# MORITZ HAUPTMANN AND THE THEORY OF SUSPENSIONS

William Caplin

Perhaps no other major theorist of the eighteenth and nineteenth centuries presents such difficulties of comprehension and interpretation as Moritz Hauptmann (1792-1868). On glancing through his main treatise, *Die Natur der Harmonik und der Metrik,*[1] the casual reader finds none of the usual features of a *Kompositionslehre* by Weber or Marx—no tables of intervals or chords, few rules of voice leading, no examples of actual works—nor does he find the extensive lists of intervallic proportions and detailed descriptions of acoustical experiments that typify the mathematical-physical orientation of the harmonic systems of Rameau, Tartini, and Vogler. The reader rather is confronted with over 350 pages of dense prose that abounds in metaphysical jargon and that is accompanied by illustrations using note names, Roman numerals, lines, and curves in ways that resemble no previous theoretical work.

Indeed, Hauptmann's treatise is unique both in its mode of presentation and in its conception of music theory. Hauptmann is the first, and indeed the only, theorist of the modern era who has attempted to explain all harmonic and metric phenomena on the basis of a sole universal principle: "in all aspects of its [music's] harmonic-melodic, as well as its metric-rhythmic existence, there will always be only *one* law to be

referred to for its correct and intelligible organization."[2] To say that Hauptmann is unique, however, does not mean that he stands fully outside the theoretical traditions of his age. In his belief that music theory should be founded upon immutable laws, he clearly follows the path initiated by Rameau, and his attempt to embrace all musical relationships reflects the "encyclopedic tendencies" characteristic of other major theorists in the first half of the nineteenth century.[3]

According to Hauptmann, "Music is universally intelligible in its expression. It is not for the musician alone, but for the common understanding of mankind."[4] Hauptmann thus searches for principles of music theory that actually transcend the purely musical: "That which is musically inadmissible is not so because it is contrary to a rule determined by musicians, but because it is contrary to a natural law given to musicians from mankind, because it is logically untrue and internally contradictory. A musical fault is a logical fault, a fault for the general understanding of mankind, and not for a specifically musical understanding."[5] For a German thinker of the mid-nineteenth century, the "logic" referred to in this statement is the dialectics of metaphysical idealism.[6] Throughout his theory, Hauptmann employs the three dialectical components of identity (unity, equality with self), duality (inner opposition, something divided within itself), and unity of duality, in order to demonstrate that all musical phenomena come into being and have an intelligible relationship with each other through their expression of this universal logic. Thus he declares, for example, that there are only three directly intelligible musical intervals—the octave, which represents a state of unity; the fifth, which produces an opposition to this unity; and the major third, which unifies this opposition and creates at the same time a new entity, the major triad.[7] Hauptmann applies this dialectical approach to the theory of meter as well. He claims that metrical unity finds its expression in the duple meter; an opposition is created by the triple meter; and a reconciliation of this opposition comes about through the quadruple meter.[8] As he proceeds to elaborate both his harmonic and metrical systems, Hauptmann appeals continually to these three dialectical components in order to distinguish between musical phenomena that are logical and comprehensible and those that violate the universal laws of nature and should thus be banned from compositional practice.

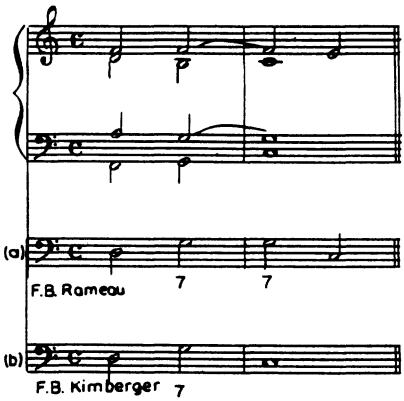
As a consequence of Hauptmann's emphasis throughout his writings on "system," "logical meanings," "universal laws," and the like, most historians have focused their critical attention on Hauptmann's general concept of theory construction and the specific role that dialectics plays within this theory. To be sure, had Hauptmann done nothing more than reformulate traditional ideas into a systematic whole, his

importance for the history of music theory would have been substantial nonetheless: for by basing a theory of both harmony and meter on a limited set of fundamental principles, Hauptmann established a new standard of theoretical investigation in music, one that enormously influenced the major German theorists who succeeded him in the course of the nineteenth century.[9] But Hauptmann's significance transcends the mere influence of his methodology on later thinkers. An examination of the actual content of his theories reveals that he advocates new and important conceptions of harmony and meter.

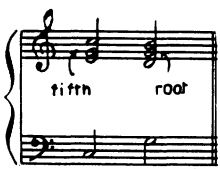
Hauptmann's treatment of a single theoretical issue—the suspension dissonance—will highlight some of these innovations. The practical advantage of choosing this specific issue over the myriad other topics that constitute a complete theory of music is the fact that the suspension dissonance not only addresses questions of harmony, but also those of meter, for an essential attribute of this dissonance type is its required placement on a metrically accented portion of a measure.[10] Since Hauptmann is the first figure in the history of music theory to treat both harmony and meter on an equal footing, an examination of how he defines and explains the suspension dissonance allows us to explore his contributions to both of these major areas of theoretical thought.

In order to clarify Hauptmann's special approach to the suspension, it will be useful to consider briefly its treatment by previous theorists. Throughout the baroque theory of counterpoint and thoroughbass, the suspension was frequently designated the "*syncope*" and was distinguished from the ornamental or "passing" dissonance by its voice leading and metrical placement.[11] Beginning with Rameau's theory of harmony, the single category of the *syncope* evolved into two distinct dissonance forms—the seventh chord and the suspension chord. Both of these chordal types were considered to be harmonic structures and were analyzed in terms of their fundamental bass. Chords composed of ornamental, passing dissonances were also incorporated into the new harmonic theory, but these chords were understood to be nonharmonic structures that lacked a true fundamental bass.[12]

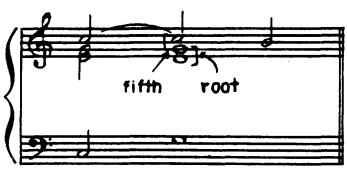
The complete separation of the *syncope* dissonance into two categories, seventh chords and suspension chords, was not achieved immediately. Early in the eighteenth century, Rameau still believed that all harmonic dissonances have their origin in a single dissonant form, namely, the chord of the seventh. And in order to explain the behavior of dissonant chords that have intervallic structures different from that of the seventh chord, he introduced one of his most controversial notions—the chord of supposition. In the case, then, of what we today term the 4-3 suspension, shown in the second measure of Example 1, Rameau considers the dissonant note, F, to be the seventh of a chord whose root is G (as analyzed in line a); and he regards the C in the bass




Example 1




Example 2




Example 3


Example 4

voice as a "supernumarary" sound, one that does not belong to the actual harmony. This extra note below the seventh chord "supposes" the true fundamental bass, G, which lies directly above the actual bass, hence the term "chord of supposition."[13] The theoretical advantage that Rameau achieves from this rather bizzare account is a unified conception of dissonance as a harmonic seventh. But his view has some serious drawbacks. In the first place, the seventh harmony is missing both its third and fifth. These notes, B and D, have been replaced by doubling the note of supposition, C. In the second place, Rameau's harmonic analysis of supposition chords frequently results in an undesirable syncopation of the harmony, as is the case with the present example.[14] More importantly, though, is the fact that most subsequent theorists simply could not perceive the harmony of the suspension dissonance in the way described by Rameau, and none but his most steadfast followers continued to uphold the theory of chords by supposition.

Despite Rameau's belief that all harmonic dissonances are members of the seventh chord, his introduction of supposition chords marks the first step in the division of the *syncope* dissonance into two separate categories. The theorist who can be credited with effecting the decisive classification of these dissonant types is Johann Philipp Kirnberger, who in the last third of the eighteenth century differentiated "essential" from "nonessential" dissonances, a distinction that was enormously influential on subsequent harmonic theory.[15] Kirnberger's essential dissonance is found in the fundamental seventh chord, in which the dissonant seventh is a genuine constituent of the harmony. The nonessential dissonance arises in suspension chords, where the dissonant tone is conceived to be nonharmonic, a mere replacement of the chord tone to which it resolves. Although the suspension tone itself may be nonharmonic, Kirnberger follows Rameau in believing that the dissonant chord as a whole possesses harmonic value. But whereas Rameau understood the supposition chord to be a seventh harmony that changes upon resolution of the dissonance, Kirnberger asserts that both the chords of suspension and resolution have the same harmony (as shown in line b of Ex. 1). Rather than regarding the bass note, C, as a nonchord tone, as Rameau does, Kirnberger considers this note the actual fundamental bass of the suspension chord, a view that has generally been accepted by most subsequent theorists. Thus the fundamental disagreement between Rameau and Kirnberger concerns an identification of which note in the suspension chord is nonharmonic and the corollary interpretation of the harmonic value assigned to the entire chord.

Let us now turn to Hauptmann's view of the suspension dissonance. A central assumption in his general conception of tonal relationships is the belief that every individual tone, as part of a melody or as a member of a chord, must be regarded as a root, third, or fifth of a particular

triad. For instance, in the simple chord progression I to V in C-major (Ex. 2), Hauptmann understands the G in the first chord to possess the harmonic meaning of fifth in relation to the root and third, C and E, respectively. In the second chord, the G has changed its meaning to that of a root in relation to the third and fifth, B and D. If in the progression from the first chord to the next, the C is delayed in its motion to B, as in Example 3, then a dissonance results because, as Hauptmann explains, the note G acquires the simultaneous meaning of fifth (in relation to the suspended C) and root (in relation to the newly entering D). This contradiction in harmonic meaning attached to the individual note G is the source for the listener's perception that the C and D form a dissonance. When the C moves to B, the conflict in the harmonic interpretation of the G, and hence the dissonance, is resolved, for the G then possesses root meaning exclusively.[16]

Hauptmann's explanation of the suspension dissonance is a strange one indeed. The idea that our perception of dissonance is owing to a single note, one that does not even belong to the dissonant interval itself, would appear to defy most musicians' intuitive sense. And to be sure, this aspect of Hauptmann's dissonance conception has had virtually no subsequent influence in the history of music theory. There is, however, another dimension to his notion of dissonance that has greater historical significance. Let us recall that in the suspension chord of Example 1, both Rameau and Kirnberger regard only two of the three notes as genuine chord tones; indeed, their views conflict precisely on the question of which note is nonharmonic. Hauptmann, on the contrary, says nothing about any nonharmonic tones within the chord; in fact, he considers that each note bears harmonic meaning of some kind or another. Thus, the suspended C continues to retain its harmonic interpretation as root in relation to G (as fifth), even when the D enters to form a fifth against this same G (now a root). When Hauptmann explains other dissonant structures, he continues to invoke the principle that every note within the chord has harmonic meaning. For example, he claims that the dominant seventh chord of Example 4a contains not only the complete dominant triad but the root from the subdominant triad as well;[17] and he further finds that the diminished seventh chord of Example 4b comprises two elements each from the dominant and subdominant triads.[18]

With this account of the harmonic significance of notes within dissonant structures, Hauptmann stands at the crossroads of two opposing trends in the history of dissonance theory. As Carl Dahlhaus has pointed out, the dispute between Heinrich Schenker and Arnold Schoenberg over the harmonic status of dissonant tones arises from each of these theorists' utter rejection of one side of Kirnberger's distinction between essential and nonessential dissonances.[19] Schenker argues that harmonic

relationships involve triads exclusively and that all nontriadic elements of a chord at a given level of structure must be seen as embellishing tones, devoid of any harmonic significance. In other words, he rejects Kirnberger's category of the essential dissonance, in which the seventh chord can be conceived as a fundamental harmonic structure along with the triad. Schoenberg, on the contrary, insists that all tones within a chord contribute to its harmonic meaning and sense of progression; he thus rejects Kirnberger's nonessential dissonance, in which certain tones can be considered merely accidental. In relation to both Schenker and Schoenberg, Hauptmann's conception of dissonance can be seen as a curious fusion of these two conflicting positions. Looking forward to Schenker, Hauptmann cannot conceive of harmonic relations in any other than triadic terms; indeed, he is perhaps the first theorist to insist so forcefully that the major and minor triads are the only fundamental harmonic structures.[20] But at the same time, Hauptmann anticipates Schoenberg by refusing to regard any tone in a chord as merely nonharmonic, because to do so would undermine his basic premise that the effect of dissonance arises from an "opposition" of harmonic meaning. The preceding observations are not meant to imply that Hauptmann directly influenced these later Viennese theorists, for the polemic between Schenker and Schoenberg stands at the very climax in the long tradition of Austrian fundamental-bass theory (*Stufentheorie*), whereas Hauptmann's fusion marks the beginning of a specifically German approach to harmony, one that finds its fullest expression in Hugo Riemann's theory of harmonic functions (*Funktiontheorie*).[21] Nevertheless, the comparison of Hauptmann to Schenker and Schoenberg reveals most clearly the former's special position within the history of reduction analysis.

But now the question must be asked, if Hauptmann regards every note in a dissonant chord as bearing harmonic meaning in relation to one or more triads, how does he understand the harmonic content of the chord taken as a whole? Hauptmann's own answer to this question, at least in the case of the simple suspension chord of Example 3, reveals him to be more of a reductionist than commonly assumed. According to his explanation for the source of the dissonance in this chord—whereby the G acquires double harmonic meaning by being both a fifth and a root—it would follow that the chord could very well be analyzed as possessing equally two different harmonies, G and C. Nothing in what has been discussed thus far would suggest that either one of these two harmonic interpretations should prevail. But in other statements, ones that would seem to be motivated more by intuitive musical sense than by logical consistency, Hauptmann nevertheless tips the balance in favor of one harmony over the other:

> In the case of the suspension dissonance, the dissonant chord can already be taken as essentially that which follows upon resolution, except that it contains a jarring element that must be removed.[22]
> Its resolution does not occur on an essentially different harmony but rather on the root harmony of the suspension chord itself.[23]

Hauptmann has thus ultimately adopted the position held by Kirnberger, who regards both the chord of suspension and the chord of resolution as possessing the same harmony. Hauptmann may continue to consider the suspended C a harmonic root, yet he reduces this "jarring element" to the more predominant root meaning that the G acquires in relation to the newly entering D. It is interesting to note that Hauptmann does not provide any justification in terms of his dialectical principles for choosing the G harmony over the C harmony in this chord; thus here, as elsewhere, he abandons his system to avoid falsifying his own musical experience.

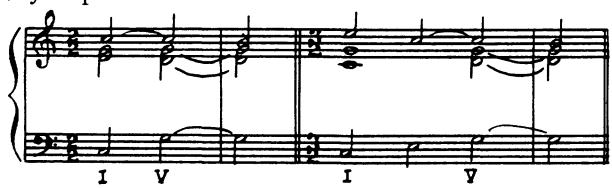
The question of how to interpret the harmony of the suspension configuration (that is, the three chords of preparation, dissonance, and resolution) holds more than speculative interest. As we turn to the way in which Hauptmann explains why the suspension chord must be placed on a metrically accented beat within a measure, the relationship of harmonic context to meter will prove to be of major significance. But before dealing directly with Hauptmann's important contribution to this issue, it will help first to survey briefly how earlier theorists discuss the metrical placement of this dissonance form. According to the traditional rule, the dissonant chord falls on a strong, or accented, beat within a measure, and the chords of preparation and resolution generally appear on the preceding and following weak beats respectively. This rule, which can be traced back as far as Tinctoris, is applied throughout renaissance and baroque theory to all *syncope* dissonances.[24] In the course of the eighteenth century, theorists began to observe that in compositional practice the preparation, resolution, or especially the metrical placement of some of these dissonances behaved differently from others; indeed, this fact led to the dissolution of the *syncope* into two types—the seventh and the suspension. Thus Kirnberger, the theorist most responsible for clarifying the different metrical requirements of these dissonances, states many times throughout his writings that whereas the nonessential suspension must always be placed on an accented portion of the measure, the essential seventh is free to occupy any metrical position whatsoever.[25] In explaining why the suspension chord is metrically restricted, Kirnberger's pupil Johann Abraham Peter Schulz notes that this chord "always comes on a strong beat so that the dissonance may be more noticeable,"[26] and Kirnberger himself further mentions that the suspension must be accented "in order to be differentiated

from mere passing dissonances and, at the same time, to arouse our expectation of the following consonance all the more."[27]

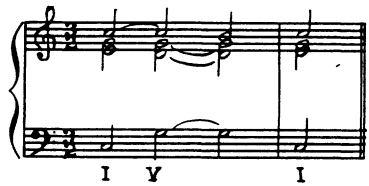
Kirnberger thus directs his attention to the forcefulness that an accented position can impart to the suspension dissonance. But this explanation is seriously flawed since it fails to account for why the essential seventh dissonance, which is metrically unrestricted, does not require the addition of accent as well, especially since Kirnberger states elsewhere in his writings that this dissonance also arouses expectations that are fulfilled upon resolution.[28] Ironically, Kirnberger does not realize that the key to understanding why the suspension dissonance and the seventh dissonance exhibit different metrical behavior is found precisely in the different harmonic contexts in which these dissonances arise, contexts that he himself was to discover as the main source for distinguishing between these dissonant types. Therefore, it was left to later theorists to make use of Kirnberger's central observation–that the suspension chord has the same harmony as the chord of resolution–when explaining the metrical placement of this dissonance.

Early in the nineteenth century, for example, Gottfried Weber notes that when the suspension configuration is set into a metrical framework such that the dissonant chord falls on an unaccented beat, in violation of the traditional rule, then one of two irregularities in harmonic rhythm arises. Example 5a shows how a syncopation of the harmony results from placing the suspension on the second beat of a duple meter or on the third beat of a triple meter. Example 5b illustrates the "rhythmic inversion," as Weber calls it, that is created by placing the dissonance on the second beat of a triple meter.[29] Weber concludes that in order to avoid any of these rhythmic irregularities, the composer should adhere to the customary practice of placing the suspension on the downbeat of a measure.[30] Weber's explanation at first seems quite convincing. By focusing on the problems of harmonic rhythm that result from misplaced suspensions, he provides the means for distinguishing the metrically restricted suspension chord from the unrestricted seventh chord, whose placement on an unaccented beat creates neither a syncopation nor rhythmic inversion because its resolution brings about a decisive change of harmony (see Ex. 6). Yet there still exist some shortcomings to Weber's account that are worthy of mention, for they help shed light on the way in which Hauptmann better treats this issue. First, Weber presents his argument from a negative point of view. Rather than pointing out directly why the suspension dissonance is most appropriately set on an accented beat, he concerns himself solely with the poor results that follow from placing it on an unaccented beat. Second, and more importantly, Weber decides whether a chord is accented or unaccented by virtue of its placement within a preexistent metrical framework of strong and weak beats. Indeed, it is only by assuming

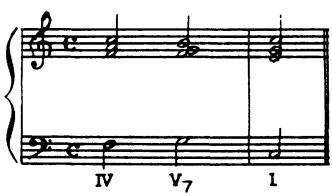
a. syncopation




b. "inversion"




Example 5

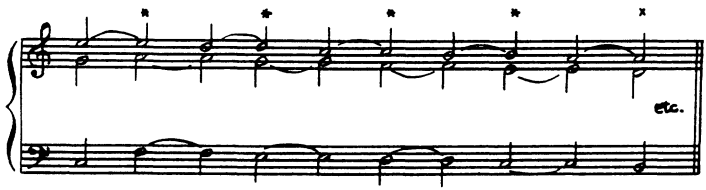



Example 6

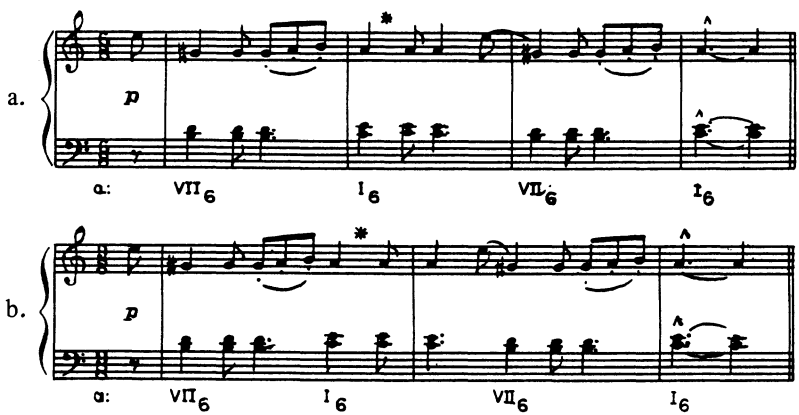
that metrical organization is independent of pitch organization that Weber can test out the various effects that arise from placing the suspension configuration on different positions within the measure.

But if we examine the entire question of the relationship between the suspension dissonance and its attendant accent outside of an a priori metrical scheme, then the inherent weakness in Weber's negative approach becomes more evident. To illustrate, let us consider Example 7, which features a series of suspensions notated without a time signature or bar lines that would prejudice our metrical interpretation. In listening to this passage, we would probably hear metrical accents arising directly at the positions occupied by the dissonant chords (shown by the asterisks). To be sure, we might try to hear the passage according to an alternative meter and may then notice that irregularities of harmonic rhythm arise in the way described by Weber. But it is unnecessary to take this latter step in order to be convinced of our initial impression of the meter, for in listening to Example 7, the musical content itself would appear directly to express its own metrical interpretation.

The first theorist to formulate principles for adequately explaining how suspension chords can generate metrical accents is Moritz Hauptmann. To understand how he proposes to link the suspension dissonance with meter, it is necessary first to examine his concept of metrical accent. According to Hauptmann: "A first element of time, which metrically can only be a first of a second equal to it, is *determining* for its second element; this second is *determined.* The first as against its second has the energy of initiation and thereby the metrical *accent.*"[31] In this most important passage, Hauptmann cites two features of accent—determination and initiation: the first member of a metrical unit determines the second member, and as the initiator, the first member becomes accented because it possesses the "energy of initiation." Hauptmann's statement is significant not only for the ideas it includes, but also for those it omits. Thus it is especially interesting to note that he makes no reference whatsoever to the traditional attributes of metrical accent found in previous theories of meter since the beginning of the eighteenth century. For example, he says nothing about an accent having greater intensity or longer duration than its surrounding unaccents; nor does he assign special strength or weight to the accented event in relation to its neighboring unaccented events.[32] To be sure, he speaks of an "energy" that the first member of a metrical unit obtains, but he does not suggest that this property has any specifically musical analogue that might be indicated through notation or realized in performance. Long before Hauptmann, of course, theorists associated accent with the first of a metrical unit, but it was then a question of the performer imparting emphasis (through actual dynamic intensification) to the downbeat of a measure in order to make the sense of beginning




Example 7




Example 8 Schumann, "Sicilianisch," *43 Clavierstücke für Jugend,* Op. 68

more evident. On the contrary, Hauptmann implies that a beginning *naturally* possesses accent; it need not be supplied by the performer.

With his notion of accent by initiation, Hauptmann introduces a new idea that has great significance for the theory of meter, for there are many situations in which a metrical analysis can only be justified by an appeal to the fact of initiation. We might ask, for example, why the opening of Schumann's *Sicilianisch* is perceived more correctly in a duple 6/8 meter, as notated by Schumann in Example 8a, than in a triple 9/8 meter, shown in Example 8b? Inasmuch as the chords on the third dotted-quarter beat (indicated by an asterisk) are neither louder nor longer than those on the surrounding beats, why does this third beat bear accentuation such that it sounds like the downbeat of a metrical unit? Surely the change of harmony at this point is decisive for our metrical interpretation: the first two beats stand as a first and second of a single $VII_6$ harmony, and the following two beats express a first and second of the $I_6$ harmony. Thus to speak in Hauptmann's terms, each harmonic first possesses "the energy of initiation and thereby the metrical accent." Hauptmann's emphasis on initiation as the main phenomenon associated with accent represents a major contribution to the theory of meter; nothing in earlier theories would have generated such an explanation for the metrical interpretation of this passage.[33]

Let us now turn back to the initial inquiry of why the suspension dissonance is traditionally coupled with a metrically accented position and recall that Hauptmann, following both Kirnberger and Weber, sees the chord of suspension bringing about a change of harmony that is maintained through the chord of resolution. Using his idea of accent by initiation, Hauptmann then relates this harmonic fact to meter:

> It is thus determined that this dissonance must be a metrical first and its resolution a metrical second, that the dissonance must stand on an accented beat and the resolution on an unaccented beat; for with the dissonance a new harmony has appeared that is not changed in the resolution and that merely necessitates a following second element.[34]

Hauptmann's explanation thus focuses on how the dissonant chord and its resolution form a harmonic first and second, and how this pair of elements is linked directly to a metrical first and second. Indeed, Hauptmann would seem to be the first theorist to articulate this relationship explicitly. As we have seen, Kirnberger's remarks on the aesthetic effect that a suspension acquires from its accented position does not concern itself at all with the harmonic context of the suspension configuration. And Weber's account, while taking pitch structure into consideration, approaches the issue from a negative viewpoint, one that emphasizes the problems that are created by a misplaced dissonance but fails to

provide a definite connection between the suspension and metrical accent. Hauptmann, however, presents a more positive formulation by demonstrating that a suspension dissonance is appropriately located on an accented position because a harmonic first demands a metrical first.

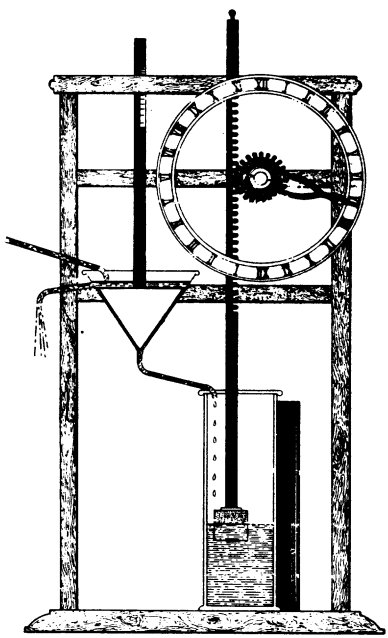
Throughout most of his writings, Hauptmann seems to indicate that although metrical formations are derived from the same universal laws that generate harmonic formations, the two are essentially independent of each other. Thus when he speaks in the statement just cited of how the suspension dissonance must stand upon an accented beat, he suggests that it is the composer's task to coordinate harmonic initiation with metrical initiation. In another passage, however, Hauptmann hints at a different interpretation of how harmony and meter relate:

> The prepared, dissonant chord does not have to search for a position that is in itself metrically accented, but rather, this chord determines the position on which it stands as metrically first or accented; inasmuch as this chord must bring about a harmonic second, it is in itself a first element of time.[35]

Here, Hauptmann implies that a suspension is not merely associated with an independently existing accent, but rather that the dissonant chord itself, by virtue of being a harmonic first, brings into existence its own metrical accent. The significance of this idea should now be quite evident, for it was just such an account that was used to justify our metrical analysis of Example 7, discussed above in connection with Weber, where without any influence from the notation, we naturally hear a duple meter arising from the succession of suspension chords and their following resolutions.

In the passage just cited, Hauptmann reveals an understanding that harmonic structures can generate their own metrical interpretations; but this passage stands isolated at the end of his treatise and cannot be said to represent his general view of how harmony and meter interrelate. It is only with later theorists, especially Hugo Riemann, that Hauptmann's tentative suggestion receives a more complete theoretical treatment.[36] Indeed, the same can be said for most of the issues raised in this study, for many of Hauptmann's theoretical insights and innovations are not fully realized in his own writings. Thus his insistence that harmonic relationships are exclusively triadic finds its most complete development in Schenker's theory of harmonic-contrapuntal reduction. Likewise, the idea that all notes within a dissonant chord bear harmonic meaning remains a relatively abstract conception until Riemann and his successors draw more definite analytical consequences from Hauptmann's view.[37] In the area of metrical theory, Hauptmann's recognition that "initiation" gives rise to metrical accent represents a major contribution; but again, he fails to take full advantage of this insight, for his

only analytical application of this principle concerns the relationship of dissonant chords to meter.[38] Yet, here, in the case of the suspension dissonance, Hauptmann's account has stood the test of time. By demonstrating that suspensions require metrical as well as harmonic initiation, he accounts for the metrical placement of this dissonance in a way that significantly improves upon earlier theorists' efforts and that retains its validity and persuasiveness to the very present.



# NOTES

1. Moritz Hauptmann, *Die Natur der Harmonik und der Metrik* (Leipzig: Breitkopf and Härtel, 1853).
2. "... in allen Momenten seines harmonisch-melodischen, wie auch seines metrisch-rhythmischen Daseins wird immer nur das *eine* Gesetz für die richtige, die verständliche Bildung nachzuweisen sein ..." (ibid., p. 6). English translations of passages from Hauptmann's treatise are by the author, with reference to Moritz Hauptmann, *The Nature of Harmony and Metre,* trans. W. E. Heathcote (London: Swan-Sonnenschein, 1893).
3. See Peter Rummenhöller, *Musiktheoretisches Denken im 19. Jahrhundert,* Studien zur Musikgeschichte des 19. Jahrhunderts, vol. 12 (Regensburg: Gustav Bosse, 1967), p. 45.
4. "Die Musik ist in ihrem Ausdruck allgemein verständlich. Sie ist es nicht für den Musiker allein, sie ist es für den menschlichen Gemeinsinn" (*Harmonik und Metrik,* p. 6).
5. "Was musikalisch unzulässig ist, das ist es nicht aus dem Grunde, weil es einer vom Musiker bestimmten Regel entgegen, sondern weil es einem, dem Musiker vom Menschen gegebenen, natürlichen Gesetz zuwider, weil es logisch unwahr, von innerem Widerspruche ist. Der musikalische Fehler ist ein logischer Fehler, ein Fehler für den allgemeinen Menschensinn, nicht für einen musikalischen Sinn insbesondere" (ibid., p. 7).
6. The extent to which Hauptmann's theory can be described as Hegelian remains debatable. Peter Rummenhöller argues that it is senseless to speak of an "application of Hegel's system to music" as many critics have done in reference to Hauptmann's theory. Rather, Rummenhöller emphasizes that Hauptmann's concept of theory construction originates from the *Zeitgeist* of German idealistic philosophy and that elements of Kant, Fichte, and Hegel are reflected in his theory (*Moritz Hauptmann als Theoretiker* [Wiesbaden: Breitkopf & Härtel, 1963], pp. 117–18). Wilhelm Seidel relates more specifically Hauptmann's "organic theory" to the influence of Goethe especially in the theory of plants and colors (*Über Rhythmustheorien der Neuzeit,* Neue Heidelberger Studien zur Musikwissenschaft, vol. 7 [Bern: Francke, 1975], pp. 137–38).
7. *Harmonik und Metrik,* pp. 21–23.
8. Ibid., pp. 223–29.
9. As one recent theorist of rhythm notes, "Hauptmann's contribution would have been sufficient if the most he had accomplished by his treatise was to convince a generation of music theorists that an all-inclusive system based on logical principles is the most desirable kind of theory" (Maury Yeston, *The Stratification of Musical Rhythm* [New Haven: Yale University Press, 1976], p. 24).
10. Arthur J. Komar's recent study, *Theory of Suspensions* (Princeton, N.J.: Princeton University Press, 1971), is evidence that this issue continues to fascinate modern theorists of harmony and meter.
11. See, for example, Sébastien de Brossard, "Syncope," *Dictionaire de musique,* 2d ed. (Paris: Christophe Ballard, 1705), pp. 126–33, for an extended discussion of this term and its relation to dissonance practice. For a modern interpretation of these dissonance types see Knud Jeppesen, *The Style of Palestrina*

*and the Dissonance,* trans. Margaret W. Hamerik, 2d ed. (New York: Dover Publications, 1970), p. 94, who distinguishes between "dissonance as a primary phenomenon ('musical' dissonance in conscious, deliberately stressed contrast to consonance)" and "dissonance as a secondary phenomenon, (melodically induced accidental dissonance)"; see also Claude V. Palisca, "Vincenzo Galilei's Counterpoint Treatise: A Code for the *Seconda Practica,*" *Journal of the American Musicological Society* 9 (1956): 88.

12. See Jean-Philippe Rameau, *Génération harmonique* (Paris: Prault fils, 1737), pp. 185–86 and Example 28; Johann Philipp Kirnberger, *Die wahren Grundsätze zum Gebrauch der Harmonie* (Berlin and Königsberg: G. J. Decker & G. L. Hartung, 1773), pp. 34–35.
13. Jean-Philippe Rameau, *Traité de l'harmonie* (Paris: J.B.C. Ballard, 1722), pp. 73–74.
14. Rameau himself was the first theorist explicitly to prohibit a syncopation of the fundamental bass (see *Nouveau système de musique théorique* [Paris: J.B.C. Ballard, 1726], p. 79); ironically, Rameau was also aware that his own analysis of the harmony of supposition chords often gives rise to harmonic syncopation, but he regarded this violation of principle as an acceptable license (*Génération harmonique,* p. 182; *Code de musique pratique* [Paris: Imprimerie royale, 1760], p. 93). For further discussion of these issues see William Earl Caplin, "Theories of Harmonic-Metric Relationships from Rameau to Riemann" (Ph.D. diss., University of Chicago, 1981), pp. 21–73.
15. Johann Philipp Kirnberger, *Die Kunst des reinen Satzes in der Musik,* 2 vols. (Berlin: C. F. Voss, 1771–79; Berlin and Königsberg: G. J. Decker & G. L. Hartung, 1776–79), 1:30.
16. *Harmonik und Metrik,* pp. 75, 86–89.
17. Ibid., pp. 119–20; Hauptmann's idea that the dominant seventh joins together harmonic meaning from both the dominant and subdominant harmonies is anticipated already by Rameau: "Remarquez ensuite dans l'*Accord* de *Septiéme* la réunion des deux Sons fondamentaux . . ." (*Nouveau système,* p. 60). The French theorist, however, does not draw any further theoretical consequences from this one isolated remark.
18. *Harmonik und Metrik,* p. 120.
19. Carl Dahlhaus, "Schoenberg and Schenker," *Proceedings of the Royal Musical Association* 100 (1973–74): 209–15.
20. Prior to Hauptmann, Georg Joseph Vogler postulates that "there is no harmony but that of the triad" (*Handbuch zur Harmonielehre* [Prague: Karl Barth, 1802], p. 73) (quoted in Floyd K. Grave, "*Abbé* Vogler's Theory of Reduction," *Current Musicology* 29 [1980]: 45); however, Vogler includes as fundamental triadic structures not only the major and minor triads but the diminished triad and the Italian augmented-sixth chord as well.
21. Going further than Hauptmann, Riemann reduces all harmonic relationships to only three fundamental triads within a key—the tonic, dominant, and subdominant. He then develops a dissonance conception derived from Hauptmann's views and applies it to the remaining triads by regarding them as "apparent consonances" (*Scheinkonsonanzen*), chords that actually represent dissonant structures because they contain elements of opposing functional meaning: "We always hear tones as representatives of fundamental harmonies.

. . . It is possible to comprehend representations of different harmonies simultaneously, but then one of the harmonies is always the dominating one and the representation of the other harmony appears as . . . a disturbance of the consonance of the main harmony, as a dissonance. . . . Thus, for example, the 'secondary triads' of a key are simultaneous representations of two of the three fundamental harmonies, of which one is always intelligible as the primary content (the consonance) and the other as the foreign addition (the dissonance)" ("*Wir hören Töne stets als Vertreter von Klängen.* . . . Es ist möglich, *zweierlei Klangvertretung zugleich* zu verstehen; doch ist dann stets *der eine Klang der dominierende* und die Vertretung des anderen erscheint als . . . *Störung der Konsonanz des Hauptklanges,* als *Dissonanz.* . . . So sind z. B. die 'Nebendreiklänge' der Tonart solche gleichzeitige Vertretungen je zweier der drei Hauptharmonien, von denen stets die eine als Hauptinhalt (Konsonanz), die andere als fremder Zusatz (Dissonanz) verständlich ist. . . .") (*Geschichte der Musiktheorie im IX.–XIX. Jahrhundert,* 2d ed. [Berlin: Max Hesse, 1921], pp. 523–24. English translation by the author, with reference to Hugo Riemann, *History of Music Theory, Book III,* trans. William C. Mickelsen (Lincoln, Nebr.: University of Nebraska Press, 1977).

22. "Bei der Dissonanz des Vorhaltes ist der dissonirende Accord schon wesentlich für den zu setzen, welcher nach der Auflösung erfolgt; nur dass er noch ein störendes, zu beseitigendes Moment enthält" (*Harmonik und Metrik,* p. 89).
23. "Seine Auflösung geschieht aber wieder nicht in einer wesentlich anderen, sondern in der Grundharmonie des Vorhaltsaccordes selbst" (ibid., p. 378).
24. Johannis Tinctoris, *Liber de arte contrapuncti* [1477], in *Johannis Tinctoris opera theoretica,* ed. Albert Seay, Corpus scriptorum de musica, no. 22, 2 vols. ([Rome]: American Institute of Musicology, 1975), 2: 140.
25. *Die wahren Grundsätze,* p. 13; *Kunst,* 1: 72–73.
26. "Ein Vorhalt kommt immer auf der guten Zeit des Takts, damit das Dissoniern fühlbarer sey. . . ." ("Vorhalt," in Johann Georg Sulzer, *Allgemeine Theorie der schönen Künste,* enl. 2d ed., 4 vols. [Leipzig: Weidmann, 1792–94], 4: 690). Schulz took over from Kirnberger the task of writing the music articles for Sulzer's encyclopedia; Schulz is also the actual author of *Die wahren Grundsätze,* which was published under Kirnberger's name. Schulz's systematic thought and elegant writing style impart a theoretical unity to the texts that he authored, but the content of his writings essentially reflects the principles of his teacher, Kirnberger.
27. "Von diesen Dissonanzen ist noch zu merken, dass sie ihrer Natur nach, um sich von blos durchgehenden Dissonanzen zu unterscheiden, und zugleich die Erwartung der darauf folgenden Consonanz desto lebhafter zu erweken, auf die guten oder nachdrüklichen Zeiten des Takts fallen, und sich auf den schlechten Zeiten auflösen" ("Dissonanz," in Sulzer, *Allgemeine Theorie,* 1: 691).
28. Ibid., p. 693.
29. It should be noted that many theorists consider it fully acceptable to place a suspension on the second beat of a triple meter, provided that the resolution then follows immediately upon the third beat. Indeed, Kirnberger uses this fact of compositional practice to justify his analysis of both the first and second beats in a triple meter as accented (*Kunst,* 2: 131); Hauptmann, too,

accords a degree of accentuation to the second of three beats within a measure and thus finds this second beat to be a suitable location for the suspension dissonance (*Harmonik und Metrik,* p. 387).

30. Gottfried Weber, *Versuch einer geordneten Theorie der Tonsetzkunst,* 4 vols., 3rd rev. ed. (Mainz: B. Schott's Söhne, 1830–32), 3: 156–57.
31. "Ein erstes Zeitmoment, wie es metrisch allezeit nur das erste eines zweiten, ihm gleichen sein kann, ist für sein zweites das *Bestimmende,* dieses zweite ist das *Bestimmte.* Es hat ein Erstes gegen sein Zweites die Energie des Anfanges und damit den metrischen *Accent*" (*Harmonik und Metrik,* p. 241).
32. See George Louis Houle, "The Musical Measure as Discussed by Theorists from 1650 to 1800" (Ph.D. diss., Stanford University, 1961), for an excellent presentation of metrical theory of this period.
33. For further development of the idea of initial accentuation and an application of this concept to a variety of theoretical issues, see William Earl Caplin, "Der Akzent des Anfangs: Zur Theorie des musikalischen Taktes," *Zeitschrift für Musiktheorie* 9 (1978): 17–28.
34. "Damit ist nun schon die Bestimmung gegeben, dass diese Dissonanz ein metrisch-Erstes, ihre Auflösung ein metrisch-Zweites sein müsse, dass sie auf dem accentuirten, die Auflösung auf dem nicht-accentuirten Tacttheile stehen müsse; denn es ist mit der Dissonanz eine neue Harmonie aufgetreten, die sich bei der Auflösung nicht verändert, die hier nur ein nothwendig folgendes, zweites Moment nach sich zieht" (*Harmonik und Metrik,* p. 378).
35. "Der vorbereitete Dissonanzaccord hat nicht erst eine metrisch an sich accentuirte Stelle zu suchen, sondern er ist es, der die Stelle, an welcher er steht, zu einer metrisch ersten oder accentuirten bestimmt: er ist selbst, indem er harmonisch ein Zweites zur Folge haben muss, an sich ein zeitlich-Erstes" (ibid., p. 394).
36. See Caplin, "Theories of Harmonic-Metric Relationships," pp. 348–77.
37. See, for example, Diether de la Motte's discussion of how the diminished seventh chord can vary in its functional meaning as dominant or subdominant depending upon the context in which the chord appears (*Harmonielehre* [Kassel: Bärenreiter, 1976], pp. 95–96).
38. In addition to showing that suspension chords require a metrical first position, Hauptmann applies his principle of accent of initiation to some seventh chords as well (*Harmonik und Metrik,* p. 379); the inadequacies of his attempt are discussed in Caplin, "Theories of Harmonic-Metric Relationships," pp. 272–73.