectly placed (Asioli 1836: 16). Asioli here states the principle behind Franco-Italian hypermeter as clearly as one could wish.

A decade later, Manuel García *fils* (1805–1906), teacher of singing at the Paris Conservatoire, included hypermetric analyses of three vocal pieces in his *Traité complet de l'art du chant* (García 1847/1975). Two of these analyses are reproduced in Example 4, with the composer's notation given first, García's afterwards. Both pieces are fast: the Rossini is in *alla breve*, Allegro; the Mozart is in 2/4, Presto.[9] In the Rossini, García places the *accento comune* of the *ottonario* line (which Rossini sets to four bars of music rather than the usual two) on the downbeat of his slow 4/4 bar; the secondary accent falls on the semi-strong beat 3, so that textual and metrical accents are perfectly correlated. In the Mozart, García treats da Ponte's *quinario* lines as half-lines, implying a poetic meter of *quinario doppio* (two times five syllables). The *accento comune* of this doubled line is placed on the downbeat of García's 4/4 bar. In both pieces, García's renotation helps the singer to feel longer phrases by counting the music in slower beats. His notation places the cadences of musical phrases on downbeats, just as Asioli had advised.

Example 4
Garcia 1847, Rossini and Mozart examples, in original and hypermetric notations.

Rossini, *Semiramide*, Quartet (No. 3).

Tre ma il tem - pio, in - fau - sto e - ven - to, qual mi - nac - cia a noi scia - gu - ra!

Mozart, *Don Giovanni*, Aria Don Giovanni (No. 11).

Fin che han dal vi - no cal - da - la tes - ta, u - na gran fes - ta fa pre - pa - rar!

Adagio

Tre ma il tem - pio, in fau - sto e - ven - to, qual mi - nac - cia a noi scia - gu - ra!

Fin che han dal vi - no cal - da - la tes - ta, u - na gran fes - ta fa pre - pa - rar!

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9 The pieces are: Rossini, the *stretta* of the Introduzione in *Semiramide*, Act 1; Mozart, 'Fin ch'han dal vino' from *Don Giovanni*, Act 1. García gives the meter of the Rossini incorrectly as 4/4.

Hypermeter in Verdi

In his midcentury operas, Verdi tends to compose in four-cycles, and the hypermeter of those cycles is typically Franco-Italian, at least when measured from the vocal line. As we shall see, the orchestral accompaniment may express a different pattern.

Example 5, from *Rigoletto*, illustrates how in Verdi's music of this period the Linguistic Stress and End-Accent Rules tend to override not only the Grouping Rule but also Tetzel's Rule. The poetic meter here is *ottonario*; prosodic accents fall on the downbeat of each bar, with *accenti comuni* falling on the downbeats of bars 7 and 9. Groups at the one-bar and larger levels begin in mid-bar, where changes of dynamic are also found.[10] The opening tonic, *fortissimo*, is placed on an upbeat. By contrast, in German meter several MPRs—among them the Grouping Rule, the Stability Rule, and Tetzel's Rule applied to the initial half-bar motive—would conspire to place Verdi's opening tonic on a downbeat (although the Stability Rule favors Verdi's notation in bars 3–4).[11]

Example 5
Rigoletto, Recitativo e Aria (No. 11), bars 89–97 renumbered 1–9.

The End-Accent Rule suggests that the strongest beats in the vocal portion of Example 5 are the downbeats of bars 7 and 9. If this is correct, then the downbeats of bars 3 and 5 are similarly strong, and so—significantly—is the downbeat of bar 1. The initial half-rest thus represents a downbeat at the two-bar level—a *hyperdownbeat*, as hypermetric downbeats

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10 For Lerdahl and Jackendoff, a change of dynamic often indicates the location of a strong beat; see their MPR 5b (Lerdahl and Jackendoff 1983: 81–82 and 84).

11 Example 5 bears a certain similarity to the opening of Beethoven's Piano Sonata Op. 109 (Vivace, 2/4). On Beethoven's uncertainty regarding the notation of this opening see Marston 1995: 46–54 and 66n. The very similar opening of the finale in Beethoven's Piano Sonata Op. 79 is notated in German meter, with the tonic on a downbeat and cadences in mid-bar.

will henceforth be termed. In this period of his career, Verdi often begins a piece with a rest lasting either half or three-quarters of a bar, although notating such a rest may seem unnecessary. In most cases, these opening rests are revealed in retrospect to represent silent hyperdownbeats, indicating that the piece's hypermetric structure will be Franco-Italian.[12]

A comparable example is the opening of *La battaglia di Legnano*. The overture begins with the opera's *idée fixe*, the March of the Lombard League (Example 6a – see DJMT website). The march, which is mostly notated in 4/4, recurs toward the end of the overture in *alla breve* (Example 6b – see DJMT website); the opening chorus is then set to the same music, once more in 4/4 (Example 6c – see DJMT website). In all cases, the march begins with three notated beats of rest; this is most striking in Example 6b, where the rest occupies 1.5 notated bars. As in Example 5, the poetic meter is *ottonario*, with stressed syllables falling on every downbeat, *accenti comuni* on every second downbeat. In Example 6 the End-Accent Rule is reinforced by the Length Rule: each *accento comune* is set to the longest note in the group. The two-bar level of meter is clearest in Example 6c, not only because words are present, but also because the preceding orchestral music provides a metrical context. The repeated bass notes at the beginning of the march—two bars of tonic, then two bars of dominant—would seem to promote a German hypermetrical hearing, following the Harmony Rule, but other factors make it clear that Verdi conceived the hypermeter of his march in the Franco-Italian manner.

It is tempting to assume that the End-Accent Rule is sufficient to determine the location of hyperdownbeats in Verdi's music, but such is not the case. Exceptions are frequent in ensembles, especially where voices overlap. Example 7 shows an excerpt from a duet in *La battaglia di Legnano*. Downbeats containing *accenti comuni* are marked with downward arrows, other downbeats with upward arrows.[13] Odd-numbered bars are strong at the two-bar level. Most telling is bar 7, where a four-bar-long dominant pedal resolves to the tonic. Here Lida, the soprano, ends a *verso tronco* with an *accento comune*; but the tenor, Arrigo, begins at the same moment, and one cannot begin with an *accento comune*. Bars 3 and 7 are hyperdownbeats at both two- and four-bar levels; at each of these downbeats, one character has an *accento comune* while the other does not.[14]

Example 8, a duet from *La traviata*, combines a typically Franco-Italian hypermetrical setting with occasional irregularities that, as in Example 7, result from the duet texture. Here Verdi writes in the shortest possible bars, 3/8. The poetic meter is *quinario doppio*. The fact that there is an odd number of introductory bars in the accompaniment—three—indicates, as it generally does in Verdi, that odd-numbered bars will be strong but phrases will be end-accented. The *accenti comuni* of the *quinario* half-lines fall in bars 5, 7, 9, etc.; these are hyperdownbeats at the two-bar level, in accord with the End-Accent Rule. At the four-bar level, hyperdownbeats fall in bars 7, 11, 15, and 19 (not shown), coinciding with the ends of double lines and thus with rhymes and *tronco* endings.[15] The

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12 See the introductory chorus in Act 2 of *La battaglia di Legnano* (Allegro vivacissimo, 2/4), which begins with almost a full bar of rest. Again the silent downbeat proves to be a hyperdownbeat. This is further confirmed by the renotation of the same music in 4/4 as accompaniment during the *scena* of the following duet (at the words 'livor antico di Milano e di Como'). Verdi's metronome marking is identical for the two passages (half note = 84).

13 The use of arrows in this example follows the practice of Harold Powers, who discusses this same passage in Powers 2000: 304.

14 After bar 7, where Arrigo is metrically nonconforming, Verdi compensates by stretching his next line ('T'amai, t'amai qual angelo') from two bars to three. Subsequent *accenti comuni* thus continue to fall on odd-numbered bars.

15 It would be logical to say that bar 3 is a hyperdownbeat at the four-bar level, but it seems impossible to perceive a hyperdownbeat here.

Example 7
La battaglia di Legnano, Ricordi VS (1889), pp. 85–86.

Example 8
La traviata, Duet cantabile 'Parigi, o cara' (No. 18), bars 1–15.

four-bar groups in the vocal line are, metrically speaking, not **1**–2–3–4 (German) but 2–3–4–**1** (Franco-Italian). All of this is typical of Verdi, although it would be unusual in a German vocal work of this period. Notice that, at the four-bar level, hyperdownbeats coincide with changes of harmony, satisfying the Harmony Rule.

Once Violetta has repeated Alfredo's stanza, Example 9 (see DJMT website) follows. As in Example 7, bar 7, the overlap of end and beginning leads to a violation of the End-Accent Rule by the tenor. Here, however, Verdi's solution is different. He retains the four-

bar lengths of vocal phrases—both Alfredo's outburst and Violetta's reply contain four downbeats, bars 51–54 and 55–58 respectively—but the hyperdownbeats are no longer consistently four bars apart. So much is clear from the fact that Alfredo's descending line repeats after *seven* measures. The strong bars are 51, 54, 58, 61, and 65 (not shown). In effect, Alfredo's outbursts 'should' have begun on bar 2 of a hypermeasure; instead they enter early, on bar 1, leading to a three-bar hypermeasure that represents a compression of four bars.

The odd-numbered length of an introductory 'vamp' is almost always a clear indicator, in Verdi, of Franco-Italian hypermeter. The *locus classicus* is surely 'La donna è mobile', the Duke's *canzone* from *Rigoletto*; because it is so well known I show only the beginning (Example 10). Closely comparable is Lady Macbeth's drinking song, or *brindisi*, from *Macbeth* (Example 11). Those listeners who are able to hear only German hypermeter— hearing phrases as hypermeasures and hypermeasures as phrases—will find it difficult to appreciate the rhythmic subtlety of these pieces and many like them. Both examples set *quinario* verses, using the shortest poetic line typically found in Italian libretti. In both, the vocal line is supported initially by tonic and dominant chords only. Both are notated in 3/8, with a single bar of orchestral 'vamp' before the voice enters.[16] Two-bar groups in the vocal line move, in both cases, from a weak to a strong bar, following the End-Accent Rule and the Harmony Rule while violating the Grouping Rule. In Example 11 there is a cadential $^6_4$ (bar 15, resolving in bar 16) to lend the weight of the Suspension Rule to that of the End-Accent Rule. Verdi and other Italian composers upheld the Suspension Rule far more strictly than German composers, who from Beethoven onward increasingly placed cadential $^6_4$ chords on weak bars. Doing so results almost inevitably from adherence to the Grouping Rule: if the final chord in a phrase occupies a weak bar, the antepenultimate chord—the cadential $^6_4$—will be metrically weak wherever harmonic rhythms proceed in even values, as they often do in waltzes and other dances.[17] That pieces such as Examples 10 and 11 do *not* share this German characteristic owes primarily to the one-bar offset between voice and accompaniment. Considered alone, the accompaniment does not exhibit a strongly articulated grouping structure: groups are defined solely by changes of harmony, so the Harmony Rule governs by default. Grouping structures in the melody are far more prominent, but the accompaniment persists in its attitude of unobtrusive opposition (see the noncongruent grouping analyses in Example 10). Such disagreements between melody and accompaniment were first noted by Heinrich Schenker (1935/1979: 124), but they were first theorized by Thrasybulos Georgiades (1951 and 1967).

A more obvious case is Example 12, also from *Rigoletto*. The slurs in the accompaniment delineate the orchestra's four-bar groups, which are again defined primarily by harmony. The vocal line falls also into four-bar groups, beginning always one bar later. Again the voice's four-cycles are metrically 2–3–4–**1**. The orchestra's four-cycles should be counted **1**–2–3–4, with a recurring weak-bar accent in the solo oboe.

An example in which an introductory vamp comprises an even number of bars is the *brindisi* from *La traviata* (Example 13), which forms part of the opera's opening number. This song features many vocal phrases of ten bars, subdivided 6 + 4 according to the layout of the *settenario* verses.[18] The unusual phrase lengths have often been remarked upon, but Verdi's atypical setting of line-endings has received less attention. The poetic quatrains feature rhymes between lines 2 and 3; both lines are *versi piani*. Line 1 in each

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16   In each case there is a longer orchestral introduction followed by a silence of indeterminate length, so that the metrical 'clock' resets one bar before the vocal entrance.

17   See the discussion of this point in Aldwell and Schachter 2011: 360–361; see also Schenker 1935/1956/1979: figure 137,1 (Chopin, Waltz Op. 64, No. 2, bars 33–48).

18   Line 1 appears to have eight syllables, but Verdi has chosen to set the elided *o* in 'Libiam ne' lieti calici', a *settenario sdrucciolo*. An *ottonario* line would have its first accent on the third syllable, not the second.

Example 10
Rigoletto, Canzone (No. 15), excerpt.

Example 11
Macbeth, Finale II, Brindisi, bars 1–17.

quatrain is a *verso sdrucciolo*, line 4 a *verso tronco*. For both the *sdrucciolo* and the *piano* endings, Verdi allows the final unstressed syllable to spill over into the bar following the *accento comune*. Where cadences occur—always on an *accento comune*—the following bar is either an overhang in the sense defined by the eighteenth-century theorist Heinrich Koch (bars 11–12), an empty bar in the vocal line (bars 21–22), or the resolution of an appoggiatura (bars 29–30).[19] If we were to follow Koch's precepts, we would have to say that the song should have been notated in 6/8 rather than 3/8; its *accenti comuni* and cadences belong in the final bar of each phrase, not in the penultimate bar.[20] On this view, the two-bar vamp constitutes one 'real' bar, and the situation resembles that in Examples 8–12. Of course, deciding in favor of 6/8 does not rationalize the asymmetrical phrase lengths; instead of 6 + 4 = 10 we would have 3 + 2 = 5. The voice's three-bar segments could then be understood to result from the altered repetition of the first bar in a two-bar segment. The bar that would have been the second (strong) bar of the vocal line becomes instead the third bar; this remains strong, in part, because it is supported by the End-Accent Rule. Example 14 illustrates.

19 In bars 37–38 (not shown), the note that carries an *accento comune* is tied into the following bar.
20 These ideas receive extensive discussion in Mirka 2009.

Example 12
Rigoletto, Scena, Terzetto e Tempesta (No. 18), bars 152–160 renumbered 1–9.

Example 13
La traviata, Drinking Song Alfredo (No. 3), bars 203–232 renumbered 1–30.

Example 14

Beginning of Example 13, renotated in 6/8.

Long bars in *Il trovatore*

Our final examples are taken from *Il trovatore*; they involve notation in relatively long bars. Azucena's *canzone* 'Ai nostri monti', which is similar in poetic meter and rhyme scheme to 'Parigi, o cara' (Example 8), is heard twice within the opera's final number. On its first occurrence (Example 15) the *canzone* is barred in 3/8, again like 'Parigi, o cara.' The one-bar introductory vamp is preceded by a four-bar dominant pedal (not shown). Together, these factors unambiguously mark Azucena's vocal entrance as falling on hyperbeat 2 in the now-familiar pattern 2–3–4–**1**. Remarkably, the 2–3–4–**1** pattern is confirmed visually when the *canzone* returns as part of a trio (Example 16 – see DJMT website), notated now in a 4/4 that is subdivided into triplets—12/8, in effect. This renotation, in bars four times as long as the original, resembles Asioli's renotation of a Haydn string quartet movement (Example 3), or García's of vocal pieces by Rossini and Mozart (Example 4).

Example 15

Il trovatore, Finale ultimo (No. 21), bars 124–132.

Example 17, the cabaletta of Leonora's cavatina (entrance aria) in Act 1, is rather unusual. Verdi's metronome marking of 100 to the quarter note means that the vocal line proceeds in four-cycles at a rate of 50 to the half note. A German-oriented listener would readily count these four-half-note cycles as **1**–2–3–4, guided not only by the Grouping Rule but also by the Length Rule—trilled long notes accent beat 3 in each of the first three cycles.[21] At the same time, the pizzicato bass notes delineate a clear **1**–2–3–4 organization beginning one-half bar earlier. The half-bar offset between accompaniment and melody

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21 Mid-bar melodic accents are common in German meter (Rothstein 2008: 141–144).

is a result of Verdi's notation in relatively long bars, 4/4 rather than 2/4; similar offsets in Examples 10–12 involved one notated bar. Each of the competing **1**–2–3–4 cycles is frequently reinforced, the accompaniment's by the Harmony Rule, the melody's by the two rules already mentioned, joined in bars 7–8 by Tetzel's Rule. The result, for the German-oriented listener, may well be the 'polymeter' described by Georgiades in connection with his concept of *Gerüstbau* ('scaffold structure'). The same phenomenon has been termed *shadow meter* by Frank Samarotto (Samarotto 1999) and *conflicting downbeats* by the present author (Rothstein 1989).

Example 17
Il trovatore, Cavatina Leonora (No. 4), bars 10–25 renumbered 1–16.

A Franco-Italian hearing of Example 17 is more difficult to establish because Verdi's text-setting is atypical. Instead of falling on the last beat of each four-cycle, the *accento comune* is placed on the second beat in most cases (see the downbeats of bars 2, 4, and 6). Later *accenti comuni* are spaced irregularly (bars 9, 10, 12, 14, and 17), despite the continuation of clear four-cycles in both melody and accompaniment. *Accenti comuni* are thus an unreliable guide in this instance, but the vocal four-cycles may be heard as end-accented on account of the Harmony Rule, another similarity to Examples 10–12. In other words, the vocal line may be heard, in the usual Franco-Italian manner, as 2–3–4–**1**. Supporting a Franco-Italian hearing of the cabaletta are the placement of the cadential $^6_4$ in bar 8 and the altered accompaniment in bar 13, where the bass is silent for the first beat in a vocal four-cycle. In this hearing, the cadences in bars 9 and 13 fall on hyperdownbeats.

Metrical theory revisited: MPRs *all'italiana*
Our analyses have been necessarily brief, but they have offered sufficient evidence that a re-weighting of metrical preference rules is necessary for the analysis of Verdi's midcentury operas. Example 1 (Rossini) suggests that this re-weighting may apply to Italian music of the *primo ottocento* more generally. The following remarks, however, are intended primarily to describe Verdi's style of the 1840s and early 1850s.

For convenience, I list again the nine MPRs that I earlier singled out as most relevant to this study. After each rule I offer my assessment of the rule's strength in Verdi's music of the period in question, *versus* its strength in Austro-German music of the mid-nineteenth century.

> *Length Rule*
> in Verdi: moderately strong; in German music, moderately weak (easily overridden by the Grouping Rule)
> *Grouping Rule*
> in Verdi: weak; in German music, strong
> *Harmony Rule*
> in Verdi: strong; in German music, moderately strong (may be overridden by the Grouping Rule)
> *Linguistic Stress Rule*
> strong in both (applies mostly to meter on the smallest scale)
> *End-Accent Rule (absent from Temperley and Lerdahl/Jackendoff)*
> in Verdi: strong; in German music, weak or nonexistent in small forms, somewhat stronger in large ones[22]
> *Parallelism Rule*
> strong in both
> *Suspension Rule*
> in Verdi: strong; in German music: moderately strong (may be overridden by the Grouping Rule)
> *Stability Rule*
> in Verdi: moderately strong (may be overridden by the End-Accent Rule); in German music, moderately strong (may be overridden by the Grouping Rule)
> *Tetzel's Rule*
> in Verdi: moderately weak; in German music: strong

Preference-rule systems are designed to model the ways in which an experienced listener chooses *one* structural description of a piece from among those descriptions that fulfill basic grammatical requirements; the latter are expressed by well-formedness rules (Lerdahl and Jackendoff 1983: 9). Lerdahl and Jackendoff distinguish between rules that are idiom-specific and those that are universal, but among their MPRs only the Suspension Rule is specifically designated as idiom-specific (Lerdahl and Jackendoff 1983: 345–348). In Rothstein 2008 I demonstrated the idiom-specificity of composers' metrical notation and of the metrical theories upon which notation rests. Different metrical idioms were defined partly by historical period, but more importantly by linguistic traditions. Not surprisingly, differences that are so defined show themselves with special clarity in music with text. The Verdi and Rossini passages examined here exhibit many of the same features found in Rothstein 2008 in texted and non-texted examples by Italian and French composers, features that are relatively poorly modeled by the MPR systems of Temperley and Lerdahl/Jackendoff.[23] It may be an exaggeration to claim that different nineteenth-century repertoires require different lists of MPRs, but the same MPRs must surely be weighted differently for Verdi than they would be for Schumann or Chopin, Brahms or Bruckner, Dvořák or Tchaikovsky. Even when a given preference rule carries approximately the same strength in different idioms, as with the Stability Rule in the list

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22 See, in Grandjean 2001, the discussion of weak-bar *vs.* strong-bar cadences in symphonies by Beethoven and Bruckner. See also the discussion of closing themes in Temperley 2003.

23 The same 'Franco-Italian' characteristics were discovered in the 'Badinerie' from J.S. Bach's Ouverture in B Minor, BWV 1067, a piece that refers explicitly to the French style (Rothstein 2008: 133–134).

offered above, the way the rule interacts with other rules may differ. If a preference-rule system constitutes a filter through which listeners make sense of what they hear, then a different filter is required for Verdi than for many other nineteenth-century composers.

These considerations lead, finally, to a re-examination of the concepts 'meter' and 'accent.' In Asioli's 12/8 version of a theme by Haydn (Example 18a, reproduced from Example 3), the placement of the bar lines, intended to mark the strongest beats, is regulated by the location of *accenti comuni* in the melody. Renotated in a 'German' 12/8 (Example 18b), a notation that reflects the thinking of theorists such as Weber and Schenker, the placement of the bar lines—again intended to mark the strongest beats—is determined primarily by the Grouping Rule, reinforced in this case by the presence of low bass notes. Both notations seek to clarify the location of 'strong' or 'accented' beats, but these terms mean different things in each case. In Asioli's Franco-Italian meter, 'accent' refers to what Lerdahl and Jackendoff term *phenomenal accent* (Lerdahl and Jackendoff 1983: 17)—above all, to accents that would be recognized by the Linguistic Stress and End-Accent Rules. In German meter, 'accent' refers primarily to ordinal primacy, to *firstness*, as Carl Schachter has lucidly explained (Schachter 1999: 80–83). Phenomenal accents play a limited role in German meter; they override ordinal primacy only where especially and consistently pronounced.[24] This is one reason why, in the late nineteenth century, theorists began to avoid the term 'accent' when discussing meter: when the purely psychological accents of German meter were translated by performers into phenomenal accents, the results were aesthetically deplorable. Better, said these theorists, to recover an older metrical tradition—that of the ancient Greeks, according to Westphal (1880); that of Koch, according to Riemann (1884)—in which performed (phenomenal) accent corresponds better to sense-accent. Thus the curious return by late-nineteenth-century German theorists to Franco-Italian metrical principles began as a reaction against the confusion, by bad performers, of the psychological 'German' accent with phenomenal, performed accent.

Example 18a
Example 3, 12/8 version.

Example 18b
The same, renotated in 'German' 12/8.

24 Thus Donald Francis Tovey, in general an adherent of German meter, writes of a passage in Beethoven's Sonata Op. 2, No. 1: '[W]hat sort of abstraction can an accent be if it is *never* the loudest note of a passage?... A *sforzando* on the third beat is a mere cross-accent; but the *sforzandos* on the first beat once in two bars will keep us in step' (Tovey 1931/1998: 14).

One of the most distinguished of recent metrical theories, that of Christopher Hasty (1997), is psychological in a sense that will easily be recognized as 'German'. Inspired by the metrical theory of Moritz Hauptmann (1853), Hasty's concept of 'projection' describes cyclic impulses that a listener generates internally in response to a sound stimulus. New impulses are identified with beginnings, so a projection is a psychological motion from one 'first' to another. Like the theory of Lerdahl and Jackendoff (with which it may appear to share little), Hasty's concept of meter easily models the multi-leveled metrical structures found, say, in Bruckner's symphonies, and it surpasses Lerdahl and Jackendoff's theory in describing the *experience* of German meter. Both theories seem less readily applicable to our Verdi examples, which conform more closely to the end-accented metrical models of Asioli, Westphal, and Riemann.

Future research into musical meter may draw finer distinctions than I have been able to do here. I hope, however, that my main point is established. Theorists who seek to define 'the' nature of musical meter should be aware that there is no 'the.' Musical meter builds upon universally human predispositions, but it remains a culture-bound phenomenon, irreducible to any of the models that theorists have yet devised to capture its essence.

Music Examples at www.djmt.nl

Example 6	*La battaglia di Legnano*, Ricordi VS (1889)	
	a) VS, p. 1 (Sinfonia, bars 1–5).	
	b) VS, p. 8 (Sinfonia, a later passage).	
	c) VS, pp. 16–17 (Coro d'Introduzione).	
Example 9	*La traviata,* Duet cantabile 'Parigi, o cara' (No. 18), 48–65.	
Example 16	*Il trovatore*, Finale ultimo, bars 240–242.	

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