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Criteria for Analysis:: Perspectives on Riemann's Mature Theory of Meter

William E. Caplin

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Abstract and Keywords

This article focuses on Riemann's theories of rhythm and meter. It specifically aims to clarify the criteria that Riemann uses in justifying his metrical analyses by examining his theories from two general perspectives. The first perspective assumes that musical events are understood to receive their metrical interpretation—that is, which events are deemed metrically accented and which are metrically unaccented—according to the mechanics of notation associated with that theory, such as time signatures and bar lines. This perspective is termed *notated meter*. The second perspective assumes on the contrary that the musical events themselves can express their own metrical interpretation independent of the notation. That is, the interaction of certain musical parameters (such as duration, motivic contour, duration) can engender a sense of meter in a listener who is unaware of how the music may be actually notated. This perspective is termed *expressed meter*. While Riemann failed to realize the full potential of his own skepticism on the status of notation, his attempt to account for the origin of accent on the basis of musical content alone remains a significant achievement in the history of metrical theory.

Keywords: theories of rhythm, meter, notated meter, expressed meter, notation, metrical theory

THOUGH Hugo Riemann's reputation as a music theorist is based largely on his theory of harmonic functions, his contributions to the theory of musical rhythm and meter are no less significant. Indeed, Riemann was preoccupied with issues of musical temporality throughout his career, proposing along the way a variety of theoretical formulations and analytical models. By the late 1890s, his views on meter had become relatively fixed, and this "mature theory," as it may be called, found expression in a wide range of publications.[1] Although his earlier views are of considerable interest, his mature theory of meter has exerted a greater impact, both positive and negative, on the subsequent history of theory. Like his theories of harmony, his theories of rhythm and meter still dominate in Germany and Northern Europe, while they continue to be regarded with suspicion in most Anglo-American academic circles.

A number of important studies have already laid out the basics of Riemann's metrical theory,[2] yet some aspects of it remain open to scrutiny. In particular, the various ways in which Riemann understands how

metrical accentuation comes into being—whether it ensues directly from a preconceived model or whether it arises naturally out of the musical materials themselves—call for further study and interpretation. The present essay seeks to clarify the criteria that Riemann uses to justify his metrical analyses by examining his theories from two general **(p. 420)** perspectives, ones from which any theory of meter can be formulated and applied analytically. From the first perspective, musical events are understood to receive their metrical interpretation—that is, which events are deemed metrically accented (or strong) and which are metrically unaccented (or weak)—according to the mechanics of notation associated with that theory, such as time signatures and bar lines. Such a perspective can thus be termed a *notated meter.* A second perspective assumes, on the contrary, that the musical events themselves can express, so to speak, their own metrical interpretation independent of the notation. That is, the interaction of certain musical parameters (such as pitch, duration, motivic contour) can engender a sense of the meter in a listener who is unaware of how the music may actually be notated, a situation that arises in many listening contexts. This perspective can be termed *expressed meter.*

At first consideration, Riemann's mature theory of meter, as represented at various times in his writings by the kinds of models shown in example 15.1 seems to function as a notated meter. Though different in format, four essential features are common to each model. First, they present a hierarchical organization comprising four levels of structure—the level of the beat, the measure, the two-measure half phrase, and the four-measure phrase. By proposing a metrical interpretation for levels residing beyond the confines of the notated measure, indeed as high as a full eight-measure period, Riemann brings to a culmination the general nineteenth-century tendency to view higher level rhythm as hypermetrical.[3] Second, each level of this temporal hierarchy contains a series of regularly alternating accented and unaccented events. In this respect, Riemann's mature model conforms to traditional approaches. Third, every rhythmic grouping of the events at each level is understood to be "end-accented." Unlike most earlier views, in which the accent is regarded as the *beginning* of a structural unit (such as the measure), Riemann dogmatically holds that in all cases, and at every level of metrical organization, the accented event is an *end*, a goal of musical motion. His model of musical meter has therefore been appropriately termed an *Auftakttheorie* ("theory of upbeat"). The aesthetic principle underlying this view is that of "active hearing."[4] According to Riemann, we do not passively relate an unaccent to the accent that precedes it, but rather we actively direct our attention to the accent that follows it; we hear toward a goal, not away from a starting point. Fourth, and finally, Riemann establishes his model as preexisting, as a theoretical a priori. The musical content receives its metrical interpretation from the model, which compensates for the lack of notational symbols for meter at levels above that of the measure. In short, the model can be considered a kind of *notated meter*, such that the model itself provides the metrical interpretation for higher levels of structure.

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Ex. 15.1a. From *Elementar-Schulbuch*, 180.

A closer examination reveals, however, that Riemann's metrical theory can also be understood from an *expressed-meter* perspective. Indeed, Carl Dahlhaus has argued that Riemann's metrical analyses are grounded in specific pitch relationships: "The harmonic criteria upon which Riemann bases the distinction between heavy and light measures are never explicitly articulated or grounded by him. They can, however, be reconstructed through an analysis of his analyses. Riemann is still a systematizer, even
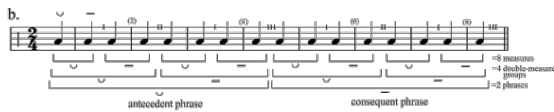
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Ex. 15.1b. From "Neue Beiträge zu einer Lehre von den Tonvorstellungen," 11.

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Ex. 15.1c. From *Große Kompositionslehre*, 1: 27–28.

when he is silent."[5] Though Dahlhaus is surely correct in identifying principles of **(p. 421)** harmony that lie at the root of Riemannian metrics, an investigation of Riemann's writings reveals that he is far from silent on the criteria he uses for analyses. In a number of remarks scattered throughout his mature writings, he justifies his metrical readings by appealing to the actual content of the music under consideration. In doing so, he invokes five principles: (1) *Harmoniewirkung* ("effect of harmony"), (2) motivic imitation, (3) durational accent, (4) tonal accent, and (5) *Schlußwirkung* ("effect of cadence").[6] In an effort to interpret Riemann's own account of his system, I examine each of these principles in order to consider the extent to which they reflect an **(p. 422)** expressed-meter perspective. I further attempt to determine whether theorists would likely hold these criteria as valid and persuasive today.

Harmoniewirkung

The first extensive treatment of Riemann's main principle of harmonic-metric interaction appears in the first volume of *Grundriß der Kompositionslehre*: "First of all, it can be generally stated that the more accented a note is, the more one expects it to have a change of harmony; in other words, the moments of time upon which new harmonies preferably enter are the strong points of the motive, group [of motives], and phrases."[7] *Harmoniewirkung* thus involves a change of harmony and the relationship of the new harmony to accent. In *Grundriß der Kompositionslehre*, the principle is formulated from a notated-meter point of view: structural units are identified as accented or unaccented prior to a consideration of their harmonic content. Indeed, the heading of the chapter in which *Harmoniewirkung* is treated, "Die Stellung der Harmonie im Satzbau" ("The Placement of the Harmony in the Structure of the Composition") directly refers to a preexistent framework within which the actual music is set. In a later work, *Vademecum der Phrasierung*, Riemann reconsiders the relationship of content to structure in a new light. In particular, he addresses the problem of how performers can determine the correct metrical interpretation of the music so that they can properly convey this understanding to listeners (who may not have the notation before them). Simply following the composer's notation is not always a sure guide for the performer:

> The differentiation of accented and unaccented notes is not dependent upon the caprice of the composer, but rather already lies in the nature of the musical ideas themselves, and it is only a question of characterizing this differentiation in the notation. In what, then, does the essence of the various weights of the tones consist?[8]

In this important passage, Riemann explicitly calls for the formulation of a metrical theory from an expressed-meter point of view. Indeed, this is perhaps the first time in the history of music theory that the need to determine the way in which accents and unaccents "lie in the nature of the musical ideas themselves" is so consciously articulated. Riemann answers his own question about the "essence of the various weights of the

tones" by referring to *Harmoniewirkung*:

> Since we do not want to introduce here detailed aesthetic and theoretic discussions, it can just be stated short and to the point that the accented beats are, in general, the bearers of *Harmoniewirkungen*, that the composer must set the bar lines accordingly, and that the listener can also recognize the various weights of the tones from the *harmonic content.* Assuming that a listener writes down by ear a melody that is unknown to him before, then the places where the harmony changes…will reveal themselves as the most important, as those that are entitled to characterization in the written copy [through bar lines].[9]

(p. 423) With respect to the examples that follow this passage, some of which are shown in example 15.2, Riemann notes that not every chord change marks a strong beat (e.g., the chord marked with N. B. in example 15.2a). Yet the examples "document to some extent the dependence of the choice of meter and time signature on the motion of the harmony."[10]

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Ex. 15.2. From *Vademecum der Phrasierung*, 42–43; (a) Beethoven, Piano Sonata in F, Op. 2, No. 1, ii, mm. 1–4; (b) Beethoven, Piano Sonata in E, Op. 14, No. 1, i, mm. 1–4; (c) Beethoven, Piano Sonata in G minor, Op. 49, No. 1, i, mm. 1–4; (d) Beethoven, Piano Sonata in B-flat, Op. 22, iv, mm. 1–4; (e) Beethoven, Piano Sonata in E-flat, Op. 31, No. 3, iii, mm. 1–4.

In example 15.2a, b, and c, the change of harmony creates what I have termed *initial accents*, following the lead of Moritz Hauptmann.[11] Such accents arise when we can identify two levels of motion, such that the onset of events at one level creates the sense of accented events at the next lower level of motion. Here, the onset of a new harmony at the level of the measure creates an initial accent at the level of the beats within the measure. The placement of the bar lines in these cases corresponds to these initial accents. In example 15.2d and e, the change of harmony in measures 2 and 4 also creates initial accents at the level of the beat. But in these two **(p. 424)** examples, which feature the harmonic progression *T–D–D–T*, another set of structural levels comes into play as well. If the tonic harmony of measure 4 is continued into measure 5 (which is the case in both examples), then the *Harmoniewirkung* operates at the level of the *double measure*: measures 2 and 4 thus become initial accents in relation to measures 3 and 5. Here, then, *Harmoniewirkung* creates initial accents at *two* levels of structure.

Riemann also uses *Harmoniewirkung* to explain meter at the level of the measure even though the conditions for initial accents, as I have defined them, are not present. For instance, he considers that the tonic–subdominant progression in the full cadence *T–S–D–T* of example 15.2b can be analyzed as unaccented–accented because of *Harmoniewirkung*: "The beginning whole (i.e., the first measure) becomes understandable as unaccented through the change of harmony in the second measure, and the cadence *T S D T* comes plainly to a close in the fourth measure."[12] The second measure of the passage, however, is *not* a genuine initial accent: the change of harmony there does not introduce a higher level event (at the double-measure level) because measure 3 also brings a new harmony, the dominant. The

accent in measure 2 could be considered an initial accent only if Riemann could explain how **S** and **D** together comprise *one* harmonic event (which, within his theory of harmonic functions, would be nonsense).

It would seem that for Riemann, *Harmoniewirkung* creates accent merely on the basis of a change in harmony. When these accents actually reside at a level lower than that of the harmonic change itself, then they can be explained according to the expressed-meter principle of initial accentuation; when the accents are identified as arising at the *same* level as that of the change of harmony, then they cannot be so justified. In those cases, Riemann reveals a misunderstanding about the hierarchical conditions necessary for harmonic change to create accent.

In example 15.2d and e, the accents associated with *Harmoniewirkung* happen to conform exactly to his *Auftakttheorie.* In other cases, though, Riemann has to ignore some changes of harmony in order to preserve the regular alternation of accents and unaccents assumed in his notated-meter model. For example, the change from **S** to **D** at measure 3 of example 15.2b is, as already discussed, merely disregarded without comment. Another interesting case concerns the progression **T–T–D–T** in example 15.3, where the motion from **T** to **D** would seem to make measure 3 accented according to the principle of *Harmoniewirkung.* Riemann's explanation for why an accent does not occur at this place is significant:

> Among the simple presentations of the tonic, we could also consider the frequent structure that does not actually progress to a dominant, but that just makes a retrogression from such [a dominant] to the tonic, so that only a passing dominant, so to speak, is inserted between two tonics that are brought on relatively accented beats.[13]

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Ex. 15.3(a)–(b) From *Grundriß der Kompositionslehre*, 72; (a) Beethoven, Overture to Fidelio, mm. 49–52; (b) Kuhlau, Op. 20, No. 3, ii, mm. 1–4.

A similar explanation for the same progression is given in the *Handbuch der Harmonie- und Modulationslehre*: "If a foreign harmony enters between two relatively accented beats of the same harmony (e.g., the accented beat of the first **(p. 425)** and second measure), this foreign harmony does not produce a complete effect, but appears only as *passing*."[14]

In both explanations, the progression **T–D** does not represent a change of harmony; rather, the dominant is considered as merely ornamental. When the **T–D** progression occurs between measures 1 and 2 (as in example 15.2a, c, d, and e), *Harmoniewirkung* can be identified, but when the same progression takes place between measures 2 and 3 (example 15.3), the dominant is passing. The harmonic content of both progressions is the same; the only difference is the placement of the harmonies within the phrase. Thus, Riemann returns here to a purely notated-meter account of *Harmoniewirkung.* Rather than allowing the manifest change of harmony to indicate the location of accents, the a priori scheme itself determines the harmonic change. Although Riemann employs *Harmoniewirkung* from an expressed-meter point of view in *Vademecum der Phrasierung*, he abandons his position as soon as an analysis from that perspective does not conform to his notated-meter *Auftakttheorie*.

In some cases, however, Riemann's implicit appeal to *Harmoniewirkung* results in analyses that stand in a more flexible relation to his model. In example 15.4, the change from tonic to dominant at measure 4 conforms

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Ex. 15.4. Beethoven, Piano Sonata in C minor, Op. 10, No. 1, i, mm. 1–31; from Hugo Riemann, *L. van Beethovens sämtliche Klavier-Solosonaten*, 3 vols. (Berlin: M. Hesse, 1917–19), 1: 279–80.

to the model as does the change back to tonic at measure 8. (It is unclear, however, how we are to understand measures 2 and 6 to be strong in relation to measures 1 and 5.) At the final measure of period II (last measure of system 5, measure 22 of the movement), Riemann analyzes a structural elision ("8 = 1"), whereby the cadence of period II (which closes the main theme) projects measure "8" of the model (according to the principle of *Schlußwirkung* to be discussed below) while at the same time beginning period III (the closing section) on a measure "1." This nine-measure period opens with the harmonic pattern ***T–T–D–D***. According to the principle of *Harmoniewirkung*, the third measure of the period (measure 24 of the movement) would be accented; so, too, would be the return to tonic at the fifth measure (measure 26). But such an analysis would not conform to the model. As a result, Riemann indicates that the change to dominant at measure 24 is a "2" (rather than a "3") by extending the interpretation of "1" over both measures 22 and 23. Riemann is thus able to employ the principle of *Harmoniewirkung* in a way that agrees with his model, though in order to do so, he must break with a mechanical counting of the measures.[15] **(p. 426)**

Melodic Imitation

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Ex. 15.5. Beethoven, "Leonore Overture," No. 2, mm. 57–65; from *Vademecum der Phrasierung*, 50.

Although Riemann places primary emphasis on *Harmoniewirkung* as a metrical determinant, he admits that in some situations, harmony "leaves us in the lurch": "In all cases where the harmony remains the same for a longer series of measures,…it is clearly necessary to establish the various weights of the measures in another way."[16] Where *Harmoniewirkung* is not forthcoming, Riemann turns to melodic content for the expression of "statement" (*Aufstellung*) and "response" (*Antwort*) that are his **(p. 427)** main metaphors for unaccent and accent respectively: "It is easy to recognize that the relationship of statement and response is expressed not only, but above all, in the return of the same or similar melodic phrases, in the imitation of the motive."[17]

Riemann illustrates his principle that melodic imitation creates accent with the opening of Beethoven's "Leonore Overture," no. 2 (example 15.5). He notes that the second phrase is metrically stronger than the first because of a repetition of melodic contour. Furthermore, within each phrase, he claims that a simple change in direction suffices to express melodic imitation: "It has indeed long been recognized that inversion is a form of imitation."[18] Thus the second half of each phrase in example 15.5 reverses the melodic direction, thereby imparting greater metrical weight to the double measures 3–4 and 7–8. Since Riemann considers that one "real" measure in this example consists of two "notated" measures, the real measures 2 and 4 are accented in

relation to measures 1 and 3, an analysis that fully conforms to his notated-meter model. Armed with the criteria of *Harmoniewirkung* and melodic imitation, Riemann confidently asserts that he can explain the metrical structure of most musical phrases: "Both of these factors—the melodic contours and the harmony—will be found sufficient at least in the great majority of cases for a certain determination of the metrical weight."[19]

Riemann may be certain of his analyses, but, as Dahlhaus points out, the premise that melodic imitation creates accent is open to serious question: "In general, motivic repetition (not unlike harmonic repetition) gives rise to a copy, which is less weighty than the model."[20] Indeed, if one accepts the principle of initial accentuation, then it is contradictory to assume that a "second" of something is necessarily accented in relation to a "first." Nevertheless, Riemann's fundamental aesthetic of "active hearing" leads him to just such an experience of musical meter.

Durational Accent

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Ex. 15.6. From *Musikalische Dynamik*, 31–32.

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Ex. 15.7. From *Große Kompositionslehre*, 1: 23.

In an early treatise, *Musikalische Dynamik und Agogik*,[21] Riemann introduces the concept of "agogic accent," in which an event receives accentuation through a performed, minute extension of its durational value. Such an accent is not, however, based on any durational differentiation notated by the composer. The note that the **(p. 428)** performer elongates may well be notated with the same rhythmical value as the preceding or following notes, as in example 15.6, where, within a succession of steady eighth notes, agogic accents (indicated by the carets) can be used by the performer to differentiate a 3/4 meter from a 6/8 one. In his mature theory, Riemann appeals to another process of accent formation, one that is rooted in a manifest difference in the duration of the events, differences that the composer specifically notates. These accents generally arise from the proportions 2:1 or 3:1, as in example 15.7, taken from the *Große Kompositionslehre*. As Riemann notes, "The ear instinctively attributes the greater weight to the tones that are distinguished by longer duration; that is, the ear assumes a time signature that places these notes directly behind the bar line."[22]

In *Vademecum der Phrasierung*, he specifically uses durational differentiation as a criterion for metrical analysis. The aesthetic effect of relatively long notes is to bring musical motion to a standstill, and such a cessation is most appropriate for the end of a thematic idea:

> Therefore, the longer values generally fall consistently on the accented beats…. After we have once understood that the accented beat is articulative in itself, this combination [of long and short] appears as a quite natural and obvious means of assisting the articulating force of the accented beats; since the accented beats **(p. 429)** are not always immediately recognizable as such, this assistance is often

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Ex. 15.8. Beethoven, Piano Sonata in E-flat, Op. 27, No. 1, i, mm. 1–4; from *Vademecum der Phrasierung,* 57–58.

enough necessary.[23]

Riemann then appeals to durational differentiation to support his metrical analysis of the beginning of Beethoven's Piano Sonata in E-flat, op. 27, no. 1 (example 15.8): "The assumption that the bar lines really stand correctly [in staff a] forces one to interpret the motive as [in staff b], hence, with incessantly hindering long values in the upbeat and with 'appended motives' on all of the accented measures."[24] By changing the bar lines to indicate his idea of the correct metrical

organization, Riemann now makes the longer values correspond to the metrical accents, as shown in staff c.[25]

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Ex. 15.9.


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Ex. 15.10.

Though Riemann's appeal to durational accents in this example might seem unproblematic (even if his ultimate metrical interpretation and renotating may not convince today's listeners), the relationship of short to long in this example raises further complications. Looking back at example 15.7, we can observe that the alternation of short and long events occurs at a single level of metrical motion: at the level of the quarter note (for alternating half notes and quarter notes) or at the level of the eighth note (for the dotted quarters and eighths). And it would be hard for listeners to hear an implied metrical interpretation that places bar lines before the short note values. But the situation in example 15.8 is more complex. Consider the more abstract situation of example 15.9. As shown by the upward-stemmed notes,

the single half note can relate to the prior and subsequent quarter notes at the level of quarter-note motion and thus acquire a durational accent, as in interpretation (a). But at the level of half-note motion, the single half note also relates to the combined quarter notes, shown as a bracketed half note in the downward stemmed line of notes; the situation here would not generate any durational differentiation. Thus at the half-note level, both interpretations (b) and (c) are reasonable. In other words, it is not so evident that the metrical setting in line b of example 15.10 is necessarily so much more compelling than that of line a. To be sure, there may be a residual effect of the durational differentiation at the level of the quarter note that slightly **(p. 430)** allows us to favor line b, but that effect is hardly as striking as that which arises in the case of the unambiguous durational differentiation of example 15.7. That many listeners today would not readily accept Riemann's rebarring of the Beethoven Sonata (staff c of example 15.8) suggests that the force of the durational accents identified by Riemann is perhaps not as strong as he claims.
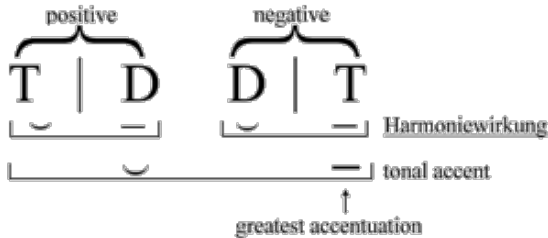
Tonal Accent

Another criterion for metrical analysis involves the relationship of harmonic function and meter. In an earlier study, I have shown that a handful of theorists from Rameau to Riemann link tonic harmony and metrical
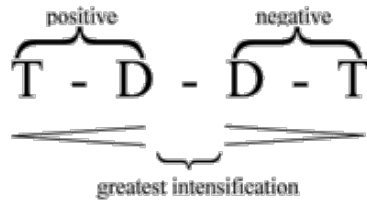
Ex. 15.11.

Ex. 15.12.

accentuation in various ways—ranging from Hauptmann's highly abstract "correspondence" of tonic and accent to Vogler's rigid rule requiring all tonic harmonies to be placed on strong metrical positions.[26] Early in his career, Riemann forcefully articulated a position associating tonic harmony and metrical accent, a criterion that can now be termed *tonal accent.*[27] Somewhat later, when focusing on his theory of "dynamic shading" in *Musikalische Dynamik*, he seemed to reverse positions and associated dominant harmony (as opposed to tonic) with the "metrical climax," the moment of greatest intensification within a metrical motive (see example 15.11).[28] Given his earlier interest in such harmonic–metric relationships, it is surprising then to discover that he largely ignores this issue within his mature writings, focusing instead on *Harmoniewirkung* and *Schlußwirkung* ("effect of cadence," to be discussed shortly). The only statement suggesting the existence of tonal accents is found in *Grundriß der Kompositionslehre*: **(p. 431)**

> If we now seek out the natural relationship between harmonic motives and the metrical elements of form, it follows as most simple and obvious that a positive and negative harmonic motive stand in symmetry with each other; that is, a first member brings the turning away from the tonic, the second member brings the return to the tonic.[29]

In describing a "positive" and "negative" development, Riemann seems to be expressing a view similar to that found in his earlier theory of dynamic shading, where the dominant harmony receives the greatest intensification (see again example 15.11). But Riemann's mention of a first and second "member" (*Glied*) is a reference to the *Auftakt* model of notated meter in his mature theory, and the relationship of accentuation and harmony is actually different from that presented in *Musikalische Dynamik* when, as shown in example 15.12, *two* levels of metrical structure are taken into account. At the lower level, each "member" is made up of two harmonies: **T–D** and **D–T**. The higher level consists of a single member embracing the two lower level ones. According to the *Harmoniewirkung*, and in correspondence with his a priori model, the second part of each lower level member is accented in relation to the first. At the next level up, the second complete member (**D–T**) can be seen as a *tonal accent* in relation to the first member (**T–D**) because, according to the model, the actual point of accent of the higher level corresponds with the accent of the lower level. In this way, the (second) tonic harmony, not the dominant, is directly associated with the higher level accent. Thus a rudimentary notion of tonal accent can be seen to play a role in certain situations involving the relatively common distribution of harmonies shown in example 15.12. Indeed, many classical themes open with just this alternation of tonic and dominant harmonies, such as those in example 15.2d and e. And to the criterion of *Harmoniewirkung* already offered (to explain the metrical analysis at the level of the measure) can now be added a criterion of tonal accent to explain the metrical analysis at the level of the double measure.

(p. 432) Insofar as Riemann associates a *return* to the tonic with the metrical strong point, he presents only a partial concept of tonal accent, for he never finds the opening tonic of a phrase to be metrically strong. The motion from **T** to **D** at the beginning of a progression does not express the pattern "accent–unaccent" because

of tonal differentiation, but rather, it forms the reverse pattern, "unaccent–accent," because of *Harmoniewirkung.* That Riemann does not recognize the existence of initiating tonal accents is, of course, consistent with his general aesthetic principle, in which the process of hearing is always directed toward a goal. In his mature theory, the tonal accent is linked exclusively to the end of a musical idea, which is frequently a point of cadence. Since Riemann often refers to a *Schlußwirkung* ("effect of cadence"), this concept must now be examined in some detail.

Schlusswirkung

One of Riemann's most frequent rationales for renotating the bar lines of a musical work (in order to reflect what he deems to be its true metrical interpretation) is that the *Schlußwirkungen* must fall on accented positions. An understanding of the relationship that Riemann draws between "cadence" and "accent" is complicated, because the very notion of cadence traditionally includes a variety of factors—harmonic, melodic, rhythmic, *and* metric. In order to avoid a logical circularity, it is necessary to determine whether or not a cadence can exist independent of a determinate metrical position. If so, then at least it is possible that cadence can be used as a criterion of expressed meter.

The most complete definition of *Schlußwirkung* is found in the *Elementar-Schulbuch der Harmonielehre*:

> The harmonies that enter on the beginning of the fourth and eighth measures make *Schlußwirkungen* [cadential effects] or *Schluß*-like effects, according to the extent to which the chords are suitable for the cadence or not. In the strictest sense, only the tonic is suitable for the cadence…. But a kind of *Schlußwirkung* can also be made by all other harmonies that fall on these accented beats, thus the dominant as well, assuming that it enters as a consonant chord."[30]

Here, the identification of *Schlußwirkung* is dependent directly upon a notated meter (the a priori schemes of example 15.1, above). At the same time, however, a definite harmonic component, a chord that is "suitable for the cadence," is also required for the effect. And although Riemann gives preference to the tonic harmony, he nevertheless concedes that other triads can also create "a kind of cadence."

Riemann presents a similar definition of the cadence in *Grundriß der Kompositionslehre*: "If the 'answers' given here [*D–T* or *S–T*] are grouped symmetrically with their corresponding 'statements,' they are entitled to the name *cadence*."[31] **(p. 433)** The symmetrical grouping refers again to Riemann's notated-meter model. Like the explanation in *Elementar-Schulbuch*, the cadence is considered to possess two necessary components —harmonic content and metrical position: "Thus in addition to symmetry, the harmonic retrogression [e.g., *D* returning to *T*] belongs to an actual cadence: both factors assume and mutually support each other."[32] But Riemann then qualifies this mutual relationship:

> As we will see, however, there is the possibility of breaking through the symmetry with the help of the harmony and of forcing *Schlußwirkungen* where the metrical prerequisites are lacking; in such cases, the tonality must naturally be expressed especially powerfully, and the assistance of motivic imitation can hardly be dispensed with.[33]

Under some circumstances, then, meter is not a necessary condition for *Schlußwirkungen.* By allowing the

cadence to be defined in terms of harmony, melody, and rhythm (the reference to "motivic imitation" incorporates these last two parameters) and by making it independent of an a priori metrical placement, Riemann lays the foundation for the use of *Schlußwirkung* as a criterion for expressed meter. In *Vademecum der Phrasierung*, for example, he regards the location of the *Schlußwirkungen* in the slow movement of Mozart's Piano Sonata in G, K. 283, as decisive for the correct metrical interpretation (example 15.13 gives the opening measures):

> Therefore, the critical question becomes: does the beginning tonic or the following dominant have the greater weight in the theme? The course of the theme through twelve full common-time (𝄴) measures shows that all of the *Schlußwirkungen* fall in the middle of the measure, and that by choosing his notation in 𝄴 rather than in 2/4, Mozart did not leave out the bar lines of the unaccented measures (1st, 3rd, 5th, and 7th) as would have been correct, but rather he left out those of the accented ones (2nd, 4th, 6th, and 8th).[34]

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Ex. 15.13. Mozart, Piano Sonata in G, K. 283, ii, mm. 1–2.

The first *Schlußwirkung* is a half cadence with the dominant harmony on the third beat of measure 2. To be sure, we sense at this point a kind of closure, articulated most strongly by the motion of the bass voice, but whether such a sense of cadence is in itself sufficient to express accent remains open to question. It is not clear that any genuine "expressed meter" criteria can justify reading the second half of measure 2 as metrically stronger than the first half: no initial, durational, or tonal **(p. 434)** accents can be readily identified here. In effect, Riemann defines the boundaries of a musical idea (e.g., a motive, phrase, period) and then assumes that the *end* of the idea is metrically strong. That is, he finds the mere fact of being a conclusion of an idea (an "answer" to a "statement," to use his favorite metaphors) to be a sufficient condition for expressing accent. Such an assumption, of course, runs entirely counter to that underlying the idea of initial accentuation, in which the fact of being a beginning results in accent creation. Since most higher level structures comprise units of two parts (and this fact find its expression in Riemann's notated-meter model), it is not logically possible to analyze as accented both the first and the second part; indeed, it seems that a theorist must choose between the principle of accent of initiation or *Schlußwirkung*.[35] Riemann's choice is clear—in his mature theory, he never explicitly discusses an accent associated with the beginning of a structural unit. To be sure, those analyses based on *Harmoniewirkung* are often explainable in terms of initial accentuation (as discussed earlier), but Riemann himself says nothing about any initiating quality that is responsible for accent creation. Thus while it may be questionable whether accent can indeed be expressed by *Schlußwirkung*, Riemann's acceptance of that idea is consistent with a general rejection of initial accentuation and fully consistent with his fundamental aesthetic orientation.

Notated Meter versus Expressed Meter

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Ex. 15.14. Beethoven, Piano Sonata in G, Op. 31,

The various criteria for metrical analyses to which Riemann explicitly appeals have now been presented and evaluated. The relationship between these criteria and the *Auftakt* model that lies at the heart of Riemann's metrical theory has also

No. 1, ii, mm. 1–4; from *Vademecum der Phrasierung*, 50.

been discussed but now deserves further consideration. As Dahlhaus points out, it is unlikely that metrical analyses based exclusively on musical content could fully conform to any a priori scheme: either the model of regularly alternating accents and unaccents must be abandoned, or the metrical implications of the musical content must be ignored.[36] Of the two possibilities, Riemann clearly follows the second. But there is perhaps a third way to understand how Riemann operates with both expressed-meter and notated-meter viewpoints. By presenting such a wide range of expressed-meter criteria, Riemann can in almost all cases find some justification for an analysis that agrees with his notated model. For example, at the opening of the second movement of Beethoven's Piano Sonata in G, op. 31, no. 1 (example 15.14), Riemann notes that the harmonic progression **T–T–D–D** implies an accent at the change of harmony (*Harmoniewirkung*) in measure 3.[37] But Riemann is also able to appeal to the notion of melodic imitation by claiming that the melody changes direction from the first to the second measures and from the third to the fourth: "But is there not, then, a *contrast* of melodic content within the individual motives? Now to be sure, not in the form of a strict imitation, but in the free inversion: the 'sinking down' of the melody is contrasted as an answer to the 'rising up.' "[38] With his criterion of melodic imitation, Riemann thus justifies an **(p. 435)** analysis that locates accents in measures 2 and 4 in spite of the manifest *Harmoniewirkung* in measure 3. In this way, the analysis now corresponds to the *Auftakt* model.

As a general method, Riemann seems to analyze the eight-measure period by first locating an accent at the cadential points, the *Schlußwirkungen.* Then, he simply counts backward assigning alternating accents and unaccents. The accented measures can in almost every case be justified by one of his expressed-meter criteria: *Harmoniewirkung*, melodic imitation, durational accentuation, or tonal accentuation. If an "unaccented" measure can also be seen as accented in terms of one of these principles (such as the *Harmoniewirkung* at the third measure of example 15.14), that fact is simply overlooked in favor of his a priori model. The validity of this procedure depends, however, on the extent to which his expressed-meter criteria conform to most competent listeners' perception of metrical accent. If some of his principles are found unsatisfactory in accounting for expressed meter (and indeed, the capability of melodic imitation and *Schlußwirkung* to create accent has been called into question), then Riemann must ultimately be seen as a dogmatist who holds true to his preconceived notions in the face of contradictory evidence from the musical content.

Dogmatist or not, Riemann is perhaps nonetheless the first theorist to appreciate fully the need to explain how accents arise from the music itself. To be sure, his frequent renotating of compositions leads to numerous misinterpretations, yet his justification of this practice is based on the sound principle that the notation alone cannot determine meter. And although Riemann may have failed to realize the full potential of his own skepticism regarding the status of notation by adopting in the end another notated-meter model, his attempt to account for the origin of accent on the basis of musical content alone remains a significant achievement in the history of metrical theory. Whereas earlier theorists had articulated with varying degrees of precision some conceptions of expressed meter, Riemann is the first to formulate a wide variety of principles that he then applies analytically in order to explain our perception of metrical phenomena.

Notes:

(1.) Representative works include *Große Kompositionslehre*, 3 vols. (Berlin and Stuttgart: W. Spemann, 1902–1903)*; System der musikalischen Rhythmik und Metrik* (Leipzig: Breitkopf und Härtel, 1903); *Grundriß*

der Kompositionslehre, 3rd rev. ed. (Leipzig: Max Hesse, 1905); *Vademecum der Phrasierung*, 2nd rev. ed. (Berlin: Max Hesse, 1906); *Handbuch der Harmonie- and Modulationslehre*, 3rd ed. (Berlin: Max Hesse, 1906); *Elementar-Schulbuch der Harmonielehre* (Berlin: Max Hesse, 1906); "Neue Beiträge zu einer Lehre von den Tonverstellungen," *Jahrbuch der Musikbibliothek Peters* 23 (1916), 1–21.

(2.) General studies of Riemann's theories of rhythm and meter include Howard Elbert Smithers, "Theories of Rhythm in the Nineteenth and Twentieth Centuries with a Contribution to the Theory of Rhythm for the Study of Twentieth-Century Music" (Ph.D. Diss., Cornell University, 1960), chap. 5; Ernst Apfel and Carl Dahlhaus, *Studien zur Theorie und Geschichte der musikalischen Rhythmik und Metrik*, 2 vols. (Munich: Emil Katzbichler, 1974) (most of this is book is authored by Apfel; Dahlhaus contributed two chapters, one of which, "Zur Kritik des Riemannschen Systems," directly relates to Riemann's theories); Wilhelm Seidel, *Über Rhythmustheorien der Neuzeit* (Bern: Francke, 1975), chap. 5; Ivan F. Waldbauer, "Riemann's Periodization Revisited and Revised," *Journal of Music Theory* 33.2 (1989): 333–392.

(3.) See William E. Caplin , "Theories of Musical Rhythm in the Eighteenth and Nineteenth Centuries," in *The Cambridge History of Western Music Theory*, ed. Thomas Christensen (Cambridge: Cambridge University Press, 2002), 675, 682–683.

(4.) Hugo Riemann, "Ideas for a Study 'On the Imagination of Tone,' " trans. Robert W. Wason and Elizabeth West Marvin, *Journal of Music Theory* 36.1 (1992): 81. "A guiding principle that extends throughout my music-theoretic and music-aesthetic work…is that music listening is not merely a passive processing of sound effects in the ear but, on the contrary, a highly developed manifestation of the logical functions of the human intellect." ("Daß das Musikhören nicht nur ein passives Erleiden von Schallwirkungen im Hörorgan sondern vielmehr eine hochgradig entwickelte Betätigung von logischen Funktionen des menschlichen Geistes ist, zieht sich als leitender Gedanke durch meine sämtlichen musiktheoretischen und musikästhetischen Arbeiten.")

(5.) Dahlhaus, "Zur Kritik," in Apfel and Dahlhaus, *Studien*, 1: 185. "Die harmonischen Kriterien, auf die sich Riemann stützte, um schwere von leichten Takten zu unterscheiden, sind von ihm niemals explizit ausgesprochen und begründet worden. Sie sind jedoch—durch Analyse von Analysen—rekonstruierbar. Riemann ist noch dort Systematiker, wo er es verschweigt."

(6.) Riemann's remarks on *Harmoniewirkung* and melodic imitation have already been examined by Apfel (in Apfel and Dahlhaus, *Studien*, 1: 58–68). Though Apfel considers ways in which these criteria interact with metrical accentuation, his concern lies more in their connection to musical phrasing, articulation, and form.

(7.) Riemann, *Grundriß der Kompositionslehre*, 1: 51. "Zunächst ist allgemein zu konstatieren, daß, je *schwerer ein Wert ist*, *desto mehr er einen Wechsel der Harmonie erwarten läßt*, mit andern Worten: die Zeitmomente, auf welche vorzugsweise neue Harmonien eintreten, sind die Schwerpunkte der Motive, Gruppen, und Halbsätze." For the sake of clarity, Riemann's copious use of emphasis has been greatly reduced in my English translations; the original emphasis is retained in the German text.

(8.) Riemann, *Vademecum der Phrasierung*, 42. "Die Unterscheidung der schweren und leichten Werte hängt nicht von der Willkür des Komponisten ab, sondern liegt bereits in der Natur der musikalischen Ideen selbst, und es handelt sich bei der Niederschrift nur darum, sie richtig zu kennzeichnen. Worin besteht nun aber das Wesen des verschiedenen Gewichts der Töne?"

(9.) Ibid. "Da wir uns hier nicht in umständliche ästhetische und theoretische Erörterungen einlassen wollen, sei nur kurz und bündig festgestellt, daß *schwere Zeiten im allgemeinen Träger von Harmoniewirkungen sind*, daß der Komponist hiernach die Taktstriche zu setzen hat und daß daher auch der Hörer aus dem *harmonischen Sachverhalte* heraus das verschiedene Gewicht der Töne erkennen kann. Angenommen ein Hörer schreibt eine ihm vorher unbekannte Melodie nach dem Gehör auf, so werden die Stellen, wo die Harmonie wechselt…sich ihm als die wichtigeren offenbaren, als diejenigen, welche Anspruch auf Auszeichnung in der Niederschrift haben."

(10.) Ibid., 43. "… dokumentieren…einigermaßen die Abhängigkeit der Taktwahl and Taktbezeichnung von der Harmoniebewegung."

(11.) See William E. Caplin , "Der Akzent des Anfangs: Zur Theorie des musikalischen Taktes," *Zeitschrift für Musiktheorie* 9.1 (1978): 17–28, and "Moritz Hauptmann and the Theory of Suspensions," *Journal of Music Theory* 28.2 (1984): 251–269.

(12.) Riemann, *Vademecum der Phrasierung*, 49. "Die beginnende Ganze (d. h. also der erste Takt) wird durch den Harmoniewechsel auf den zweiten Takt als leichte verständlich und die Kadenz **T S D T** kommt glatt auf den vierten Takt zum Abschluß."

(13.) Riemann, *Grundriß der Kompositionslehre*, 1: 72. "Zu den *einfachen Hinstellungen der Tonika* dürfen wir auch jene besonders häufigen Bildungen rechnen, welche zu einer Dominante nicht eigentlich *fortschreiten*, sondern nur einen Rückgang von einer solchen zur Tonika machen, so daß *zwischen zwei auf relativ schwere Zeiten gebrachte Toniken sich eine gleichsam nur durchgehende Dominante auf die leichte Zeit einschiebt*."

(14.) Riemann, *Handbuch der Harmonie- und Modulationslehre*, 214. ". . . tritt zwischen zwei relativ schwere Zeiten mit derselben Harmonie, z. B. die schwere Zeit des ersten und zweiten Taktes, eine fremde Harmonie, so wirkt dieselbe nicht voll, sondern erscheint nur *durchgehend*."

(15.) A mechanical counting would also have worked if the cadence of measure 22 were considered to be an "8" exclusively; then the following measure could have been seen as a "1," and the rest of the analysis would have conformed to his a priori model as a matter of course. But Riemann understands that measure 22 is the real beginning of the new unit and correctly identifies an elision at that point; as a result, he is then forced to regard measure 23 as an extension of "1," as just discussed.

(16.) Riemann, *Vademecum der Phrasierung*, 50–51. "In allen Fällen, wo für längere Taktreihen die Harmonie dieselbe bleibt,…liegt die Notwendigkeit, das verschiedene Gewicht der Takte anderweitig zu begründen, klar vor."

(17.) Ibid., 51. "… so ist leicht zu erkennen, daß das Verhältnis von Aufstellung and Antwort sich nicht nur auch, sondern sogar in allererster Linie in der Wiederkehr gleicher oder ähnlicher Melodiewendungen, in der Nachahmung der Motive aussprechen wird."

(18.) Ibid. "Daß die Umkehrung eine Form der Nachahmung ist, weiß man ja schon lange."

(19.) Ibid., 52. "Diese beiden Faktoren, die melodischen Konturen und die Harmonie werden wenigstens in der großen Mehrzahl der Fälle mit Sicherheit zur Bestimmung des metrischen Gewichts ausreichend befunden werden."

(20.) Dahlhaus, "Zur Kritik," 1: 188. "Durch motivische Repetition entsteht—nicht anders als durch harmonische—im allgemeinen ein Nachbild, das weniger gewichtig als das Modell erscheint."

(21.) Riemann, *Musikalische Dynamik und Agogik* (Hamburg: D. Rahter, 1884).

(22.) Riemann, *Große Kompositionslehre*, 1: 23. "Unwillkürlich weist das Ohr den durch längere Dauer ausgezeichneten Tönen auch das größere Gewicht zu, d. h. nimmt eine Taktart an, welche dieselben direkt hinter den Taktstrich stellt."

(23.) Riemann, *Vademecum der Phrasierung*, 54. "Deshalb fallen im allgemeinen die Längen stets auf relativ schwere Zeiten…. Nachdem wir einmal erkannt haben, daß die schwere Zeit an sich gliedert, erscheinen diese Kombinationen als ganz natürliche und naheliegende Mittel der Unterstützung der gliedernden Kraft der schweren Zeiten; denn da die schweren Zeiten nicht immer ohne weiteres als solche erkennbar sind, so ist diese Unterstützung oft nötig genug."

(24.) Ibid. 58. "Die Annahme, daß die Taktstriche wirklich richtig ständen, zwänge, die Motive so zu deuten:…also fortgesetzt mit hemmenden Längen im Auftakt und mit langen Anschlußmotiven bei allen schweren Takten…." By "appended motives," Riemann would seem to be referring to the bracketed motive "F–F–B♭" (in measure 2 of example 15.8b) and the corresponding motive "B♭–B♭–E♭" (measure 4).

(25.) The indication of D_4^6 (that is, a cadential six-four) at the beginning of the renotated first measure is undoubtedly meant to refer to a *Harmoniewirkung* at this point; however, Riemann misreads the bass that is implied here, which is not B♭ (to be sure, the lowest sounding note), but rather E♭, whose appearance at the beginning of measure 3 clearly establishes what is implied at measure 1. Thus, the first change of harmony (from *T* to *D*) is found at the beginning of the (originally notated) second measure. Ironically, this more accurate interpretation of the bass would allow the original notation to create a *Harmoniewirkung* on the downbeat of the second measure, according to Riemann's more typical metrical interpretations, for that moment would bring the first real change from *T* to *D*.

(26.) William Caplin , "Tonal Function and Metrical Accent: A Historical Perspective," *Music Theory Spectrum* 5 (1983): 1–14.

(27.) Ibid., 9–11. See also Kevin Mooney, "Hugo Riemann's Debut as a Music Theorist," *Journal of Music Theory* 44.1 (2000): 81–99.

(28.) Caplin , "Tonal Function," 11–13.

(29.) Riemann, *Grundriß der Kompositionslehre*, 1: 64. "Suchen wir nun die natürlichen Beziehungen zwischen den harmonischen Motiven und den metrischen Elementen der Formgebung auf, so ergiebt sich als die einfachste und selbstverständliche, daß ein positives und ein negatives Harmoniemotiv zu einander in Symmetrie treten, d. h. daß ein erstes Glied die Wegwendung von der Tonika und ein zweites die Rückkehr zu ihr bringt."

(30.) Riemann, *Elementar-Schulbuch der Harmonielehre*, 181. "Die auf den Anfang des vierten und achten Taktes eintretenden Harmonien machen daher *Schlußwirkungen* oder *schlußartige Wirkungen*, jenachdem sie *schlußfähige* Akkorde sind oder nicht. *Schlußfähig ist im engeren Sinne nur eine Tonika…*. Eine *Art von Schlußwirkung* machen aber auch alle andern Harmonien, die auf diese schwersten Zeitwerte fallen, also auch

die Dominanten, vorausgesetzt nur, daß sie als *konsonante* Akkorde…eintreten."

(31.) Riemann, *Grundriß der Kompositionslehre*, 1: 65–66. "Werden die hier aufgestellten Antworten symmetrisch zu den zugehörigen Aufstellungen gruppiert, so haben sie Anspruch auf den Namen *Schluß*."

(32.) Ibid., 1: 68. "Zum wirklichen *Schluß* gehört also außer der *Symmetrie der harmonische Rückgang*; beide Faktoren setzten einander voraus und heben sich gegenseitig."

(33.) Ibid. "Doch ist, wie wir sehen werden, auch die Möglichkeit da, mit Hilfe der Harmonie die Symmetrie zu durchbrechen und Schlußwirkungen zu erzwingen, wo die metrischen Vorbedingungen dafür fehlen: in solchen Fällen muß dann natürlich die Tonart besonders scharf ausgeprägt sein, und auch die Mitwirkung motivischer Imitation ist kaum zu entbehren."

(34.) Riemann, *Vademecum der Phrasierung*, 56. "Die Frage spitzt sich daher dahin zu: hat in dem Thema die beginnende Tonika oder aber die ihr folgende Dominante das größere Gewicht? Der Verlauf des Themas durch zwölf ganze Takte 12/8 beweist dadurch, daß alle Schlußwirkungen auf die Taktmitte fallen, und daß Mozart bei der Wahl der Notierung in 12/8 statt 2/4 nicht, wie es korrekt gewesen wäre, die Takstriche der leichten (1., 3., 5., 7.), sondern die der schweren Takte (2., 4., 6., 8.) fortgelassen hat." The notational practice described here by Riemann was understood by many eighteenth-century theorists as *compound meter*.

(35.) One might cite Edward T. Cone, however, as one theorist who seems to want it both ways. His model of thematic structure, which is effectively tripartite, recognizes the moments of both beginning and ending to be accented in relation to the middle of a theme; see *Musical Form and Musical Performance* (New York: W. W. Norton, 1968), 26–27.

(36.) Dahlhaus, "Zur Kritik," 1: 185.

(37.) Riemann, *Vademecum der Phrasierung*, 51. "Bei [example 15.14] könnte man noch wegen des Harmoniewechsels annehmen, daß der dritte Takt als der schwerer zu verstehen wäre."

(38.) Ibid. "Aber ist denn nicht auch innerhalb des einzelnen Motivs noch eine *Gegenüberstellung* melodischen Inhalts nachweisbar? Nun, in der Form strikter Nachahmung zwar nicht, aber in der freier Umkehrung: dem Hinauftreten wird das Zurücksinken als Antwort gegenübergestellt."

William E. Caplin

William E. Caplin is James McGill Professor of Music Theory in the Schulich School of Music, McGill University. His 1998 book *Classical Form: A Theory of Formal Functions for the Instrumental Music of Haydn, Mozart, and Beethoven* won the 1999 Wallace Berry Book Award from the Society for Music Theory. In addition to his work on musical form, he has published on the history of harmonic and rhythmic theory in the eighteen th and nineteenth centuries, including a chapter in the *Cambridge History of Western Music Theory*.