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# CHROMATICISM



*Theory and Practice*

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## *Theory and Practice*

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## Preface

**T**HIS IS A BOOK ON MUSIC THEORY, divided according to an ancient pattern into two parts: a theoretical part, being a summary of the writer's view of the musical material from his particular standpoint; and a practical part, which applies these theoretical principles in specific situations—in this case, examples to test certain principles and excerpts from compositions to illustrate their use in actual music.

The pattern, of course, is familiar: it is that of Zarlino's *Le Istitutione harmoniche* (1588), Books I and II being the theoretical part, and Books III and IV the practical part. By Zarlino's time, this pattern was already traditional for treatises on music, and it continued on into the eighteenth century with Rameau's *Traité de l'harmonie* (1722). After Rameau, when equal temperament seemed to promise the solution of many theoretical problems, the emphasis turned to the practical techniques of harmony. Pure theory was dealt with by scientists (Sauveur, Helmholtz), and no longer occupied a major part of music theory books.

In the twentieth century, Paul Hindemith returned to the old pattern. His *Unterweisung im Tonsatz* was announced by its publishers on the dust cover as a work following the great tradition of Zarlino and Rameau. It began with a first vol-

ume called *Theoretischer Teil* (1937), and continued with the practical part, Book II, *Übungsbuch für den Zweistimmigen Satz* (1939, and Book III, *Der Dreistimmigen Satz* (1970, posthumous).

Knowing Hindemith's interest in and knowledge of the history of theory, there is no doubt that he was emulating his great Italian and French predecessors, as well as J. J. Fux, whose *Gradus ad Parnassum* (1725) gave him the model for his practical part. Hindemith's vision as a theorist was wider than that of the post-Rameau theorists who turned out harmony book after harmony book all through the nineteenth century and into the twentieth century. Even so, pragmatic need during the years he taught at Yale caused him to write a short book on traditional harmony (1943), about which he said in his preface, "I am consciously taking this step backwards in full realization of its relative unimportance." (Ironically, it has been his most successful book, with translations into many languages, including Hebrew and Japanese).

Hindemith had his moment in mid-career (approximately 1937) when he forcefully expressed his own solution, both in his writing and in his compositions, to the problem of a music no longer dominated by the major and minor keys and traditional harmony.

During the 1940s, the teaching of his theoretical formulations and his pedagogical method (begun with the two-part writing book) had moved far ahead of their realization in his published writing. This was perhaps because he had interrupted his work on the third volume of the *Craft* to produce not only *Traditional Harmony* (1943) and *Traditional Harmony II, Exercises for Advanced Students* (1948), but also *Elementary Training for Musicians* (1946). Some chapters of the three-part writing book were used in mimeograph form by his Yale students after 1945. The book was finally brought to publishable form, though some projected parts were never finished, by three of his former students at Zurich University (Andres Briner, D. Daniel Meier, and

Alfred Rubelli). By the time it appeared in 1970 (seven years after his death), Hindemith's moment as a theorist had passed. Up to this time, an English translation has not yet appeared.

In my days of enthusiasm about Hindemith's theoretical ideas, my colleague at Yale, Quincy Porter, cast cold water on my fire by saying he thought Hindemith would be remembered for his music more than for his theories. At the time, I attributed this view to Porter's being allergic to all music theory, but in retrospect I have to admit that his view was probably correct, if only because art always takes precedence over theory.

When Hindemith left Yale permanently in 1953 to live in Switzerland and to teach at Zurich University (until 1955), I inherited his Yale course called "Basic Principles of Theory," in which theoretical ideas stemming from Book I of the *Craft* were discussed. In one of my last talks with Hindemith before he left for Switzerland, I asked him if I should retain the course format as it was, and he said I should feel free to develop it in any way I wished. During the next ten years, I expanded his treatment of the history of tuning and temperament (with the help of Barbour's book, which had just become available), began to introduce some ideas about chromaticism as an independent system in itself with some influence from Yasser's *A Theory of Evolving Tonality* (1932), which I first saw around 1946 when one of my classmates wrote a paper on it under Hindemith's direction; and I continued to develop Hindemith's theories of chord classification, chord roots, and series expressing tonal relationships and interval values.

The theoretical part of this book, as anyone familiar with the *Craft* will recognize, owes much to Hindemith. But if his word were gospel (as many of us believed it was), some of the formulations as I have given them here are heretical. So, indeed, is the mere idea of a totally chromatic music, which, in its serial form, was castigated in several of Hindemith's ma-

jor writings (the *Craft*, the introduction to the 1948 version of *Das Marienleben*, and *A Composer's World*, 1952). In the latter work he states that, "A tonal system that cannot be used for a *cappella* singing [by which he means chromaticism] is bound to die sooner or later of anemia" (p. 91). But so will a system which accepts such a limitation; that medium has, in fact, long ago reached its limits, though its beauty is unquestioned.

In the older treatises, the "practical part" takes its illustrations from one of two sources: from examples of previously composed music by composers other than the writer (Zarlino takes many of his examples from Willaert); or from illustrations prepared especially for the work by the writer, or the writer's own compositions. Rameau uses only examples composed by himself, a practice followed by most post-Rameau harmony books, including Hindemith's *Traditional Harmony*. *Craft* II and III contain only Hindemith's material except for folk songs and one Gregorian plainsong used as a basis for settings. In *Craft* I, however, he includes some examples with analyses from vastly different styles and periods (Gregorian chant, Machaut, Bach, Wagner, Stravinsky, Schoenberg, and Hindemith) intended to support the universal applicability of his theoretical concepts. What the examples make clear is that the theoretical principles are best demonstrated in the examples by Bach, Wagner, and Hindemith himself; therefore the method of analysis was by no means universally appropriate.

Having lived through the experience of Hindemith's attempt to establish a universally applicable system, and having seen Schenker's methods applied to styles ranging from early medieval polyphony to twentieth century music (both of which Schenker himself considered outside the proper frame of music), I take the position that the most appropriate form of analysis is one that relates directly to the composer's method (theory) of working (composition).

For the examples of Part Two, I have chosen the Rameau path, in that I have supplied musical examples of my own, to which the theoretical formulations are directly related.

It is not my concern here to point out how much these formulations may or may not apply to the work of other composers, or how much the music may or may not resemble other music. Since no one has a patent on chromaticism (though Schoenberg fought for priority in the "invention" of twelve-tone serial technique), there must be resemblances between all chromatic music, just as there must be resemblances between pieces in the major mode by different composers.

I should point out, however, that the formulated approach to chromaticism shown here was not "invented" as a theoretical abstraction for which I then wrote some music. It evolved, in fact, from music I had written from 1966 to about 1976, when the procedures were fully formed. Writing about it systematically took place only after 1988, when I decided to put on paper some things that even the most curious analyst (if there should be one) would have great difficulty in ferreting out. It would be an enormous waste of time for anyone to search for tone-rows, or the Golden Mean; or to use set theory (as for atonal music) or to make Schenker reductions; or to analyze harmonic fluctuation or to search for roots or tonal functions.

There is nothing mysterious about how these works were made, and I am willing to take the consequences of having destroyed any possible mystique they may have had by stating clearly what the constructive methods were. What the compositions *are* is a musical question above and beyond theoretical analysis.

A reasonable question at this point would be to ask why anyone should take the trouble to formulate in words things that are clear enough (to discerning ears and eyes) in the music itself. Two of this century's great masters, Bartok and



Stravinsky, left us music without words to explain how it was made. But it is not possible that these composers, whose intentions are so clearly realized in each of the stylistic phases they went through, did not have clear guidelines which regulated what emerged from their minds into musical notation. Such guidelines, always changing, are the substance of music theory—more so than the structural bones taken from that substance in later analysis. But Bartok and Stravinsky apparently did not take pleasure in verbalizing their constructive processes. Bartok devoted an enormous amount of his time to folk song research. Stravinsky was highly verbal about esthetic matters, if someone were there to help him bring his verbalizations to the printed page.

Schoenberg and Hindemith, on the other hand, enjoyed theorizing and verbalizing. Both left large amounts of material to reveal how they thought and worked—not only esthetic cogitation, but specific technical details meaningful to other composers. Both of them, however, warn us against overemphasis on technical details, and remind us that music, as art, cannot be created from such details alone.

Hindemith: "But no one will be so stupid as to assume that what has been impossible throughout all ages is now possible: to create a work of art without creative impulse, simply by burrowing and calculating." (*Craft* I, p. 101).

Schoenberg: "You have dug out the series of my string quartet [No. 4] correctly. . . . That must have been a very great effort, and I do not think I should have mustered the patience for it. . . . It might be stimulating to a composer who is not yet well trained in the use of series—a clue to procedure, a mere craftsman's reference to the possibility of creating from series. But the esthetic qualities do not open up from this. . . . I cannot warn enough against overvaluing these analyses. . . ." (Letter to Kolisch, *Briefe*, p. 178; quoted in Austin, p. 104).

This book exists because I am one of those composers who does enjoy theorizing and verbalizing. My hope is that these pages will pass on some of the lore of the subject in clarified form, and that they will offer some additional insights into perennial problems.

Howard Boatwright  
November 9, 1991  
Fayetteville, N. Y.

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Part One

❧

*Theory*





# 1

## Derivation of the Tones

### INTRODUCTION

**T**HERE ARE MANY ASPECTS to the history of music—to name a few, the early stages and growth of new forms and various styles, and the invention and exploitation of new instruments, with resulting effects on form and style. These musical aspects are interrelated, and they are also affected by forces beyond music itself, such as economics, sociology and politics.

Along with the above aspects that make music a reflection of man's life and culture, there is another aspect for which there is no history, because it was present before music in human terms existed, and will exist when no such music remains. It is similar to mathematics,<sup>1</sup> in that it existed before mankind began to understand it, and it will be there when and if mankind no longer exists.

The aspect of music to which I refer is the nature of tone and the relationships between tones. The comparison to mathematics is apt, because any relationship can be expressed in mathematical terms. But there can be no history of mathematics—only a history of our on-going grasp of the principles.<sup>2</sup>

Because on this basic level of music we deal only with such