

Moritz Hauptmann: *Ein Haupt Mann* in Nineteenth Century Music Theory

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One of the foremost tasks in the history of music theory is the evaluation of the significance and influence of the music theories of the past. In this regard, the theories of Jean-Philippe Rameau and those of Heinrich Schenker, for example, have deservedly received great attention. But in the meantime, nineteenth-century German harmonic theories have gone unnoticed--at least by American theorists--and the works of such notable theorists as Hauptmann, Helmholtz, Oettingen, and Riemann have yet to be fully assessed and interpreted.¹ One of these theorists, Moritz Hauptmann

¹This is not to say that no work has been done recently in the area of 19th-century theory. William C. Mickelsen deals with Riemann and his predecessors (Hugo Riemann's Theory of Harmony, with a translation of Riemann's History of Music Theory, Book III [Lincoln: University of Nebraska Press, 1977]), as does Gerhard Wuensch ("Hugo Riemann's Musical Theory," Studies in Music from the University of Western Ontario [1977], pp. 108-124). Ruth Solie discusses Riemann in her review of Mickelsen's book (19th Century Music [November, 1978], pp. 178-185). Certain aspects of Hauptmann's and Riemann's theories are characterized by William Caplin ("Tonal Function and Metrical Accent: A Historical Perspective," Music Theory Spectrum [1983], pp. 1-14). Yet the articles are necessarily limited in scope, and Mickelsen's discussion of Riemann's predecessors, as a survey, merely summarizes. I know of no recent English-language source which acknowledges the existence of the many lesser-

(1792-1868), with his main work, Die Natur der Harmonik und der Metrik (The Nature of Harmony and Meter), published in 1853,² holds particular interest both because of his unique approach to music theory, as well as for the great influence which his work had upon later German theorists.

Hauptmann's harmonic theory has not gone totally unnoticed in this century, however. Peter Rummenh  ller, the primary interpreter of Hauptmann's theory and of German harmonic theory in the second half of the nineteenth century, claims that Hauptmann's work is "unprecedented and without equal not only for his time, but also for music-theoretical thought in general."³ For Matthew Shirlaw, Hauptmann's work is "undoubtedly one of the most important and valuable works on harmony which we possess. Hauptmann's musical insight, sound musical judgement, and clear discernment of harmonic facts, have been surpassed by no other theorist."⁴ More recently, Robert Wason has drawn a parallel between the extraordinary influence of Simon Sechter upon later Austrian

known theorists publishing in and around Leipzig in the second half of the 19th century. There are several excellent German-language publications: Peter Rummenh  ller's Musiktheoretisches Denken im 19. Jahrhundert. Versuch einer erkenntnis-theoretischen Zeugnisse in der Musiktheorie (Regensburg: Bosse, 1967), and Moritz Hauptmann als Theoretiker: Eine Studie zum erkenntniskritischen Theoriebegriff in der Musik (Wiesbaden: Breitkopf & H  rtel, 1963); and Martin Vogel, ed., Beitr  ge zur Musiktheorie des 19. Jahrhunderts (Regensburg: Bosse, 1974).

²Moritz Hauptmann, Die Natur der Harmonik und der Metrik (Leipzig: Breitkopf & H  rtel, 1853, 2/1873). Trans. and ed. W. E. Heathcote as The Nature of Harmony and Meter (London: Swan Sonnenschein, 1888). [The German edition of the above work will hereafter be cited as "NHM."] Other works by Hauptmann are: Briefe von Moritz Hauptmann . . . an Franz Hauser, ed. Alfred Sch  ne (Leipzig: Breitkopf & H  rtel, 1871); Briefe von Moritz Hauptmann . . . an Ludwig Spohr und andere, ed. Ferdinand Hiller (Leipzig: Breitkopf & H  rtel, 1876); the above two works trans., ed. and arr. by A. D. Coleridge as The Letters of a Leipzig Cantor, 2 vols. (London: Novello, 1892); Erl  uterung zu Joh. Sebastian Bachs Kunst der Fuge (Leipzig: Peters, 1841); Die Lehre von der Harmonik, ed. Oscar Paul (Leipzig: Breitkopf & H  rtel, 1868); Opuscula. Vermischte Aufs  tze (Leipzig: Leuckhart, 1874).

³Peter Rummenh  ller, "Moritz Hauptmann: Der Begr  nder einer tranzendental-dialektischen Musiktheorie," Beitr  ge zur Musiktheorie des 19. Jahrhunderts, ed. Martin Vogel (Regensburg: Bosse, 1966), p. 11.

⁴Matthew Shirlaw, The Theory of Harmony, 2nd ed. (Dekalb, Illinois: Dr. Birchard Coar, 1955), p. 352.

theory, and that of Moritz Hauptmann upon later German theory.⁵

Hauptmann's significance has therefore been clearly recognized. Yet neither his harmonic theory itself nor its subsequent influence has been sufficiently explored, and it might even be said that his work is today regarded with a certain measure of suspicion. There may be several reasons for this, the most formidable of which is the difficulty which Hauptmann's work presents to the reader, resulting from his attempt to combine philosophy with music theory.⁶ His main purpose is to show how musical phenomena conform to, and are expressions of, one single, universal, natural law--a law which appears to be the Hegelian dialectic.⁷ In the attempt to accomplish this end, Hauptmann's musical perceptions are more often than not buried in dense prose and philosophical jargon. Indeed, this was the main contemporary criticism of his work. C. E. Naumann, one of Hauptmann's students, noted in 1858: "As to the philosophical concepts corresponding to Hegel's manner of thinking, it seems to us that they merely make access to a source, here so amply flowing with musical and theoretical instruction,

⁵Robert Wason, "Fundamental Bass Theory in Nineteenth Century Vienna" (Ph.D. diss., Yale University, 1981), p. 352.

⁶Hauptmann was not the first in the 19th century to combine philosophy and music. Gustav Andreas Lautier made such an attempt in a quite obscure work entitled Praktisch-theoretisches System der Musik und Philosophie, als erste Abtheilung eines Grundrisses des Systems der Tonwissenschaft (Berlin: Dunker & Humboldt, 1827). In fact, this book may have provided impetus for Hauptmann's life-long work. Hauptmann writes in a letter to Franz Hauser (1828) that he is "slaving and sweating and worrying [himself] a great deal too much" over Lautier's book. "To what extent it is a new system of Philosophy . . . I cannot say; but he often quotes Hegel with great admiration." Hauptmann admired this work because it combined music and philosophy, though he admitted that he had considerable difficulty with the philosophical language (Letters, I, pp. 21-23). Lautier's book is reviewed in the Allgemeine Musikalische Zeitung, 30. Jahrgang, No. 10 (1828), pp. 149-153.

⁷Mickelsen writes that "The introduction to Hauptmann's treatise . . . states that the entire work is after the order of Hegel in method and plan, i.e., Hegelian dialectics." (Hugo Riemann's Theory of Harmony, p. 12), when, in fact, Hauptmann not once mentions the name of Hegel in his work. Rummenhöller feels that the extent to which Hauptmann's work is "Hegelian" is debatable, and that it is more proper to speak of an "indirect" influence from German Idealistic philosophy (Kant, Fichte, Hegel) in general (Moritz Hauptmann als Theoretiker, p. 118).

more difficult."⁸ References to this opinion later appeared in many sources,⁹ and the feeling that Hauptmann's theories could be rendered more easily understandable prompted several of his students to write their own books on harmony.

Another significant criticism of Hauptmann's theory arises from a distrust of deductive music theories in general. Milton Babbitt has written that one inadequacy of "a great body of pre-20th century 'theory' (and much of 20th century 'theory') . . . reflects what has long been an occupational hazard of theorists of music: the futile concern with 'ultimacy'."¹⁰ He also claims that if the scientific method "is not extensible to musical theory, then musical theory is not a theory in any sense in which the term has

⁸"Was die an die Spitze derselben gestellten, der Hegel'schen Denkweise entsprechenden philosophischen Begriffe anlangt, so scheint es uns, als erschwerten sie nur den Zugang zu dem hier so reichlich fliessenden Quell musikalischen-theoretischer Belehrung" (C. E. Naumann, Ueber die verschiedenen Bestimmungen der Tonverhältnisse und die Bedeutung des pythagoreischen oder reinen Quinten-Systemes für unsere heutige Musik [Leipzig: Breitkopf & Härtel, 1858], p. 43n).

⁹Hermann von Helmholtz, Die Lehre von den Tonempfindungen als physiologische Grundlage für die Theorie der Musik (Braunschweig: F. Vieweg & Sohn, 1863). Trans. and rev. Alexander Ellis as On the Sensations of Tone as a Physiological Basis for the Theory of Music (New York: Dover [reprint], 1954), p. 276n; and Otto Tiersch, Systeme und Methode der Harmonielehre Leipzig: Breitkopf & Härtel, 1868), p. 5n). Arthur von Oettingen (Harmoniesystem in dualer Entwicklung [Dorpat & Leipzig: W. Gläser, 1866], p. 3) quotes the entire passage from Naumann, but says that he cannot agree with this as a criticism of Hauptmann's work, "for it must not be forgotten that at the time when Hauptmann wrote his work, the physical and physiological basis was not yet developed as far as it has now been by Helmholtz's research" ("Diesem Urtheil, sofern es ein kritischerindes sein soll, kann ich meinerseits nicht beistimmen, denn es darf nicht vergessen werden, dass zur Zeit, als Hauptmann sein Werk schrieb, noch nicht die physikalisch-physiologische Grundlage in ihrer Entwicklung so weit gediehen war, wie jetzt durch Helmholtz's Forschungen."). Oettingen does express the wish, however, that Hauptmann had used common logic rather than Hegel's manner of reasoning.

¹⁰Milton Babbitt, "Past and Present Concepts of the Nature and Limits of Music," Perspectives on Contemporary Music Theory, ed. Benjamin Boretz and Edward T. Cone (New York: Norton, 1972), p. 5.

been employed."¹¹ These comments do apply to Hauptmann's purely deductive theory. And though they are not directed specifically at Hauptmann and his concern with "ultimacy," they do highlight an important point of contention in nineteenth-century German theory: the question of deductive versus inductive method. Some theorists (e.g., Weber, Helmholtz) rejected deductive methods such as Hauptmann's; Hauptmann rejected inductive methods such as theirs, while others (e.g., Tiersch, Thürlings, Riemann) felt that a correct music theory must combine inductive and deductive methods.¹² At present, we may tend to ignore Hauptmann's theory because of its single-minded preoccupation with a "universal law," something which in itself cannot possibly be proven true or false.

Nevertheless, it is this "single-minded" approach which sets Hauptmann's theory apart from others, as he attempted to base his system on a single, general principle.¹³ And although Hauptmann's philosophical language may render the work "inaccessible to many readers,"¹⁴ nearly every German theorist in the second half of the nineteenth century was influenced to some degree by his work. It is for these reasons that the present paper deals with Moritz Hauptmann. It discusses his conception of "theory" from a historical perspective and considers his influence upon later theorists.

The unique nature of Hauptmann's theory can best be seen when it is contrasted with theories which came before and after. The theory of Gottfried Weber, for example, in his monumental Versuch einer geordneten Theorie der Tonsetzkunst (Attempt at an Ordered Theory of Music),¹⁵ which preceded Hauptmann's work by 35 years, may be described as an inductive, descriptive theory. Weber characterizes his work by saying that it "is by no means . . . intended to be a . . .

¹¹Babbitt, "The Structure and Function of Musical Theory," Perspectives, p. 13.

¹²The various approaches to music theory in the 19th century are discussed by Rummenhöller in "Musiktheorie zwischen Induktion und Deduktion," Musiktheoretisches Denken, pp. 69-76, as well as in other articles in this same work.

¹³It is true that Zarlino's senario and Rameau's corps sonore were single principles, yet it was never claimed that these were "universal" principles, "active everywhere." On the other hand, Schenker brings "universal" principles of Nature into his theory of harmony, such as the "procreative urge," "repetition," and "individual kind."

¹⁴Helmholtz, Sensations of Tone, p. 276n.

¹⁵Gottfried Weber, Versuch einer geordneten Theorie der Tonsetzkunst, 3 vols. (Mainz: B. Schott, 1817-1821). Trans. James F. Warner as Theory of Musical Composition, 2 vols. (Boston: O. Ditson, 1851).

combination of truths, all derived from one grand principle. . . . The little truth which we have as yet discovered in the realm of musical composition consists merely in a number of experiments and observations upon the good or bad effect of this or that combination of tones."¹⁶ Weber then proceeds to catalog and systematize what Hauptmann calls only the "external" materials of composition.

When Weber speaks of "a number of experiments and observations," one is reminded of Hermann von Helmholtz, whose concept of "induction" is that of empirical science. His work, Die Lehre von den Tonempfindungen als physiologische Grundlage für die Theorie der Musik (On the Sensations of Tone as a Physiological Basis for the Theory of Music),¹⁷ followed Hauptmann's work by ten years. Helmholtz describes his approach: "In the present work an attempt will be made to connect the boundaries of two sciences, which . . . have hitherto remained practically distinct--I mean the boundaries of physical and physiological acoustics on the one side, and of musical science and esthetics on the other."¹⁸ Later, he claims that the rules of any style of art are the "result of tentative exploration or the play of imagination, as the artists . . . by trial discover what kind or manner of performance best pleases them. Yet science can endeavour to discover the motors . . . which have been at work in this artistic process."¹⁹ Helmholtz's approach to theory, then, is inductive, empirical, based upon a "number of experiments and observations." It should be noted that Weber and Helmholtz each meant something different by "inductive" method.

In contrast to Weber, Hauptmann is indeed looking for "one grand principle,"²⁰ and in opposition to Helmholtz, he does not feel that musical laws are the "result of tentative exploration."²¹ For Hauptmann, "Music is universally intelligible in its expression. It is not so for the musician

¹⁶Weber, Theory of Musical Composition, p. xiii.

¹⁷Helmholtz, op. cit.

¹⁸Helmholtz, Sensations of Tone, p. 1.

¹⁹Ibid., p. 235.

²⁰Hauptmann takes a somewhat negative view of Weber, calling him the "Messiah for those who give exceptions instead of rules" (Letters, I, p. 238).

²¹Hauptmann says that "Helmholtz's book certainly deserves all the homage that is paid to it, but people ought to distinguish between physiology and psychology. Helmholtz completely ignores the latter, and he is in error, if he supposes that he has touched even superficially upon the Theory of Music" (Letters, II, p. 174).

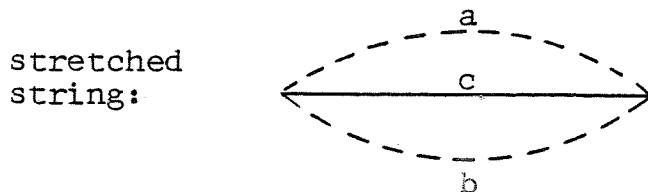
alone, it is for the spirit of mankind in general."²² For this reason, the principles of music theory must arise from laws which are not purely musical. He says: "That which is musically inadmissible is not so because it is contrary to a rule determined by musicians, but because it opposes a natural law given to musicians from mankind, because it is logically untrue and of inner contradiction."²³

This natural, universal law based in mankind is stated by Hauptmann as follows: "unity with the opposite of itself and the removal of this opposite, [or], immediate unity, which through an element of disunion with itself passes into mediated unity."²⁴ These steps can be given more concisely as follows: I. Immediate unity (unmittelbare Einheit), II. Inner opposition (innerer Gegensatz), and III. Mediated unity (vermittelte Einheit) (union of I and II). Hauptmann uses the Roman numerals I, II, and III throughout his work to represent these three stages of the dialectical process.

The explanation of how this principle is expressed in musical laws pervades Hauptmann's theory, which I would now like to discuss, focusing on the concepts of triad and key.

The most basic expression of the law given above is found in the production of a single tone (Klang). In Example 1, a stretched string is represented. Letter c denotes a state or rest, or "being in self" (das In-sich-sein). As the

Example 1. A tone (Klang) arises.



²²"Die Musik ist in ihrem Ausdruck allgemein verständlich. Sie ist es nicht für den Musiker allein, sie ist es für den menschlichen Gemeinssinn" (NHM, p. 6).

²³"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" (Ibid., p. 7).

²⁴". . . die Einheit mit dem Gegensatze ihrer selbst, und der Aufhebung dieses Gegensatzes:--die unmittelbare Einheit, die durch ein Moment der Entzweiung mit sich zu vermittelter Einheit übergeht" (Ibid., pp. 8-9).

string vibrates, it momentarily comes to rest at points a and b, which represent "being outside of self" (das Ausser-sich-sein). As the string passes from point a to point b through c, a tone is produced. Hauptmann calls this process "coming to self" (das Zu-sich-kommen).²⁵ Thus the most basic element of music is given a "philosophical basis."

The single tone, as a "mediated unity," may be combined with other tones to form the intervals of triads. Since the octave, fifth, and major third result directly from the application of the dialectical principle, they are the only intervals which are "directly intelligible" or "understandable" (direkt verständlich). The octave represents (I) unity; the fifth, (II) duality. The third, that is the major third, fills in the emptiness of the fifth--as the (III) unity of duality--to form a major triad. For Hauptmann, a construction of fundamental intervals going beyond these three is impossible (NHM, p. 21ff).

In his explanation of the major and minor triad, Hauptmann distinguishes between "positive" and "negative" unity. In Example 2a, the major triad is shown to represent a posi-

Example 2. The triad.

| | | | |
|-----------|---------|----------------|----|
| a. major: | I | - | II |
| | C | e | G |
| | I - III | | |
| b. minor: | II | - | I |
| | F | a ^b | C |
| | III - I | | |
| or | | | |
| c. minor: | I | - | II |
| | F | a ^b | C |
| | I - III | | |

tive unity, because the fifth and third--shown with Roman numerals--are built in an upward direction from the root, C. The minor triad, on the other hand, in Example 2b, is constructed in a downward direction from the fifth, C; therefore it is an expression of a negative unity. (You will notice that in Hauptmann's letter-notation, upper-case let-

²⁵This explanation of Klang comes from Hauptmann's Opuscula, p. 2.

ters represent roots and fifths, and lower-case letters, thirds.) Since the major triad strives upward, it is capable of expressing happy sentiments. The minor triad, which presses downward, expresses mournful feelings (NHM, p. 35).

The minor triad may also be represented as in Example 2c, where the fifth, C, is shown to have a "dual basis," that is, it is both fifth and third. Hauptmann, for reasons which we will not consider, uses this representation of the minor triad as an explanation of its "passive" nature (NHM, p. 35).

For Hauptmann, the concept of "triad" extends beyond simply three-note chords. He emphasizes that all matters of human understanding are to be understood in terms of the notion of a three-fold or triadic unity of elements. In music, this applies not only to chord formation--as we have seen--but also to key systems, melody, chord succession, meter, and rhythm (NHM, p. 23).

Having laid the foundation for all musical understanding--the concepts of octave, fifth, and third--Hauptmann proceeds to show the "inner nature" of key systems. He notes that the triad itself can be divided and raised to a higher unity. In Example 3a, opposition, or duality, takes place

Example 3. The major key, a "triad of triads".

a. The two dominants as opposing elements

| | |
|-------------------|-------------------|
| I - III - II | I - III - II |
| F a C e G | C e G b D |
| I - III - II | I - III - II |

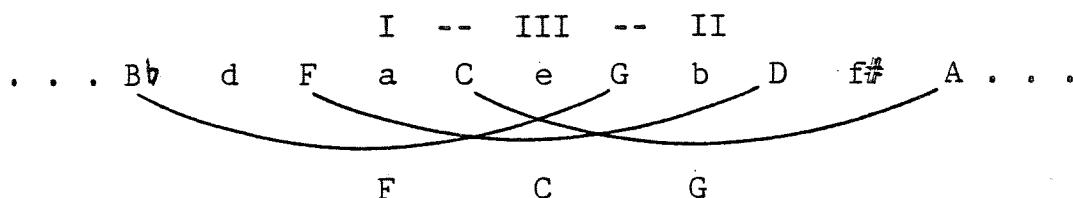
b. The middle triad, C e G, unites these opposites, emerges as tonic of the key.

| | | | | | | |
|---|----|-----|----|----|---|---|
| I | -- | III | -- | II | | |
| F | a | C | e | G | b | D |

with the addition of two dominants to a given triad, C e G. Example 3b shows that the same C-major triad, placed between the two dominants, unites these opposing determinations and emerges as the tonic of what Hauptmann calls a "triad of triads," or a key system (NHM, pp. 26-27). A key, therefore, is made up of the tones contained in the three primary triads. Secondary triads of the key are shown to fall between adjacent primary triads. The "triad of triads" gives

rise to a "triad of keys," shown in Example 4 to be the keys of F, C, and G major (NHM, p. 31).

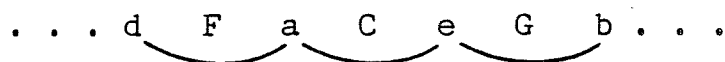
Example 4. The "triad of keys," F, C, and G major.



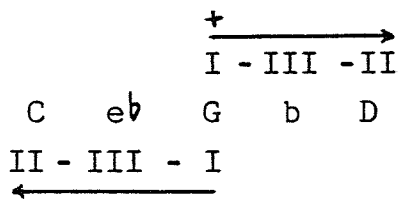
With a great deal of further philosophical reasoning, Hauptmann develops the minor key and another, which he calls the "minor-major key" (Moll-Dur-Tonart). It might seem perfectly "logical" to construct the minor key as a "triad" of minor triads, such as the one given in Example 5a. But

Example 5. The minor key.

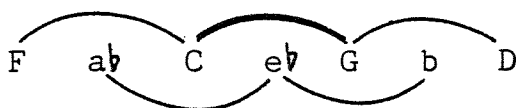
- a. "Triad" of minor triads is unsuitable, lacks "positive" unity.



- b. Opposing element: the note G is placed as both "positive" and "negative" unity.

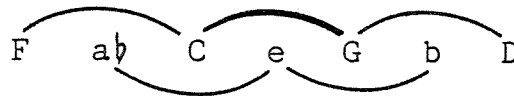


- c. Addition of the minor subdominant, F \flat C. The "negative" element, C \flat G, is placed in the middle as tonic.



Hauptmann feels that this system is unsuitable because it contains no positive unity, that is, no major triad, from which the minor triad could be derived (for Hauptmann, the "negative" element must be premised upon the "positive"). Therefore, in Example 5b, the minor key is premised upon a major triad in the position of the dominant, G b D, whose positive unity is the note G. This same G taken in a negative direction gives the minor triad, C e-flat G. Example 5c shows that with the addition of the minor subdominant, F a-flat C, the middle triad emerges as the tonic of the minor key. Example 6 gives the "major-minor key," where the "neg-

Example 6. The "minor-major key" (Moll-Dur-Tonart). The "negative" element is placed as subdominant.



ative" element is placed in the position of the subdominant. This key is used more often "in the sentimental style of modern music than in the older" (NHM, p. 40).

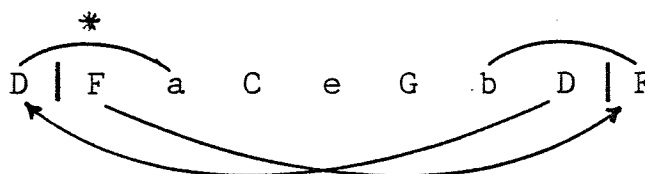
But these systems produce only three primary triads and two secondary triads between them. Where are the other two triads of the key? Hauptmann explains that the major, minor, and "minor-major" keys are "closed" or "finite" systems, and that they fail to produce all the triads of the key. Example 7 shows how the remaining triads, those on the second and seventh scale degrees, are obtained by "joining the limits" of the key system, that is, by bringing the right-most pitch, D, over to the left side, and the left-most pitch, F, to the right side. Since this produces a circular design, Hauptmann calls this system an expression of the "finite as infinite" (NHM, p. 42). These additional triads, including the supertonic triad in a major key, are "diminished" triads.

Besides these diatonic triads, other harmonies are produced by shifting the key system by one note toward the dominant side, the "overlapping system" (Übergreifendes System). Example 8a gives the "overlapping system" in C-major, where the diatonic pitch F is replaced by an f-sharp. The process of "joining the limits" which we saw earlier gives the triads D-f-sharp|A and f-sharp|a-C. The same process in C-minor, shown in Example 8b, gives what Hauptmann calls the "so-called 'augmented sixth chords'" D-f-sharp|a-flat and f-sharp|a-flat-C. These triads are useful for emphasizing the dominant harmony without actually modulating to the key of the dominant (NHM, pp. 50-51).

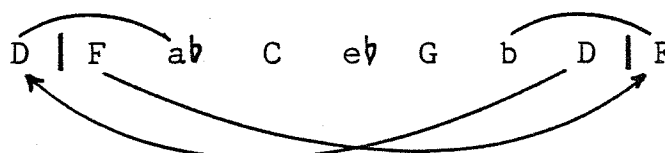
With the concepts of the triad and the key system, Hauptmann lays the foundation for further consideration of

Example 7. The process of "joining the limits" of the key system gives the "diminished" triads of the key.

a. major:



b. minor:



Example 8. The "overlapping" key system (das übergreifende Tonartssystem).

a. major:

F - a - C - e - G - b - D
 —————→ a - C - e - G - b - D - f# —————→ dominant side

b. minor:

F - a♭ - C - e♭ - G - b - D
 —————→ a♭ - C - e♭ - G - b - D - f# —————→ dominant side

scales, chord progression, dissonance, seventh chords, modulation, and other subjects contained in Part One of his work, as well as for his theory of meter and rhythm in Part Two, and of "harmonic-meter" in Part Three. We have seen how important the three-part dialectical principle is in Hauptmann's theory: The single tone itself is made up of three elements, the triad consists of three tones, the key of three triads, the most closely-related keys form a "triad of keys," and the work itself is in three parts. (I suppose

also that Hauptmann's theory represents "unity," the reader represents "inner opposition"--since the intellect is so weak in this regard--and the understanding of Hauptmann's theory which comes through diligent study represents the "resolution of opposites.") These concepts of tone, triad, key, and "triad of keys" proceed directly from the dialectical principle, but other aspects of harmony result from an indirect progression, and can be understood only with the aid of some "mediating" element or process. Thus the triads on the second and seventh scale degrees, the "diminished" triads of the key, can be found only by "joining the limits" of the "finite" key system, and certain augmented sixth chords, for example, are explained by a shift of the key system into the region of the dominant.

Most important in Hauptmann's theory of the triad is his idea that the minor triad is a negative version of the major, that it is built logically from the fifth downward.²⁶ You will remember, however, that Hauptmann also presented the minor triad built from the root upward, in order to show that the fifth of the triad has both fifth- and third-meaning. This manner of presenting the minor triad is irksome to strict harmonic dualists, because it is inconsistent with the idea that the minor is the opposite of the major. This factor, along with others, has created some discussion as to whether Hauptmann is actually to be considered a dualist.²⁷ Whether he was a dualist or not, the idea for harmonic dualism was contained in his explanation of the minor triad. Riemann says: "Hauptmann's memorable discovery that the minor chord ought to be regarded as a major chord upside down,

²⁶Hauptmann does not intend, however, that minor triads are to be heard from their fifths downward (Opuscula, p. 54; Briefe . . . an Franz Hauser, p. 276).

²⁷Both Rummenh  ller and Richard M  nnich argue that Hauptmann was not a dualist, as was Oettingen, for example. For M  nnich, dualism "was a mere episode in his musical thoughts." (Rummenh  ller, "Moritz Hauptmann," Beitr  ge, p. 27, and "Bemerkungen zum Dualismus," Musiktheoretisches Denken, pp. 77-81; M  nnich, "Von Entwicklung der Riemannschen Harmonielehre und ihrem Verh  ltnis zu Oettingen und Stumpf," Riemann-Festschrift [Leipzig: Max Hesse, 1909. Reprint. Tutzing: Hans Schneider, 1965], p. 61.) On the other hand, Mark Hoffman writes: "The chief emphasis of Hauptmann's theory is his insistence on the harmonic dualism of major and minor" (New Grove Dictionary of Music and Musicians, 20 vols., ed. Stanley Sadie [London: MacMillan, 1980], article "Hauptmann"). It is true that Hauptmann thought of the minor triad as the opposite of the major triad, but he did not attempt to base his complete system upon this idea, as did Oettingen. I would recommend, as does Rummenh  ller, that Hauptmann be thought of not as a dualist himself, but as the initiator of the idea for harmonic dualism in the 19th century.

developed negatively instead of positively, made a great sensation."²⁸ This "memorable discovery" was taken to the extreme by some theorists, who went so far as to label minor triads by their fifths (since they are built from this tone downward), and to try to prove that they are heard in this upside-down fashion.²⁹ Heinrich Schenker rightly declared that these theories ignore compositional practice,³⁰ but this criticism came too late for Kraushaar, Oettingen, Heinzelmann,³¹ Thürlings, and Riemann, and remained unheeded by some dualists in this century,³² all of whom expended great energies in basing their theories upon an idea which, by comparison, is not much more than hinted at in Hauptmann's work.

With regard to Hauptmann's method of presenting the key system as a "triad of triads," several points can be made. First, his method graphically shows the key to be formed from the tones contained in the three primary triads--tonic, dominant, and subdominant--rather than as a series of whole and half steps. This idea was not new; its roots are found in Rameau, when he first coined the term "sousdominante."³³ Other early theorists, such as Daube, Marpurg, and Weber,³⁴

²⁸Hugo Riemann, "Die Natur der Harmonik," Sammlung musikalischer Vorträge, ed. Paul Graf von Waldersee, Serie 4, No. 40 (1882), pp. 157-190. Trans. John Comfort Fillmore and added to his New Lessons in Harmony (Philadelphia: Th. Presser, 1887), p. 24.

²⁹Hugo Riemann was anxious to prove that the "undertone" series was actually a physical phenomena, and therefore that the minor triad is actually heard according to the "downward" series (see Mickelsen, Riemann's Theory of Harmony, pp. 30-35).

³⁰Heinrich Schenker, Harmony, ed. and annotated Oswald Jonas, trans. Elisabeth Mann Borgese (Chicago: University of Chicago Press, 1954), pp. xxvi-xxvii.

³¹W. Heinzelmann, Der polarische Gegensatz in der Musik; oder, Neues System der Tonreihen für Jedermann verständlich ohne Noten (Leipzig: Fleischer, 1867). I have not seen this work, but have included Heinzelmann in this list of dualists on the basis of the intriguing title ("Der polarische Gegensatz").

³²For example, Karg-Elert's Polaristische Klang- und Tonalitätslehre (Leipzig: Leuckhart, 1931).

³³Jean-Philippe Rameau, Nouveau système de musique théorique (Paris: Ballard, 1726), p. 38.

³⁴Johann Friedrich Daube, Generalbass in drey Accorden (Leipzig: Johann Benjamin Andrä, 1756), p. 14. Friedrich Wilhelm Marpurg, Systematische Einleitung in die musikal-

were speaking of key in these terms. But Hauptmann appears to have invented this means of displaying the key system as a "triad" of primary triads. In this system, therefore, each tone of the key is shown in its harmonic, rather than in its scalar context. Second, the secondary triads of the key are shown to be located between the primary triads. Riemann's theory of Klangvertretung, or "chord substitution," is one short step from this idea. Third, the principles of chord connection and chord relation are shown graphically. In Hauptmann's system, it is clear that triads related by fifth or by third have one or two common tones, while those triads whose roots are a step apart lack any such connection. This is essential to Hauptmann's theory of chord progression, and it may also be useful for showing students how to "hold the common tone."

Finally, the letter-notation invented by Hauptmann indicates intonation. This is illustrated in Example 9. As

Example 9. Hauptmann's letter-notation and just intonation in C-major.

| | | | | | | | | | | | | | | | | |
|-----------------|--|---------------|---|---------------|---|---------------|---|---------------|---|---------------|---|---------------|---|-----------------|--|---|
| D | | F | - | a | - | C | - | e | - | G | - | b | - | D | | F |
| $\frac{32}{27}$ | | $\frac{5}{4}$ | | $\frac{6}{5}$ | | $\frac{5}{4}$ | | $\frac{6}{5}$ | | $\frac{5}{4}$ | | $\frac{6}{5}$ | | $\frac{32}{27}$ | | |

$5/4$ = pure major third

$6/5$ = pure minor third

$32/27$ = Pythagorean minor third

mentioned briefly before, capital letters designate tones generated by pure fifths from the starting pitch, which in this case is C. Small letters indicate tones which are a pure major third above those tones generated by fifths. The interval produced by "joining the limits" (indicated with a vertical line) is the Pythagorean minor third. It is a result of this system of just intonation that the supertonic triad, D|F-a in C-major, is a "diminished" triad, since the interval from D to a is less than a perfect fifth. Both Helmholtz and Oettingen concurred with Hauptmann in his use

ische Setzkunst nach der Lehrsätzen des Herrn Rameau (Leipzig: Breitkopf, 1757), p. 9. Gottfried Weber, Theory of Musical Composition, I, p. 260.

of this system of tuning, though it was clearly unsuitable for the music being composed at the time.³⁵

Having discussed several aspects of Hauptmann's theory, I would like to turn to a consideration of theorists who were influenced by Hauptmann. A list of such theorists, which comprises nearly every German theorist from Hauptmann to Riemann, might conveniently be divided into two groups. The first is made up of those students of Hauptmann who took his theories for their own and attempted to popularize them by making them easier to understand, or by combining diluted versions of his speculations with practical instruction. Included here are Louis Köhler, Oscar Paul, Otto Bähr, and Wilhelm Rischbieter,³⁶ as well as Hauptmann himself, for he too attempted to make his theory easier to understand.³⁷ This chapter in the history of theory might be entitled "Hauptmann Simplified." The second group involves those theorists who did not swallow Hauptmann's system whole, but who nonetheless were indebted to him for many of their ideas. These are Otto Kraushaar, Carl Friedrich Weitzmann,

³⁵Modulation to other keys is limited. On a keyboard instrument tuned according to a C-major orientation, for example, the triad D|F-a is "diminished." In a modulation to G-major, the pitch "a" is out of tune, since it is one comma (80:81) lower than the "A" which belongs to the key of G-major. More remote modulations become impractical. Nonetheless, Hauptmann maintains (as do many theorists of the 18th and 19th centuries) throughout his work that just intonation is "natural," and that it is used by voices and stringed instruments.

³⁶Louis Köhler, Katechismus der Harmonielehre (Köln a. Rh.: Tonger, 1885-87); Leicht fassliche Harmonie- und Generalbasslehre (Königsberg: Gebrüder Borntraeger, 1861, 3/1880); "Studien und Betrachtungen über Hauptmann's Buch 'Die Natur der Harmonik und Metrik,'" Neue Zeitschrift für Musik, Band 43, Nos. 1-6 (1855), p. 165ff; Systematische Lehrmethode für Clavierspiel und Musik. Vol. II: Musiklehre (Leipzig: Breitkopf & Härtel, 1858); "Ueber die Verwerthung der Hauptmann'schen Theorie im Unterricht," Neue Zeitschrift für Musik, Band 69, No. 37 (1873), pp. 373-75. Oscar Paul, Lehrbuch der Harmonik (Leipzig: Breitkopf & Härtel, 1880). Trans. Th. Baker as A Manual of Harmony (New York: Schirmer, 1885). Otto Bähr, Das Tonsystem unserer Musik (Leipzig: Brockhaus, 1882). Wilhelm Rischbieter, Drei theoretische Abhandlungen über Modulation, Quartsextaccord und Orgelpunkt (Dresden: F. Ries, 1879); Die Gesetzmässigkeit in der Harmonik (Regensburg: A. Cöpppenrath, 1888).

³⁷Hauptmann, Die Lehre von der Harmonik.

Hermann von Helmholtz, Arthur von Oettingen, Otto Tiersch, Adolf Thürlings, and Hugo Riemann.³⁸

Those theorists involved in the simplification of Hauptmann's theories each highly praised the man and his work. Yet they also felt that if his theory was to become widely accepted and used, it must be placed in a form which both teachers and students of harmony could understand. They therefore attempted either to make his theory more accessible to the musician already trained, or to render it more practical for the teaching of harmony. But it is one thing simply to make the "abstruse" theory easier to understand (a feat which has been attempted in this paper), and quite another to make it applicable for private or public instruction in harmony. Anyone who has given Hauptmann even a cursory reading will wonder how his theory could possibly be tailored to elementary instruction. Yet two of Hauptmann's students made such an effort, Louis Köhler and Oscar Paul. Since the question of how Hauptmann's theory could be made more practical excites our curiosity, we will concentrate our attention here, before briefly considering other theorists.

In a review of Hauptmann's Natur der Harmonik und der Metrik appearing in 1855,³⁹ Louis Köhler, who was a pupil of Simon Sechter as well as of Hauptmann, becomes the first and most enthusiastic of Hauptmann's disciples. In this article, Köhler notes that instruction books say how something is to be done, but that Hauptmann's book says why it must be

³⁸Otto Kraushaar, Der accordliche Gegensatz und die Begründung der Scala (Cassel: C. Luckhardt, 1852). Carl Friedrich Weitzmann, Harmoniesystem (Leipzig: C. F. Kahnt, 1860); Die neue Harmonielehre im Streit mit der alten (Leipzig: C. F. Kahnt, 1869). Oettingen, Harmoniesystem in dualer Entwicklung. Otto Tiersch, System und Methode der Harmonielehre (Leipzig: Breitkopf & Härtel, 1868). Adolf Thürlings, Die beiden Tongeschlechter und die neuere musikalische Theorie (Berlin: L. Leipmannssohn, 1877). Hugo Riemann, "Musikalische Logik: Ein Beitrag zur Theorie der Musik," Neue Zeitschrift für Musik, Band 68, Nos. 28-29 (1872), p. 279ff.; "Die Natur der Harmonik," Sammlung musikalischer Vorträge, ed. Paul Graf von Waldersee, Serie 4, No. 40 (1882), pp. 157-190, trans. John Comfort Fillmore as "The Nature of Harmony," and added to his New Lessons in Harmony (Philadelphia: Th. Presser, 1887); "Ueber das musikalische Hören," (Ph.D. diss., 1873), published as Musikalische Logik: Hauptzüge der physiologischen und psychologischen Begründung unseres Musiksystems (Leipzig: C. F. Kahnt, 1874); Vereinfachte Harmonielehre, oder die Lehre von den tonalen Funktionen der Akkorde (London & New York, 1893), trans. H. Bewerunge as Harmony Simplified, or the Theory of the Tonal Functions of Chords (London: Augener, 1896).

³⁹Köhler, "Studien und Betrachtungen über Hauptmann's Buch 'Die Natur der Harmonik und Metrik.'"

done and cannot possibly be done otherwise. He says further that Hauptmann is, as a musician (Musikant), the true Kant of music (Musik-Kant). It is surprising that Köhler the theorist is unknown, especially since this article is only one of numerous articles, along with two books, devoted to popularizing Hauptmann's theories.⁴⁰

In 1858, the second volume of his Systematische Lehrmethode für Clavierspiel und Musik (Systematic Method of Instruction for Piano and Music) appeared.⁴¹ In the Preface to this work, Köhler gives a long list of questions, such as "Why is the triad with major third and perfect fifth the basis of all harmony? Why are only its intervals perfectly consonant?" and so on. He says that these are only a few of the many questions which might embarrass a teacher if asked. But the answers to such questions have been given by Hauptmann, and therefore Köhler intends to present Hauptmann's theory in a manner more accessible to the student or teacher already grounded in theoretical knowledge.

But we are interested in how Hauptmann's theory is made more practical, how it is used in instruction. This Köhler does in his Leicht fassliche Harmonie- und Generalbasslehre (Harmony and Thorough-bass Made Easy) of 1861.⁴² He begins this book with a description of the intervals of the scale--not the three "directly intelligible" intervals, but simply those intervals found above the first tone of the major scale. He explains at this point that a scale is made up of a series of whole and half steps which, when considered harmonically, form a key.⁴³

Next we find Köhler's discussion of harmony, beginning with the major and minor triad. We might expect Hauptmann's theory to enter here, but these triads are given as shown in Example 10. Köhler says that the major triad consists of the root, "major" ("grosse") third, and "perfect" ("reine") fifth. The minor triad is different from the major in that it contains a "minor" ("kleine") third with its fifth.

It is only under the next sub-heading, "The Meaning of Major and Minor" (Die Bedeutung von Dur und Moll), that we detect Hauptmann's theory. Köhler says: "The major triad is the first and original fundamental chord, existing of itself. On the other hand, the minor triad is derived from the major as its opposite, since the relations of intervals

⁴⁰As far as I am aware, Köhler is not considered in the writings of Peter Rummenhöller.

⁴¹op. cit.

⁴²op. cit.

⁴³Köhler, Leicht fassliche Harmonie- und Generalbasslehre, p. 2.

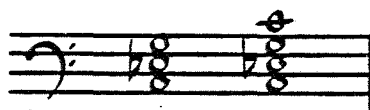
are opposite."⁴⁴ He then shows how the major triad is built

Example 10. Köhler, Leicht fassliche Harmonie- und Generalbasslehre, pp. 3-4.

a. major triad:



b. minor triad:



upward, the minor triad downward, and goes on to explain that "the major chord, therefore (since it strives upward), is comparatively lighter, more freely acting compared to the minor [chord], whose effect, contrary to the major, is more sad, more depressed. Thus when we say: Major sounds cheerful, minor sad, this is founded in the nature of the opposing relations of the two chords."⁴⁵

As we might have expected, Hauptmann's philosophical reasonings are absent from this explanation; the student learns simply that the minor is the opposite of the major, and that this is why the two triads have opposite effect. Furthermore, the explanation that the minor triad is the opposite of the major (Hauptmann's explanation) is given separately from the explanation that the two triads differ in the quality of their thirds. This latter interpretation conflicts with the "inner nature" of the minor triad, because the mi-

⁴⁴"Der Durdreiklang ist der erste und unsprüngliche, auf sich selbst beruhende Grundaccord; der Molldreiklang dagegen geht von dem in Dur, als dessen Gegensatz, aus, indem er aus entgegengesetzten Intervallverhältnissen besteht." (Ibid., p. 4).

⁴⁵"Der Duraccord ist daher (als aufwärts strebender) vergleichsweise leichter, freier wirkend gegen den in Moll, welcher gegen Dur trüber, gedrückter wirkt. Wenn man also sagt: Dur klingt heiter, Moll traurig, so ist das in der Natur der entgegengesetzten Verhältnisse beider Accorde begründet" (Ibid.).

are used in the ascending scale, are shown harmonically to belong to the key of the dominant, while the tones G and f, used in the descending scale, belong to the key of the subdominant. Third, the "true meaning" of major and minor triads, which we have already discussed, must be brought into the usual thorough-bass instruction.

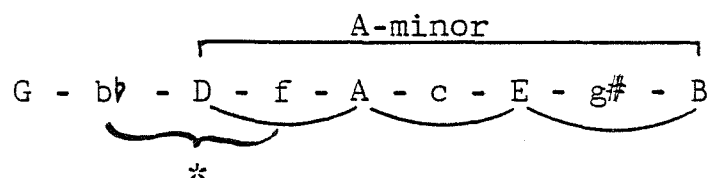
Fourth, Hauptmann's laws for dissonance and its essence are important. Köhler uses the seventh chord as an example, saying that before Hauptmann it had been said--"quite amateurishly"--that a seventh chord is produced by placing a third above the fifth of a triad. On the contrary, Hauptmann describes the seventh chord as the union of two triads related by third. Fifth, Köhler gives the chord progression shown in Example 12a, and referring to the second chord, says that it is not to be understood as "the diminished chord b-D..F with the b lowered to b-flat," as some have "curiously taught." Example 12b shows that this chord, our

Example 12. Köhler, *ibid.* The [Neapolitan sixth] chord.

a. illustration:



b. explanation:



Neapolitan sixth chord, is actually part of the key system, and results from an overlap into the region of the subdominant.

Finally, Köhler asserts that the "augmented sixth" chord marked in Example 13a is not to be understood as a sixth chord whose sixth, d, is raised with a sharp, but that the tone d-sharp belongs "solidly and naturally" to the key system, as can be seen in Example 13b. He says: "One can see here the related tones f and d-sharp, and will perhaps become angry that the augmented sixth chord (e.g., f--A...d-

each of the examples just discussed, this was the function which Hauptmann's theory was to perform in the teaching of harmony.

Another attempt to use Hauptmann's theory in a practical book on harmony was that of Oscar Paul. His Lehrbuch der Harmonik of 1880⁵⁰ has the stated purpose of combining the teachings of Moritz Hauptmann and E. F. Richter,⁵¹ Paul's two revered teachers. Richter can be said to represent the "practical" side of theory, while Hauptmann of course represents the "speculative." Both Köhler and Paul make use of Hauptmann's theory by first stripping it of its philosophical language and speculation, which even learned men had difficulty understanding. Illustrations which are given by Hauptmann exclusively in his letter-notation are given in notes on a staff as well, so that problems are clearly illustrated to the student. The diluted version of Hauptmann's theory is then combined with more traditional instruction (intervals, chord inversion, figured bass, etc.) in such a way that it serves to explain to the student why things are as they are. These attempts of Köhler and Paul are successful only to the degree that Hauptmann's theory is actually accepted as a trustworthy explanation.

Included beneath the heading "Hauptmann Simplified"--besides the works of Köhler and Paul--were those of Hauptmann himself, Otto Bähr, and Wilhelm Rischbieter. These other works were not written for use in practical instruction, but were intended to make Hauptmann's theory easier to understand. Bähr and Rischbieter also felt that they could carry the theory somewhat further than Hauptmann did. From these works it is clear that there was recognition that Hauptmann's approach and style of writing made his theory generally unapproachable, and therefore that efforts had to be made to render the material "more accessible." But it was also widely acknowledged that Hauptmann's work contained "many fine musical perceptions" (as Helmholtz said), even though these perceptions were "buried in abstruse philosophical language." It was the most prominent theorists--Helmholtz, Oettingen, and Riemann--as well as others, who drew upon what they considered to be those valuable aspects, as they shaped their own individual theories.

One such theory is that of Otto Kraushaar, entitled Der accordliche Gegensatz und die Begründung der Scala (Harmonic Opposition and the Construction of the Scale).⁵² Although this small work is mentioned in several sources, its signif-

⁵⁰op. cit.

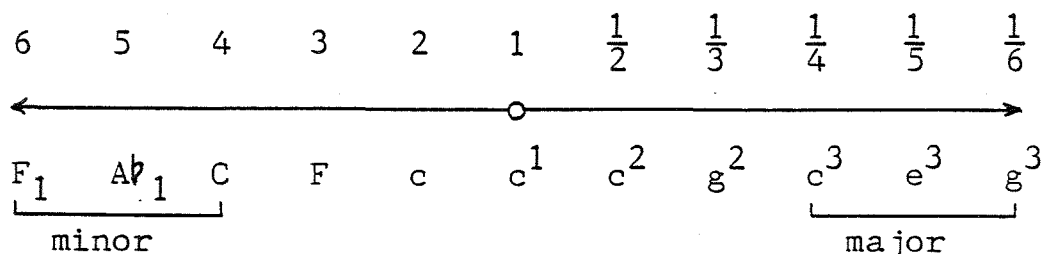
⁵¹Ernst Friedrich Richter, Lehrbuch der Harmonie (Leipzig: 1853). Trans. John P. Morgan as Manual of Harmony (New York: Schirmer, 1867).

⁵²op. cit.

icance has not been brought to light.⁵³ The contents of this work hold surprise, considering its date of 1852. We will usually associate the method of designating the minor triad according to its upper note with the theories of Oettingen and Riemann. But Kraushaar was doing such a thing fourteen years before Oettingen's work appeared.

The subject of Kraushaar's book is "harmonic opposition" between major and minor, the idea for which clearly comes from Hauptmann's theory of the minor triad, and which he learned as Hauptmann's student. But Kraushaar carries the theory further and applies it more consistently than Hauptmann. He finds the basis for harmonic opposition in the vibration ratios of sounding bodies. In Example 14, these

Example 14. The overtone and "undertone" series. The numerical series represent unit string lengths.



ratios are given as two numerical series, here representing unit string lengths.⁵⁴ The series of fractions corresponds to the overtone series, and will produce a major triad. The

⁵³Hauptmann mentions Kraushaar's book in the Preface to his Natur der Harmonik und der Metrik, saying that Kraushaar acknowledged his indebtedness to him only in a personal letter which accompanied a complimentary copy of the book sent by Kraushaar. Hauptmann expressed the wish that he had given credit in the work itself, for it might appear strange that two theorists should come to the same conclusions independently. Kraushaar's system was discussed briefly by Oettingen (Harmoniesystem, pp. 47n, 86), and is given short mention in the earlier editions of Riemann's Musik-Lexikon. I have not found mention of Kraushaar by Rummenh  ller, but he is mentioned briefly in Mark Hoffman's "A Study of German Theoretical Treatises of the 19th Century" (Ph.D. diss., Rochester, 1953).

⁵⁴Kraushaar does not use both integers and fractions, which I have done in the interest of clarity, but considers the series of positive integers (1 2 3 4 5 6 etc.) in both a "positive" and a "negative" direction.

series of integers corresponds to the infamous "undertone" series, and will produce a minor triad "upside down." Since the overtone series is an "upward" or "positive" series, the major triad is thought of as "positive." Likewise, since the "undertone" series is a "downward" or "negative" series, the minor triad is "negative."

Although Kraushaar is using vibration ratios to show the opposition of major and minor (a method which Hauptmann shunned), the concept does not differ from that of Hauptmann. But Kraushaar proceeds to propose and use a method of chord-designation which indicates this opposition. This is shown below, where the symbol "+" means "positive" and "-"

c e g = +c
f a-flat c = -c

means "negative." Furthermore, when Kraushaar gives the major and minor key systems, shown in Example 15, the minor

Example 15. Kraushaar, Der accordliche Gegensatz, p. 35.
The keys of F-major and f-minor.

a. "positive":

b \flat d f a c e g
+b \flat +f +c

b. "negative":

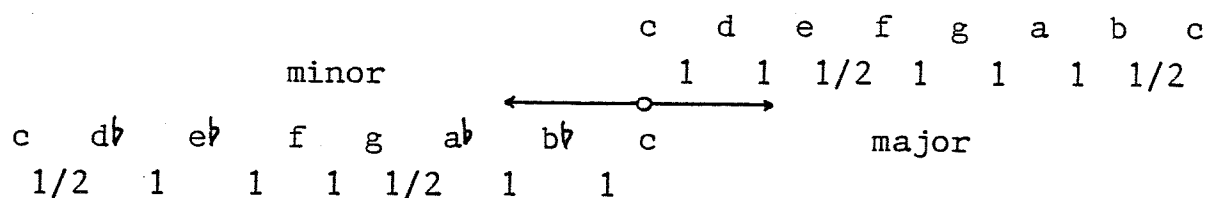
b \flat d \flat f a \flat c e \flat g
-f -c -g

key is truly a "triad" of minor triads, in which the dominant triad is also minor. This system was discarded by Hauptmann, since he felt that the minor key must be premised upon a major triad, and thus that the dominant triad must be major (or perhaps more accurately, since he knew that the minor key in practice has a major triad for its dominant, and thus that he must justify this fact using his method.).

How does Kraushaar derive the minor scale? This is illustrated in Example 16. If the major scale proceeds upward in a certain pattern of whole and half steps, then the minor scale must do the same in the opposite direction (Example 16a).. The scale produced, shown in Example 16b, is a mirror inversion, or the "opposite," of the major scale. But since the major scale begins with the root of the tonic triad, the minor scale must begin with the fifth of the tonic triad. Therefore, what looks like a C-Phrygian scale is really an F-minor scale, as can be seen in Example 16c. This is the "pure" F-minor scale (made "unpure" through the usual "alterations"), and it corresponds to the minor key in

Example 16. Kraushaar, *ibid.*, pp. 61-65. The minor scale.

a. as the inversion of the major scale



b. The minor scale produced is:

c bb ab g f eb db c

c. Begun on f:

f eb db c bb ab g f

(The "pure" F-minor scale)

Example 15.⁵⁵ This system, in its essentials, is identical to that used by Oettingen, advocated by Thürlings, and later inherited by Riemann. Although Kraushaar received his idea from Hauptmann, he has developed a much more consistent and thorough system based upon the opposition of major and minor. For this reason, he may be called the "first" harmonic dualist.

It is not possible in this paper to consider individually each German theorist who relied to a greater or lesser degree upon Hauptmann. Let it be said simply that his influence was great, but that it died out a short way into Hugo Riemann's career. Why did it fade away? Partly because of the towering stature of Riemann in German theory; he became the influential theorist. Partly because of the rise of the empirical method--the use of Helmholtz's theory of physiology--which tended to push Hauptmann's theory aside. And partly because theorists were beginning to realize that a theory based upon an a priori principle can be only as reli-

⁵⁵This derivation of the minor scale is not made clear by Mickelsen when he discusses the theory of Arthur von Oettingen (Hugo Riemann's Theory of Harmony, p. 16). He shows that the minor scale is the "exact mirror" of the major (labeling it "Phrygian"), but fails to explain that this "Phrygian" scale is actually a "Dorian" scale begun on the fifth of the minor tonic triad.

able as that principle.⁵⁶ If one does not accept the dialectical principle, where does that leave Hauptmann's theory? Thus Milton Babbitt tells us that a correct music theory must proceed from the scientific, or inductive method.

The main thesis of this paper has been that Moritz Hauptmann was a "Haupt-Mann," or "leading figure" in the harmonic theory of nineteenth-century Germany. This thesis has been supported by two claims. The first is that Hauptmann's approach to music theory is unique. It is not a descriptive theory such as Gottfried Weber's, and it is not an empirical theory such as that of Helmholtz. Rather, it clearly stands apart as a purely deductive theory, as an attempt to relate musical laws to a "universal law active everywhere." The second claim offered in support of this thesis is that Hauptmann had an extraordinary influence upon later German theory. We have seen that some of his students attempted to make his theory more accessible or practical. Other theorists as well regarded Hauptmann to be an authority and drew from him as they shaped their own theories.

We may accept that Hauptmann the theorist was one of the most significant figures in nineteenth-century harmonic theory, but may still wonder, "What does his theory hold for us today?" Does it offer an explanation of the harmonic practice of nineteenth-century Romantic composers? No, Hauptmann's musical outlook seems to be somewhat conservative, if not outdated.⁵⁷ Does it provide new analytical means? No, his main work does not contain a single musical example. Does it explain the procedures of composition for aspiring composers? No. In fact, Köhler stated that a composer could do entirely without Hauptmann's theory.⁵⁸ Are these

⁵⁶An interesting discussion of the relative merits and weaknesses of inductive and deductive method and their use in music theory is given by Otto Tiersch in the Introduction to his System und Methode der Harmonielehre. He points out that in a deductive theory, the principles to be derived are at most unreliable, since the original premise may be untrue. He says also that the inductive process is more certain, as long as the observations are sufficiently exact and comprehensive, but in the case that the observations are inexact or superficial, the method can just as well lead to false results. He prefers to use the inductive method for the most part in the theory of harmony.

⁵⁷This is not to say that Hauptmann's theory contains only outdated ideas. Perhaps as research in this area accumulates, and as present-day theorists are able to penetrate Hauptmann's dense writing style, many of those "fine perceptions" will be brought to light.

⁵⁸"Der Harmoniker der gegenwärtigen Zeit kann als C o m p o n i s t die Hauptmann'sche Lehre gänzlich entbehren, sein Element is das K ö n n e n, zu welchem er das nöthige Kennen bereits inne hat. Aber wer gegenwärtig ein

valid questions? Perhaps not, for Hauptmann stated clearly that his purpose was not to give practical instruction or to deal with the "external manifestations" of musical phenomena, but rather to explain the "inner" workings in music of a law which Hauptmann and certain philosophers felt to be "universally binding." His work, then, is essentially philosophical, and to complain that it is "of no use" is to misunderstand Hauptmann's intent and purpose.

How then shall we regard Hauptmann's theory? First, it is a reflection of the spirit of the philosophical times, of German Idealistic philosophy. Second, as a purely historic object made significant by its uniqueness and its influence. Beyond these historical considerations, we can learn from the manner in which Hauptmann's theory became involved in further reflection and discussion about the proper nature of music theory: Hauptmann's deductive approach is unsuitable; a theory will best derive principles primarily through inductive methods. A theory should be "practical" as well as "speculative." A theory should be "intelligible" and "accessible," and not require the efforts of disciples as interpreters. Finally, a dependable music theory must rest upon logical principles. Hauptmann can at least be credited with convincing a generation of theorists that "an all-inclusive system based on logical principles is the most desirable kind of theory."⁵⁹

L e h r e r sein will, der s o l l und m u s s sich die Hauptmann'sche Begründungstheorie aneignen, will er nicht in seinem Lehrfache als halber Dilettant erscheinen" (Köhler, "Ueber die Verwerthung der Hauptmann'schen Theorie im Unterricht," p. 374).

⁵⁹Maury Yeston, The Stratification of Musical Rhythm (New Haven: Yale University Press, 1976), p. 24.