J. F. DAUBE'S GENERAL-BASS IN DREY ACCORDEN (1756): A TRANSLATION AND COMMENTARY

DISSERTATION

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by

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Wallace, Barbara K., J. F. Daube's "General-Bass in drey Accorden" (1756): A Translation and Commentary. Doctor of Philosophy (Music Theory), May, 1983, 288 pp., bibliography, 138 titles.

General-Bass in drey Accorden (1756), the first of Johann Friedrich Daube's theoretical works, is a practical instruction manual in thorough-bass accompaniment. It consists of a sixteen-page preface followed by 215 pages of text and musical examples. The twelve chapters begin with a presentation of interval classification and a discussion of consonance and dissonance. Daube then explains a theory of harmony in which all "chords" are derived from three primary chords. These are illustrated with regard to their sequence in harmonic progressions, their resolutions--common and uncommon--, and their use in modulation. Seventy-two pages of musical examples of modulations from all major and minor keys to all other keys are included. Particular attention is given to the fully diminished seventh chord, which is illustrated in all inversions and in numerous modulatory progressions.

Daube devotes one chapter to three methods of keyboard accompaniment. The subject matter includes textures, dynamics, proper doubling, the accompaniment of recitatives, full-voiced accompaniment, the use of arpeggiation, trills, running passages, and ornamentation in general.

The primary purpose of the present study is to present an English translation of this treatise. It is hoped that this will provide further insight into the development of the harmonic thought of the eighteenth century, the practice of thorough-bass accompaniment, and the performance practice of the time. The commentary includes Daube's biographical background, the reception of his treatise in his own time and in the succeeding years, his harmonic theory (with discussions of influences on him and similarities to ideas of other theorists), and editorial and notational procedures.

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Biographical Background

Johann Friedrich Daube has not assumed a position of high rank among theorists, composers, or performers throughout the past two and a half centuries. Indeed, he has been all but overlooked until this century. Facts about his early life are sketchy at best. Although his name appears in a number of eighteenth-century lexica, the information presented gives conflicting data about his life. The most complete picture that can be drawn reveals that he moved from the northern area of Hessen, his probable birthplace,[1] and Berlin to the southern cities of Stuttgart, Augsburg, and finally to Vienna, where he died in 1797.

Documents collected by Michael Karbaum[2] confirm his early activity in Berlin at the court of Frederick the Great. In 1744, Prince Karl Eugen went from Berlin to Stuttgart to be the Duke of Württemberg and took with him "einem Lautenisten Nahmens Taube."[3] In the same year Daube received an official

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[1]Most writers agree that he was born around 1730.

[2]Michael Karbaum, "Das theoretische Werk Johann Friedrich Daubes - der Theoretiker J. F. Daube: Ein Beitrag zur Kompositionslehre des 18. Jahrhunderts" (unpublished Ph.D. dissertation, University of Vienna, 1969).

[3]From the Spezialdekret which authorized Daube's appointment, cited in Karbaum, 20.

appointment as chamber lutenist. From around 1750 to 1755, he was the chamber flutist, a position offering financial security. During these years in Stuttgart, Daube married Susanna Margaretha Schubhart, composed music, and wrote his first theoretical work, General-Bass in drey Accorden,[4] which was published soon thereafter. Daube finished this treatise in the summer of 1754, as he wrote in a letter to Friedrich Wilhelm Marpurg.[5] The preface was not added until late December of the same year.

In May of 1755, Daube was suddenly dismissed. He may have fallen out of favor with Karl Eugen.[6] However, all the lutenists employed in the Hofkapelle at Stuttgart were similarly dismissed, so Daube's departure was probably for impersonal reasons. After Jomelli became Kapellmeister, the entire court orchestra was reorganized as more and more Italian musicians were imported. The influence on Daube by the predominantly Italian Hofkapelle is evident in the pseudonym "Columba",[7] with which he signed some of his works.[8]

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[4]Johann Friedrich Daube, General-Bass in drey Accorden . . . (Leipzig: J. B. Andrä, 1756).

[5]Karbaum, op. cit., 48.

[6]Georg Reichert, "Johann Friedrich Daube," Die Musik in Geschichte und Gegenwart, 14 vols., ed. by Friedrich Blume (Kassel: Bärenreiter, 1949-68), III, 27-29.

[7]The Italian word Columba and the German word Taube both mean dove.

[8]Ernest Pohlmann, Laute, Theorbe, Chitarrone: Die Lauten-Instrumente, ihre Musik und Literatur von 1500 bis zur Gegenwart, 4th ed. (Lilienthal/Bremen: Edition Eres, [1975?]), 79.

Daube petitioned the Duke[9] for his reinstatement, emphasizing his love of performing. He also mentioned his administrative skills and his previous studies of Latin, French, and Italian. On March 30, 1756, Daube added to General-Bass a dedication to Duke Karl Eugen, perhaps another attempt to regain his position in the Hofkapelle. Later in 1756, he was hired as second flutist under Kapellmeister Jomelli, a position which he held for nine years.

In 1765, Daube left the court and moved to Augsburg. He spent only four years in that city, and all that we know of his musical activity there centers around the publishing and sale of a number of his compositions. By 1769, he was in Vienna. There he was Council and First Secretary to the Royal Franciscan Academy of Free Arts and Sciences. He also wrote and published four musical treatises.[10] Daube remained in Vienna until his death in 1797.

Critical Reception of Daube's Ideas

General-Bass was harshly criticized by Friedrich Wilhelm Marpurg in his Historisch-kritische Beyträge zur Aufnahme der

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[9]Reproduced in Karbaum, op. cit., 53.

[10]Johann Friedrich Daube, Der musikalische Dilettant: Eine Abhandlung des Generalbasses durch alle 24 Tonarten, . . . (Vienna: Joseph Kurtzböck, 1770/71).

Johann Friedrich Daube, Der musikalische Dilettant: Eine Abhandlung der Komposition (Vienna: Trattner, 1773).

Johann Friedrich Daube, Beweis, dass die gottesdienstliche Musik von den allerältesten Zeiten an unter allen Völkern des Erdbodens fortgewähret, und auch in Ewigkeit dauern werde (Vienna: Joh. Ferd. Edlen von Schönfeld, 1782).

Musik.[11] These criticisms spanned four annual editions and occupied 230 pages. This publication, which was edited and written mainly by Marpurg, was the second of three series of periodicals. Stylistically, it was the most professional of his journals[12] and seemed to be quite popular, commanding a large readership. The Beyträge included reviews of writings dealing with music, reports on musical activities, short biographical articles on active musicians, and discussions of theoretical topics. Open letters in the periodical were addressed to such contemporary musical figures as Leopold Mozart, C. P. E. Bach, Mattheson, Kirnberger, Nichelmann, and Benda.

Marpurg's periodical emerged at a time when much delight was taken in controversy for the sake of controversy. However, he may have had a deeper reason for publishing such heated attacks against Daube in particular. Marpurg's publishing activity had just begun to take shape in the 1750's. His Anfangsgründe der theoretischen Musik and his translation of d'Alembert's commentary on Rameau were both published in

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Johann Friedrich Daube, Anleitung zur Erfindung der Melodie und ihrer Fortsetzung (Vienna: Schaumburg, 1797).

[11]Friedrich Wilhelm Marpurg, Historisch-kritische Beyträge zur Aufnahme der Musik (Berlin: Johann Jacob Schüssens and G. A. Lange, 1754-78).

[12]Carl Friedrich Zelter wrote to Goethe on June 2, 1819, "Marpurg belongs to the best, because his style is the best." Cited in Jeffrey Pulver, "Friedrich Wilhelm Marpurg," Musical Times LIII (June, 1912), 375.

Leipzig one year after General-Bass, and it could very well have been Marpurg's intentions to pave the way for a better acceptance of his own theoretical writings by publishing such a critical review of Daube's work so soon after its publication. That would be a possible explanation for such remarks as the following ones:

> But I do not believe that the author [Daube] will have many followers, which, in the interests of art, is not to be wished.[13]
>
> This treatise is not only superfluous, but also harmful.[14]
>
> I would be ashamed of myself to have ever written such things.[15]

All of the articles in the Beyträge on General-Bass were under pseudonyms. The first three[16] were signed by "Gemmel, Doct. der Arzneygelehrheit," and the last one[17] was entitled: "Unpartheyische Gedanken, über die richtige Denkungsart des Herrn Daube in Seinem Vorberricht über den General-Bass in drey Accorden von Friedr. Wilhelm Sonnenkalb, Organisten in

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[13] Marpurg, op. cit., II, 365: "Ich glaube nicht, dass der Herr Verfasser viele Nachfolgen haben wird; welches auch zum Besten der Sache des Apollo nicht zu wünschen ist."

[14] Ibid., II, 471: "Dieser Traktat ist nicht nur überflüssig sondern auch schädlich."

[15] Ibid., III, 471: "Ich wollte mich schämen, dergleichen Zeug jemahls geschrieben zu haben."

[16] Ibid., II, 325-66, 464-74, and 542-47.

[17] Ibid., III, 465-86.

Herzberg." Friedrich Wilhelm Sonnenkalb (1729-1821) was actually an organist in Herzberg in Sachsen around 1756, but Dr. Gemmel's name cannot be found. It cannot be proved that the letter in Volume III was not written by Sonnenkalb, but it seems probable that both this name and Dr. Gemmel were pseudonyms under which Marpurg wrote. The third article on Daube in Volume II ends with the statement, "Die letzte Fortsetzung in der nächste Stücke,"[18] and the general tone of all of these articles does not change.

Much of the physical space of these articles is devoted to paraphrasing and quoting from General-Bass, chapter by chapter. Marpurg attacked several points in particular. First, he criticized Daube's reduction of harmony to three primary chords in a most severe manner. He tried to prove Daube to be a plagiarist of Rameau, and he drew numerous parallels between the two men. Referring to an article by Rameau which appeared in Mercure de France,[19] he pointed to Rameau's three chords, the harmonic triad on the first scale step, the chord of the added sixth on the fourth tone, and the seventh chord on the fifth degree, from which one can see "how Mr. Rameau agreed with Mr. Daube twenty-six years

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[18] Ibid., II, 547.

[19] Jean-Philippe Rameau, "Plan abrégé d'une Méthode nouvelle d'accompagnement pour le clavecin," Mercure de France, March, 1730. Cited in Karbaum, op. cit., 92.

ago."[20] Marpurg criticized Daube for not reducing the harmony further to only two main chords, a consonant one (the triad) and a dissonant one (the seventh chord). ". . . What right does Herr Daube have to call a $\frac{6}{5}$ chord a fundamental chord?"[21]

In addition, Marpurg judged Daube's free treatment of dissonance harshly.

> ". . . In the works of the ancients I find that they were much more careful with dissonance than people seem to be today. No dissonance was unprepared; it had to be present previously. It was resolved normally, and always without change from that voice in which it had been; there were not as many types of dissonant structures as one uses today. For proof of that Herr Daube should look at the masses by Fux, and others. . . ."[22]

Marpurg commented negatively on Daube's interval charts, his discussion of modulation, and his chapter on accompaniment. Then in the fourth article he ended his lengthy diatribe with

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[20]Marpurg, op. cit., II, 356: ". . . wie der Herr Rameau schon vor 26 Jahren mit dem Herrn Daube übereingestimmet hat."

[21]Ibid., II, 360-61: ". . . mit was für Recht kann der Herr Daube den Sextquintenaccord für einen Grundaccord ausgeben?"

[22]Ibid., II, 346-47: ". . . finde ich in den Werken der Alten, dass sie weit behutsamer mit den Dissonanzen umgegangen sind, als man es itzo tut. Man sprang in keine Dissonanz. Sie musste vorher liegen. Man lösete sie ordentlich und zwar allezeit, ohne Verwechslung, in derjenigen Stimme auf, worinnen sie gelegen hatte; man bediente sich nicht einmahl so vielerley Gattungen von dissonirenden Sätzen, als man heutigen Tages Fux und anderen an . . . ."

thundering criticism, not only of the theoretical ideas in General-Bass, but also of the author himself:

> Daube wanted to give beginners thorough-bass milk, but it turned out to be spoiled thorough-bass beef . . . . What kind of barbarian hottentot-like passages are not to be found in his [modulation] charts on almost every page![23]

At the beginning of these articles, Daube was invited by the editor to reply to them. "Note [from the publication to Daube]. Should it please Mr. Daube to give Mr. Gemmel an answer, he is assured that his answer would appear here with our pleasure. [Signed,] M."[24] Daube did indeed make one reply, and apparently intended to write again in more detail later. His letter was published after the first three letters by "Dr. Gemmel."

> Letter from Mr. Daube to the publisher.
> Dear Sir!
> Eight days ago I received the last three articles in your kritische Beyträge, and I read therein Mr. D. Gemmel's critique of my treatise. Anyone will see easily how harshly and heatedly they were written. I do admire his ability to twist the most innocent words without looking at what comes before or after them. He accuses me of borrowing from Rameau's writing, of which I have read nothing but the Demonstration du principe de l'harmonie, which I saw five years

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[23] Ibid., III, 481-82: "Daube hat den Anfängern Generalbassmilch geben wollen, und ist verdorbnes Generalbassrindfleisch worden. . . . Was für barbarische hottentottische Satze sind nicht in seinen Tabellen fast auf allen Blättern!

[24] Ibid., II, 326: "Anm. Sollte es dem Herrn D. gefallen, vermittelzt dieser Beyträge dem Herrn D. Gemmel zu antworten, so versichert man denselben, dass man seine Antwort mit Vergnügen einrucken wird. M."

> ago for only a few hours; I could not have been able to obtain it before the summer of 1754, at which time my book had already been turned over to the publisher . . . . I beg you to have the goodness to put this letter in your kritische Beyträge, and I shall not miss any opportunity to answer all of his points as soon as possible. I have the honor to be . . . . Stuttgart, Nov. 30, 1756. Johann Friedrich Daube.[25]

Daube's reply was so brief, polite, and proper that it seems he did not defend or justify himself. Perhaps it was not fiery enough to prevent Marpurg from continuing his satirical letters. Perhaps no pointed defense would have stopped publication of Herr Sonnenkalb's further heated assaults.

Marpurg's articles on General-Bass are the only known contemporary comments of any length on Daube's first treatise. The Beyträge were widely read in the late eighteenth and early nineteenth centuries, and his name undoubtedly carried

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[25] Ibid., III, 69-70: "Schreiben des Hrn. Dauben an den Verfasser. Mein Herr! Ich habe erst vor 8 Tagen die letzteren 3 Stücke Ihrer kritischen Beyträge erhalten, und darinn des Herrn D. Gemmels Beurtheilung über meinen Tractat gelesen. Wie stark und erhitzet diese geschrieben, wird ein jeder leicht einsehen. Ich bewundere seine Geschicklichkeit, wie er die unschuldigsten Worte ohne auf das vor- oder nachfolgende zu sehen, nach seiner jährendend Hitze zu tadeln und zu verdrehen weis. Er beschuldigt mich, als hätte ich aus den Rameauischen Schriften entlehnet, da ich doch hiervon nichts zu lesen überkommen können, als Demonstration du principe de l'harmonie; welches Buch ich vor 5 Jahren nur auf ein paar Stunden zu sehen bekame, konnte es auch nicht eher als im Sommer 1754 habhaft werden, da mein Werk allbeit dem Verleger eingehändiget war. . . . Ew. Hochedelgebohrnen haben die Gütigkeit, gegenwärtiges Schreiben in Dero kritische Beyträge einzurücken, wie ich keine Gelegenheit veransäumen werde, Ihm so bald als moglich auf alle seine Puncte zu antworten.
Ich habe die Ehre zu seyn. . .
Johann Friedrich Daube.
Stutgardt, den 30. Novemb. 1756."

considerably more weight in musical circles than the name of Daube. Thus these attacks seem to have been all too successful in convincing readers that Daube had nothing original to say and that he simply imitated Rameau. For roughly a century and a half after the publication of General-Bass, comments made about this work were only in connection with Marpurg's critique. Encyclopedists either seemed to accept without question the verdict of plagarism of Rameau,[26] or they gave Daube credit for being the first to import Rameau's ideas to Germany.[27]

Aside from brief entries in eighteenth-century encyclopedias and lexica, there was obvious disinterest in Daube's theoretical contribution by his contemporaries. Like Sorge, Daube was branded as one who borrowed from Rameau, simply because the ideas of the latter appeared in print prior to those of the two German theorists.

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[26]Johann Nicolaus Forkel, Allgemeine Litteratur der Musik . . . (Leipzig, 1792); Gustav Schilling, ed., Encyclopadie der gesammten musikalischen Wissenschaften oder Universal-Lexicon der Tonkunst (Stuttgart: Verlag von Franz Heinrich Kohler, 1835); Carl Ferdinand Becker, Systematisch-chronologische Darstellung der musikalischen Literatur von der fruhesten bis auf die neueste Zeit (Leipzig: Verlag von Robert Friese, 1836); Hermann Mendel, ed., Musikalisches Conversations-Lexikon, 11 vols. (Berlin: Verlag von R. Oppenheim, 1873); and F[rancois] J[oseph] Fetis, Biographie Universelle des Musiciens et Bibliographie Generale de la Musique, 8 vols. (Bruxelles: Leroux, Libraire-Editeur, 1836).

[27]George J. Buelow, "Johann Friedrich Daube," The New Grove Dictionary of Music and Musicians, 20 vols., ed. Stanley Sadie (London: Macmillan Publishers Ltd., 1980), V, 253.

Daube's Theory of Figured Bass

A century and a half passed before Daube's works received any impartial review. The first person to give him any credit for his original notions was Hugo Riemann.[28] Unlike the early nineteenth-century encyclopedists, he stated that Daube was "as far advanced as Rameau."[29] Daube, he said, was much more consistent in presenting his harmonic theory, and he accomplished it with far fewer fundamental principles than did Rameau. Riemann recognized Daube as a theorist who perceived all chordal structures as some form of one of three primary chords. Daube regarded chords not as mere interval combinations, but as sonorities which have specific functions in harmonic progressions. "In modulating," Riemann continues, "Daube clearly demands a change of meaning of the three primary chords into other harmonies (therefore, a change of function)."[30]

Of course, Riemann emphasized the features of Daube's theory of chords which resembled his own harmonic theory. However, it is not to be assumed that Daube developed as

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[28]Hugo Riemann, Geschichte der Musiktheorie im IX.-XIX. Jahrhundert, 3 vols. (Leipzig: Max Hesse, 1898), III.

[29]Hugo Riemann, History of Music Theory, Book III, tr. by William C. Mickelsen (Lincoln, Neb.: University of Nebraska Press, c. 1977, 194.

[30]Ibid., 195.

complete a theory of functional harmony as Riemann. Unlike Riemann, Daube certainly did not base his ideas on harmonic dualism; he had no idea of natural bass; he made no differentiation in major and minor keys, and he expressed no interest in their origins; neither did he attempt to present the tonic triad in a position of equality between subdominant and dominant. Yet Daube had a clear idea of the basic functions of chords in a key and presented it successfully.

The three primary chords, which are central to Daube's treatise, are the $\frac{5}{3}$ chord on the first scale degree, the $\frac{6}{5}$ chord on scale degree four, and the 7 chord on scale degree five. These chords are defined and discussed in the third chapter of General-Bass. They are present in all keys, major and minor, and they "contain all chords found in thorough-bass, both consonant and dissonant."[31] He called his first chord Accord des Grundtons or Grundton-Accord throughout General-Bass. In Der musikalische Dilettant he almost always named it "the ruling chord" (der herrschende Accord). Daube used all of these terms to refer to the one $\frac{5}{3}$ chord. The term Hauptaccord referred to the three primary chords, either individually, or in the aggregate.

Hauptaccord and similar designations were used by both his predecessors and contemporaries, but with different meanings. To Andreas Werckmeister, ordinaire Accorde were

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[31]Daube, General-Bass, 14.

chords which existed as they were ordered or arranged by God and Nature, that is, chords that occurred in the natural harmonic series.[32] Saint-Lambert described l'accord parfait as a chord that had three different forms according to the arrangement of its tones.[33] Heinichen's ordinaire Accorde is a triad which he recommended that students practice on every scale degree in each of the drey Haupt-Accorde. The latter expression referred to three positions formed by the placement of each tone as the highest note played by the right hand.[34] Mattheson defined the triad (Drey-Klang oder Accord) as "the perfect, completely harmonious triad or chord."[35] Sorge recognized only one Hauptakkord which, like Heinichen's ordinaire Accorde, could occur on any scale degree,[36] while

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[32]Andreas Werckmeister, Die nothwendigsten Anmerckungen und Regeln wie der Bassus Continuus oder General-Bass wohl könne tractiret werden (Aschersleben, 1698), 10, cited in George J. Buelow, Thorough-Bass Accompaniment According to Johann David Heinichen (Berkeley: University of California Press, 1966), 22-23, footnote 11.

[33][Michel] de Saint-Lambert, Nouveau traité de l'Accompagnement du Clavecin. . . (Paris, 1707), 36.

[34]Johann David Heinichen, Der General-Bass in der Composition (Dresden, 1728), cited in Buelow, Thorough-Bass Accompaniment, 22-23.

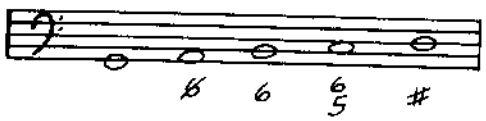
[35]Johann Mattheson, Kleine General-Bass-Schule (Hamburg, 1735), 137.

[36]G. A. Sorge, Vorgemach der musicalischen Composition, 3 vols. (Lobenstein, 1745-47), I, 33.

J. S. Petri described the allgemeine oder Hauptaccord as a chord with a fundamental and a third, fifth, and octave.[37]

Daube's "chord of the fourth" is a $\frac{6}{5}$ chord which he considered to be a fundamental chord. Its inversions are derived from this position; thus, his last inversion is the chord composed of superimposed thirds. It is clear that this $\frac{6}{5}$ chord is the same as Rameau's accord de la sixte ajouteé. However, Daube's letter of self defense, published in the Beyträge,[38] shows that he could not have borrowed Rameau's explanation of this chord. Indeed, it seems much more probable that his ideas could have developed as a result of his acquaintance with the writings of Gasparini.[39] The following examples are two of a number of similar bass lines which Gasparini illustrated:

Example 1. Gasparini, The Practical Harmonist, 73, example 124.



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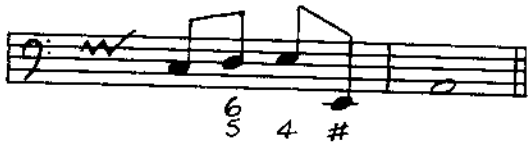
[37]J. S. Petri, Anleitung zur practischen Musik vor neuangehende Sänger und Instrumentalspielen (Lauban, 1767), 69-70, cited in Karbaum, op. cit., 58.

[38]See footnote 25.

[39]Francesco Gasparini, The Practical Harmonist at the Harpsichord, tr. by Frank S. Stillings, ed. by David L. Burrows (New Haven, Conn.: Yale University Press, c. 1963). Karbaum noted the possible influence of Gasparini on Daube's theory of the chord of the fourth. Karbaum, op. cit., 60.

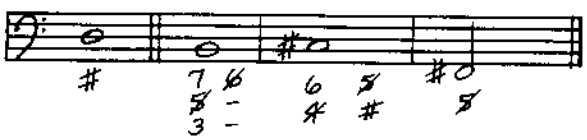
Example 2. Gasparini, The Practical Harmonist, 70, example 119a.



The numerous examples of this $\frac{6}{5}$ chord on scale degree four in Gasparini's treatise may suggest a possible connection with Daube's "chord of the fourth."

Daube's discussion of the $\frac{6}{5}$ chord is very consistent. He regards the chord as having only one possible fundamental, the fourth scale degree, and as having only one function, to proceed to the 7 chord on scale degree five. He includes examples, such as the following, which illustrate the progression of this $\frac{6}{5}$ chord to a $\frac{6}{4}$ chord on scale step five; thus, Daube considers the $\frac{6}{4}$ chord to function as a "chord of the fifth."

Example 3. Daube, General-Bass, 116, line 3.



If the $\frac{6}{5}$ chord does proceed to a Grundtons-Accorde, then it is "not the chord of the fourth but a key-note chord, and the chord that follows will be its own subordinate chord of the fifth."[40] Thus Daube recognizes neither Rameau's possibility

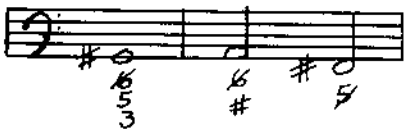
[40]Daube, General-Bass, 24, footnote g).

of another fundamental for this chord (the second scale step) nor his idea of double emploi, which explained the movement of this chord to either a dominant or to a tonic chord.

The 5ten Accord is, according to Daube, a seventh chord whose fundamental is always scale degree five. It progresses to the Grundton-Accord and may be preceded by either of the other two primary chords. In Der musikalische Dilettant (1770/71) Daube states that it is the third of this chord, rather than the fundamental, which is the most essential tone. It is the main indicator of the key (der Hauptanzeiger der Tonart).[41]

Most of Chapter 8 of General-Bass is a discussion of the fully diminished seventh chord. The musical examples in this chapter show how it functions as a chord of the fifth even though it is derived from two of the primary chords.

Example 4. Daube, General-Bass, 81.

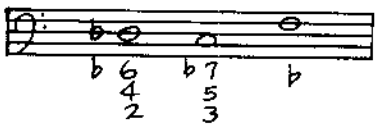


Referring to the first chord in the above example, Daube says, "This chord can be called none other than the second inversion of the chord of the fifth of F-sharp minor, even though the fifth of the chord, D, belongs to the chord of the fourth of

[41]Daube, Der musikalische Dilettant (1770/71), 75.

this key."[42] Daube also shows that the diminished seventh chord easily can be changed to a true chord of the fifth by lowering one tone:

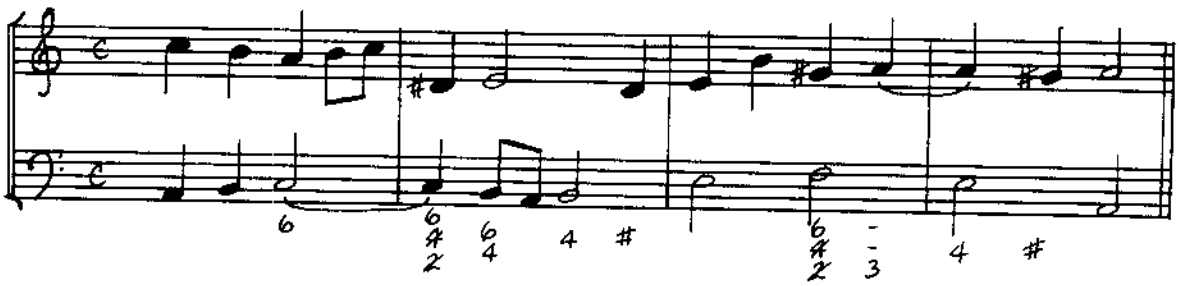
Example 5. Daube, General-Bass, 93,example [3].



Daube presents this diminished seventh chord, the $^{\flat 6}_{4\ 2}$, in a way that brings Rameau's chord of the augmented second to mind.

Daube was not the only theorist in the mid-eighteenth century to discuss the diminished seventh chord. Gasparini illustrated it twice in one example as the result of a melodic skip above a dissonant bass:

Example 6. Gasparini, The Practical Harmonist, 51.



Georg Muffat[43] showed examples of the diminished seventh chord in connection with the dominant chord in cadences, and

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[42]Daube, General-Bass, 81.

[43]Georg Muffat, An Essay on Thoroughbass (1699), Vol. IV of Musicological Studies and Documents, ed. by Helmut Federhofer (Tübingin: C. L. Schultheiss, 1961), 64.

Heinichen's examples[44] showed it both in conjunction with the dominant chord and as a result of non-harmonic tones. Three pages of Chapter IX of d'Alembert's treatise[45] are devoted to de l'accord de septieme diminueé, illustrating its inversions and figured bass.

Although the diminished seventh chord is included in works such as those cited above, Daube seems to have the most progressive attitude toward the chord of any of his contemporaries. He not only discussed its construction and functions thoroughly, but he also provided extensive demonstrations of its use in modulation to both closely-related and to remote keys. Furthermore, he clearly understood that there were only three different diminished seventh chords. He described it as one of the most versatile chords in modulation, since "as many tones of a diminished seventh chord . . . can become the major seventh of one key or another as there are notational transformations of the chord.[46]

Daube believed his three primary chords to be the most basic rudiments of music, rudiments which a student had to master completely before attempting performance or composition. Even while writing General-Bass, Daube had plans of writing

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[44]Buelow, Thorough-Bass Accompaniment, 53-54, 57.

[45]Jean-Le Rond d'Alembert, Elemens de musique theorique et practique (Paris, 1752), facsimile ed. (New York: Broude Brothers, c. 1966), 135-37.

[46]Daube, General-Bass, 96.

a composition manual. However, fourteen years later with no manual yet published, he seemed to feel the necessity to reiterate the fundamental ideas expressed in General-Bass prior to any book on composition. He repeated his thorough-bass instructions in Der musikalische Dilettant (1770/71). This work began as a weekly periodical which Daube intended to continue, presenting other musical topics. But in spite of his plans, publication ended in 1771 at the conclusion of the discussion on thorough-bass. Then his treatise on composition was finally published in 1773.

Der musikalische Dilettant begins with a commentary on the history of music, much of which is obviously taken from the Vorbericht of General-Bass. The text is essentially a repetition of the 1756 material in a simplified form. Approximately half of the entire work is interspersed with musical pieces, some of which are by Daube, and many of which are anonymous. Sometimes these pieces provide examples of what has just been discussed, such as one particular key, modulation to a certain key, or a specific texture. But they often have little relation to the texts which they follow. The instructions in thorough-bass progress systematically through all twenty-four keys,[47] with an additional paragraph on the keys

[47]Daube discusses the three chords and modulations first through the sharp keys, two major keys a fifth apart, followed by their relative minor keys (C major, G major, A minor, E minor, D major, A major, B minor, F-sharp minor, etc.), and then through the flat keys arranged in a slightly different order (F major, D minor, B-flat major, D-sharp minor, etc.).

of F-sharp/G-flat major and D-sharp/E-flat minor. The material presented is only about the three primary chords in each key and modulations to closely-related keys.

Translation Problems in the Present Work

In General-Bass Daube was still employing a 300-year-old practice of chromatic pitch nomenclature. He used the common "b" to represent B-flat and "h" for B-natural, but he designated all other altered tones, whether raised or lowered, with the name associated with the sharped note. For example, cis was the name for both C-sharp and D-flat; fis, for both F-sharp and G-flat, etc.

The practice of adding the syllable -is to unaltered pitch names stems from fifteenth-century German organ tablatures. In tablatures such as the Buxheimer Orgelbuch (ca. 1460) letters were used to represent pitches. While B-flat and B-natural were represented by "b" and "h", all other chromatic notes were indicated by a small hook or loop on the right-hand side of the letter. The symbol for C-sharp was c^{e}; for D-sharp, d; for F-sharp, f; and for G-sharp, g^{e}.[48] This loop was an abbreviation of the Latin syllable -is.[49] Thus the c^{e} came to be pronounced cis and appeared as such in writing from

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[48]Willi Apel, The Notation of Polyphonic Music: 900-1600, 5th ed. (Cambridge: The Mediaeval Academy of America, c. 1961), 26.

[49]Karbaum states that it was an abbreviation of semitonum, op. cit., 83.

around the middle of the sixteenth century. For example, Michael Praetorius includes a chart in Syntagma musicum showing two pitches and two symbols which are called by one name:  and bear the name dis;  and  , fis; and  , gis; and so on.[50]

This practice of pitch nomenclature continued to be used, with modifications, by German musicians long after the death of tablature notation. Methods of differentiation of pitches varied greatly among writers. For example, Werckmeister made a distinction between raised and lowered tones, using the syllable -is for the former, but moll for the latter, such as E moll for E-flat, and A moll for A-flat.[51]

Another variation is seen in the 1727 work of Tobias Westbladh, where as, es, and hs are used to mean A-sharp, E-sharp, and B-sharp, respectively.[52] Mattheson himself shows the absence of uniformity of pitch names when he writes an F-sharp major triad as fis - as - cis, and then in the same work calls the third of an F minor chord as.[53] He admits his

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[50]Michael Praetorius, Syntagma musicum (Wolfenbüttel, 1619), facsimile reproduction, ed. by Wilibald Gurlitt (Kassel: Bärenreiter-Verlag, 1958), II, 65.

[51]Andreas Werckmeister, Musikalische Temperatur (1686-87, 1691), cited in Karbaum, op. cit., 85.

[52]Tobias Westbladh, De Triade harmonica (Uppsala, 1727), 9, cited in Karbaum, op. cit., 85.

[53]Johann Mattheson, Kleine General-Bass-Schule (1735), 147-48.

variable position by the statement, "If one adds a flat sign to an E, it means dis; however, some people call it es."[54]

Thus, it is apparent from the illustrations and explanations in numerous seventeenth- and eighteenth-century writings that the system had been expanded to include separate names for chromatically lowered pitches, as well as for doubly raised and lowered tones. The syllable -es came to be added to the letter names of pitches to indicate a tone lowered one half step, that is, ces, des, es (rather than ees), fes, ges, aes, and even hes.[55]

Just as the pitch name hes for B-flat existed in theory, but seldom in actual practice, the syllable -as could also be added to letter names to indicate lowered tones. Cas, das, eas, fas, gas, as (instead of aas), and has are listed as additional names of lowered pitches.[56] Doubly raised and doubly lowered pitches are also named in the mid-century writings, such as ciscis, disdis, etc., and either cesces or cascas, etc.[57]

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[54] Ibid., 89.

[55] This practice is explained in the following works: Johann Gottfried Walther, Musikalisches Lexikon oder musikalische Bibliothek (1732); Jacob Adlung, Anleitung zu der musikalischen Gelahrtheit (1758), facsimile edition, ed. by Hans Joachim Moser (Kassel: Bärenreiter-Verlag, 1953); Friedrich Wilhelm Marpurg, Die Kunst des Clavier zu spielen (Berlin, 1762), reprint (Hildesheim: Georg Olms Verlag, 1969); and Friedrich Wilhelm Marpurg, Anleitung zur Musik überhaupt . . . (Berlin: Arnold Weber, 1763).

[56] Adlung, op. cit., 217.

[57] Ibid., 217-18.

Although theorists systematically explained these chromatic pitch names, contemporary writers used both old and new nomenclature simultaneously. While Daube retained the oldest use of one pitch name to represent two enharmonic pitches,[58] his contemporaries did otherwise. Marpurg, for instance, illustrates one of Daube's interval charts in a manner which was more advanced than Daube's:[59]

Zwey Secunden.
c - des (eine kleine)
c - dis (eine übermässige)

Zwey Terzen.
c - es (eine kleine)
c - eis (eine übermässige)

Eine Septime.
c - b (eine kleine)

Zwey Nonen.
c - des (eine kleine)
c - dis (eine übermässige)

Eine Quarte.
c - fis (eine übermässige)

Zwey Quinten.
c - ges (eine falsche)
c - gis (eine übermässige)

Zwey Sexten.
c - as (eine kleine)
c - ais (eine übermässige)

Zwey Octaven.
c - ces (eine verminderte)
c - cis (eine übermässige)

Not long after General-Bass Daube too began to adopt the newer designations for lowered pitches. In his second thorough-bass work (1770/71), he was inconsistent in the nomenclature he used. Not until his writings of 1797-98 did he arrive at the pitch names in use today.[60]

In this translation of General-Bass, every effort has been made to retain the original meaning as well as the style

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[58] A further peculiarity of Daube's chromatic notation is the expression dis ♭ for E-flat and dis # for D-sharp. See the translation, Chapter 1, ¶5.

[59] Marpurg, Beyträge, II, 332.

[60] Daube, Erfindung.

which Daube used, while, at the same time, offering a clear and understandable version for the modern-day reader. In many cases it was not impossible to render Daube's thoughts quite literally. In other instances some inconsistent and even ungrammatical German has been paraphrased, as some of the idiomatic flavor has been sacrificed for the sake of a more understandable expression of the text in modern English. Daube's inconsistent use of "he," "one," and "they," as well as "I" and "we" has been unified.

Many of the lengthy paragraphs have been divided into more than one paragraph to correspond with modern writing style. In order to make the text more readable a few of the extremely long German sentences have been broken. However, sentence length was retained when the meaning could be made clear through precise punctuation. Daube's parentheses have been retained when needed, but no attempt has been made to preserve the archaic punctuation he used. Bracketed interpolations are attempts to clarify the author's meaning where the sentence would seem ambiguous or incomplete. In many places where the antecedent of a relative or demonstrative pronoun is obscure, the noun or phrase to which it refers has been inserted without the use of brackets. Underlined German words or phrases enclosed in square brackets are the words used by Daube in the original. Quotations in the translation are those used by Daube. Continuous underlining of text represents bold-face type used in the original.

Daube used lower case letters for his footnotes, which were included at the end of each numbered section and were printed in smaller type. The original placement has been preserved in the translation, while they have been indented and double-spaced. Translator's footnotes have been designated with Arabic numerals and have been placed on the same page as the reference.

Certain unnumbered musical examples have been numbered for clarification of Daube's references to these examples in the text. The C-clef which Daube used in most cases for the right hand staff has been replaced with the more modern G-clef. The author's use of duplicate figured bass symbols to represent the same interval has been unified into symbols used today. For example, 3 ♯ , ♯, and ♯, as they appear in the original, have been replaced with the one symbol, ♯ .

General-Baß

in drey Accorden,

gegründet

in den Regeln der alt- und neuen Autoren,

nebst einem hierauf gebaueten Unterricht:

wie man

aus einer jeden aufgegebenen Tonart, nur mit zwey Mittels-Accorden, in eine von den drey und zwanzig Tonarten die man begehret, gelangen kann,

und der

hierauf gegründeten Kunst zu präludiren,

wie auch zu jeder Melodie einen Baß zu setzen,

daß also

durch diese neue und leichte Anleitung, zugleich auch zur Composition unmittelbar der Weg gebahnet wird

von

Johann Friedrich Daube,

Hochfürstlich-Würtembergischen Kammer-Musicus.

Leipzig 1756.

Verlegts Johann Benjamin André,

Buchhändler in Frankfurt am Mayn.

Thorough-Bass

in three chords

based

upon the rules of old and new authors, together with a system of instruction based upon this; how one, from any given key, can reach any of the twenty-three keys by means of only two chords, the art of preluding based upon this, and also how to set a bass line to each melody, so that at the same time the direct way to composition will be opened through these new and easy instructions.

by Johann Friedrich Daube
highest chamber musician of Würtemberg

Leipzig, 1756.

Printed by Johann Benjamin Andrä,
Bookseller in Frankfurt am Main.

[Dedicated] To His

Most Serene Highness,

Prince Carl,

Duke of Würtemberg and Teck,

Earl of Mompelgard, Lord of Heidenheim and

Justingen, etc.

Knight of the Golden Fleece, and

General Field Marshall of the Honorable Swabian District,

etc.

To My Most Gracious Prince and Sovereign

Most Serene Duke,

Most Gracious Prince and Sovereign!

To Your Most Reverent Highness who has been so kind as to allow a book dealing with the rudiments of music in a new and concise way to be placed before him: I have drawn it up for Your Highness' service.

Thus I request that you deem this small and humble token of my obedience and gratitude worthy of your most gracious glance. This will further my efforts henceforth to investigate more musical truths, to impart them to the public to the extent that my limited powers allow, to expand thereby the love of this knowledge even further, and to perfect me more from day to day.

May the Almighty God preserve Your Serene Highness until the old age in all most highly blessed good health.

I remain for life in deepest humility

Serene High Duke,

Most kind Prince and Sovereign,

Your Most Reverend Highness.

Stuttgart, 30 March, 1756

Your Humblest servant,

Johann Friedrich Daube

PREFACE

Practical music, in performance on instruments as well as in singing and in composition, has achieved great perfection nowadays; only those who have not understood its greatness doubt this. Yes, there are many who would even maintain that practical music has climbed to the highest peak of perfection.

The basis of this perfection rests in the knowledge of thorough-bass and in composition. Although some, even without this knowledge, are successful, nevertheless they remain in uncertainty as to how to perform an ornament suitably. When this correct performance happens occasionally, at this point they have either heard it from others, or else it has come about by accident. It is certain that such a person will never perceive with certainty the motion, delicacy, and tenderness which are the soul of practical music. Theory is just as useful to the composer as the knowledge of thorough-bass is important to a singer and to an instrumentalist. There are so many who compose and do not even know whether or not this or that passage [Satz] is justifiable. If they were to be asked about it, they would fall back on the testimony of famous men; they know the passage but cannot explain it.

Insofar as possible, all sciences should have an adequate foundation, and music should not be excluded; if only one would respect this and look for this foundation. Nowadays

we cannot complain about the lack of sufficient instruction [manuals] because practical music is studied by so many and practiced so intensely. But with respect to thorough-bass and composition,[a)] the instructions are seldom good.

a) Both are interwoven with each other in such a way that neither can be learned thoroughly without the other. What is thorough-bass other than striking the proper harmonies for the given bass line and at the same time composing impromptu? Indeed it is easier in certain pieces to compose the proper middle voices to a melody--for which you must take time and ponder it sufficiently--than to be able to accompany an unfigured bass line (even though it is not one of the hardest) without major faults.

Beside the practical application belongs the understanding of the theory: 1) from where most of the chords originate, 2) where they can be directed, and 3) how one should be able to predict succeeding chords from the first chord. Whoever wants to learn thorough-bass through consonant chords, as one theorist teaches in his published writings, will come up short here and will achieve neither a proper technique of accompaniment nor a proper and thorough technique of composition. Aside from the practice of thorough-bass, an accompanist should also understand the theory of

> it, so that he knows how the rules of composition originate therefrom. Once the true composer understands the theory of thorough-bass, he can never do without it. Yet both of them together are even better. The total knowledge of thorough-bass always remains the foundation of the melodic structure built upon it.

The reason for this may be that anyone who wants to learn a body of knowledge makes use of either oral or written instructions, that is, books. With regard to verbal instructions, I must say that it is very difficult to get a teacher who possesses the requisite thoroughness. Such teachers are rare. If one is lucky enough to have such a person nearby, then [the teacher] often does not have the time to spare or the necessary patience, and consequently it is not easy for him to teach. If a beginner gets a teacher who himself understands little, it is not hard to guess what the student will learn. But he can consider himself lucky if just that which his teacher does understand is clearly and candidly shown to him. But even this happens seldom enough because 1) many lack the gift of a clear lecture style, 2) many hold back their pupils for practical reasons, and 3) a few even conceal the most important information.

If a beginner wants to get advice out of books, he will have almost as many difficulties as he finds in oral instructions. The great number of writings, which deal

with music from the time of its revival [Renaissance] until the time of the incomparable Mattheson and others (from around the beginning of the sixteenth to the end of the seventeenth century[b]), contain a huge number of observations (which they called rules), such as, for example, the order of consonances, which one may read about in [Chapter 3 of] the third section of Mattheson's Vollkommener Kapellmeister (on consonances in general).

> b) It is not my opinion here that music was at a standstill. No, rather I only want to say that after the beginning of the sixteenth century many men wrote of music; in fact, this science was carried on very strongly in Italy, due to the rise of opera. Little by little, excellent masters emerged in Germany, England, and France. Likewise, Ludovicus Viadana invented thorough-bass at the beginning of the seventeenth century, thereby strengthening harmony. Among these great men belong Wallis, Meibom, Lulli, Printz, Rosenmüller, Werckmeister, Kuhnau, Krieger, and others, who are recorded in Walther's dictionary.[1]

It certainly cannot be denied that music existed from the beginning of the world, before its creation, so to speak. According to the scriptures, "Where were

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[1]Johann Gottfried Walther, Musikalisches Lexikon oder musikalische Bibliothek (1732), facsimile edition, ed. by Richard Schaal (Kassel: Bärenreiter-Verlag, 1958).

you when the morning stars praised me with each other and all the children exulted God," Job, the 38th chapter, [fourth and] seventh verses. But there is this distinction: at the beginning, vocal music alone was the preoccupation of our forefathers, who were incited thereto through the song of the birds. Besides, with what else should they have been occupied, except praising their Creator with raised voice? From here the excellent origin of music becomes clear, and it, together with theology, receives the same preference before all arts and sciences. Have not all of the other arts and sciences risen up then through the fall of man, and did they not come into existence through the mighty words, "By the sweat of your brow shall you eat your bread, etc?" From the glory he enjoyed in Paradise, Adam could take nothing with him other than singing, praising, and thanking. Thus, music-making will endure forever. If all arts and sciences pass away with this world, then [music] will go too, and there once again it will be the first and noblest art.

Now, after the fall of man when the people began to yield to work, how were their free hours spent? [They were spent] in singing and playing, whereby little by little, with the assistance of Nature man invented many types of instruments. For example, through blowing and pressing air, whistling was heard in different ways.

They studied that, and finally they took hollow reeds and blew into them. One science aids another, in that through the use of iron, copper, etc., commonly used instruments were made which were strong sounding and were used in the Israelites' worship service. Because of combining the afore-mentioned metal with wood, finally stringed instruments were produced. In Semler's Antiquitäten der heiligen Schrift[2] one can observe how magnificent the musical worship was before and during Solomon's time.

The Egyptians and then the Greeks were the ones who kept music in great respect. Especially among the Greeks,[3] no one could pass as wise without having a knowledge of music. Pythagoras and Plato have even called it that greatest wisdom (essence of all sciences), a divine art. The solemn Socrates even learned music at an old age. The most clever philosophers therefore thought that the whole world consisted in harmony, and that heaven caused harmony through its movement. Likewise, [they believed] that our souls and bodies were

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[2]Christoph Semler (1669-1740), Antiquitäten der Heiligen Schrift, oder Biblische fragen von dem paradise, archa Nöa, . . ., 2 vols. (Halle in Magdeburg: Renger, 1715).

[3]Apparently Daube was acquainted with the writings of the Englishman John Wallis (1616-1703), who translated the works of Greek music theorists into Latin. It is possible also that Daube was familiar with Antiquae musicae auctores septem (Marcus Meibom (1620-1711)), which is a Latin translation of the Greek texts of Aristoxenus, Nicomachus, Alypius, Gaudentius, Bacchius, and others.

built out of it, [and that] "therefore the powers of the soul were awakened and enlivened through music." Among other things, Plato and Aristotle taught that "Whoever is gifted with understanding, humor, and virtue cannot help but be a friend of music."

The beloved Plutarch writes, "A person who from his childhood on learns true music (and one should learn it in his youth), must of necessity have a taste for the good and consequently an aversion to evil, even in things which do not belong to music. He will never dishonor himself through a vile act. He will be of service to his fatherland and will deal fairly in his behavior at home. All his deeds, all his words will be precise, and in all circumstances of time and place they will show moderation and order."

Accordingly, the wise lawgiver Lycurgus required that music be learned. The warlike people from Lacedemonia and Crete even made use of musical instruments in their wars. Even Achilles, the most valiant hero of his time, learned music. The famous heros under the Greeks and Romans did the same thing. Those Greeks who wrote about music in later times were Aristoxenus, who left behind three books on harmony, Aristotle, Euclid, Nikomachus, Alypius, Gaudentius, Bachius, Aristides, Claudius Ptolemy, Plutarch, Porphyry, Bryennius, and others.

> From the Greeks this science was brought to Rome, and the Roman Senator Boethius also wrote a treatise on music. In Rome the holidays of the gods were spent mostly in singing and playing. Music brought Roman drama into a far greater respect than it had before. It finally became so beloved that even the emperors wanted to occupy themselves with it. With the rise of Christianity it was brought into the church by the holy Gregory. This practice was endorsed by all popes hereafter. It spread from Rome outward to other countries. In the eleventh century Guido d'Arezzo invented ut, re, mi, etc., enabling musical pieces to be more clearly preserved for posterity. It is especially interesting that music and religion have grown side by side.

Now it is not bad enough that a beginner must learn a great number of unnecessary rules; even worse is that one writer praises some rules which another rejects. Seldom is any reason indicated other than "this is good, but that is bad;" occasionally an unharmonic relationship is cited, [and] dissonances and other topics of harmony are treated in almost the same manner. Now it is indeed true, and cannot be denied by anyone who possesses only the smallest acquaintance with musical theory, that ever since Mattheson, Heinichen, Fux, and a few later theorists produced such excellent works, one could rightly consider present-day treatises as superfluous.

Yet when one considers the time in which the afore-mentioned great men wrote their books, one will find that long ago not only the above-mentioned frequent rules but also the continual use of counterpoint and the neglect of the natural melody were in full swing. Solmization can also be included in this, because in composition and performance, as well as in singing and playing, it caused much useless difficulty and prolixity.

Now if this famous musical trinity [--Mattheson, Heinichen, and Fux--] had eradicated all this rubbish mentioned here through their writings, there really would have been little left to do. One finds that it makes up the largest part of their works, which remain great nevertheless. What they added later was modulation from key to key, recitative, ornamental accompaniment, melody, etc. As is well known, Mattheson was the first to prescribe for us a few rules on melody; but here, little has been bequeathed to us.

This was really supposed to be a short description of the laborious work of these excellent men. Now, however, I will also point out briefly what each one contributed separately to this improvement. First of all, it was absolutely necessary to reduce the glut of rules in composition. This task was accomplished in particular by the Kapellmeister Fux with his four rules, and by Heinichen, Gasparini, and Rameau through the discovery of the natural progression of chords in a key. It is noteworthy that the latter three

men hit upon the same thoughts, and each believed that he had been the first to discover them. Heinichen and Mattheson spared no diligence in banishing both solmization and the unnecessary use of counterpoint. Whom but the untiring Mattheson should we thank for the rules of melody, recitative, a precise description of compositional techniques, and many other such things?[c)]

> c) One might reasonably ask the friends of music who brought them further than the diligent Mattheson? It is he, out of whose fruitful pen the loveliest musical writings have been delivered into our hands for half a century. Even the envious and egotistical will be obliged to him. Still, there are a few things there that should be improved; he is just a man. Among them is his earlier pungent manner of expression. The good cannot be improved. The latter deserves endless praise, but the former, apology. I wish him a long life, so that the muddle-headed, uncouth scorners of music may yet become aware of the working of his powerful vision in the future.

Who showed the dramatic resolution of dissonances in theatrical style, the relationship of tonalities, and modulations better than the ever-famous Heinichen? All of these are sufficient tests of their untiring diligence. Now it is likely that no one would criticize these men if they had

not explained all of these things and more with complete clarity.

Everyone who has only a slight insight into the sciences will agree that he who lives after another writer can improve his work with less trouble; in current treatises this has happened as I had hoped. First of all, the three chords originate from the natural progression of scales (circle of fifths) which was described by the above-mentioned men. There is only this difference: I put the seventh instead of the octave above the chord of the fifth. The reason for this change will be shown in the third chapter. Second, through this change it happens that most of the dissonances, as well as their resolutions, arise out of these three main chords, which hardly anyone thought of before me.

After additional explanation, no one will doubt that by my method not only are the harmony above the bass and the natural progression of keys easier to learn than they are according to the usual methods, but also the correct harmonies are played clearly. One should only consider how many rules for the learning of thorough-bass and composition would otherwise be necessary; here they are all drawn together and are presented as three rules or chords.

Further, I have noted all uncommon resolutions which were formerly unknown to many organists. I have also shown that all common intervals can be found in each tonality, and also that the intervals shown with a sharp or a flat

must be viewed in the context of their keys. The knowledge of how to go to even the furthest keys by means of very few pivot [vermittelende] chords--which is so necessary to every organist--was as far as I know, only known, at least in its entirety, to a few great masters who never wanted to reveal these special modulations and inversions [Verwechslungen].

The charts also give sufficient instructions as to how one should prepare preludes, how to alter each voice, as preludes often admit of these alterations. Likewise, all examples are based on the three chords.

I have yet to mention that I have repeated a few necessary remarks here and there which pertained to the same thing every time. It happened with good forethought. A beginner often does not possess the necessary patience to read a book attentively, and thus from time to time things come to mind which he had read previously and which are related to one context or another. He often lacks discernment, to the extent that he does not know whether or not a given fact is related to previous material. One can never stress the main idea too strongly. How often it occurs that one encounters a noteworthy passage in a book which one remembers upon continuation (despite having given little attention to it at first), so that it may serve for greater and better understanding of other passages. Thus, many readers have little use for reading an extensive work if the main ideas are so thoroughly surrounded by so much unnecessary information

that until it is read entirely, the useful ideas are covered up and are forgotten. In these instances the best thing a reader can do is to write out the understandable passage, have it in front of him as he continues reading, and compare it each time with other similar passages. How many authors are there who introduce the most important [thought]--the key to the whole work, so to speak--only once; thus, without extraordinary attentiveness, it is easily forgotten if my earlier advice is not followed. Many have learned this by reading musical writings whose vast length is tiresome. There are others who read for pleasure as well as those who study it as if they had to earn their living with it. These readers are often so discouraged that they had rather be content with miserable instructions than to search for the main message out of books, as everyday experience confirms.

I have taken the opportunity of being as brief as possible in the preparation of this treatise, and yet in order to conform to the wishes of uninformed readers, a few passages have turned out rather lengthy now and then, only to be useful to the multitudes. If I reach this goal, all my efforts will be repaid. A science that has such an advantage as music does deserves that one seek to make it clear and pleasing to everyone. If one disagrees, it does not matter whether music is well-known and loved or not, because it does not contribute to the improvement of a state or to the general good. To him who thinks this, I advise that if he has a

precise purpose in advance, he will think better. I know for sure that there is much daily abuse of music by which its good ends are hindered. But I also ask, which science is not exposed to abuse? But some might not know wherein the use of music exists. To them I say briefly, that this use exists in its divine origin, thus seeks not to please the body but rather the spirit, leading the soul to reflect upon its origin. We should be happy that we possess something that is so pleasing to God--something in which the angels themselves participate. Beautiful church music can rightly be called an offering of praise and thanks. Even though a person does not have this true purpose of music in mind, music still causes him to be cheerful and in good humor, and after discontent, work, and even melancholy, there is nothing as pleasant to him as sweet harmony.

How many people have been cured not only of melancholy but also of other illnesses solely by the spiritual union of harmony and the soul. Much has been written on this in the holy scriptures as well as in secular writings of antiquity. Nowadays instead of discord and misuse, concord and love rule, and thus the effect of harmony on the human body can be explored even further. This effect cannot be doubted, because we already know that all bodies in the whole world were created in perfect harmony, and the human body possesses the greatest agreement with harmonious proportion. Why cannot the proportions of music that are endowed with the

greatest order also bring the disorderly spirits of a sick person into order and harmony again? If only this sublime science were not misused. Is not this use great enough? After the obligatory pressures of government, music serves as entertainment and encouragement for great lords. In general, one says to me, what joy is purer than hearing beautiful music? How many are held back from other evil company and disorder [because of music]. Upon the call to battle, do not the sounds of the trumpets and other instruments serve for incitement? This was found to be good from the oldest time forth. It is well-known and has been demonstrated both in antiquity and in recent times that music is in precise harmony with poetry, architecture, painting, chemistry, and other sciences. Not long ago I received a communication from Italy which, because of its contents, deserves to be included here.

["]Finally I have the pleasure of congratulating Your Worthiness on finding a publisher for your works. I want to take this opportunity to tell you something about which you may not yet have thought, namely that musical proportions agree with the best and loveliest architecture as well as with the proportion of human bodies. Vitruvio,[4] Lemaze,

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[4]Marcus Vitruvius Pollio (born ca. 8373 B.C.) was a Roman architect and writer on architecture. He wrote a ten-volume book (ca. 30 B.C.) which is the earliest existing manual on Roman architecture. It was widely read and well preserved through the years. Daube's correspondent was no doubt familiar with this work.

and the introduction by Vignola[5] prove that these things have been established and were already well-known to the ancients. Recently Ouvrard[6] published a treatise entitled Application des Proportions de la musique a l'Architecture. But all these authors have written very obscurely, thereby concealing the best part, that is, first, that chords are found in music by size as well as sound. The whole difference is that sound is heard in music, and different sizes are seen in architecture. In music one encounters different harmonies in one piece, yet that cannot be so in a building. Instead, only one, or at the most two, proportions [Accorde] can be applied. In music one can also hear a melody which has no harmony with it, but [in architecture] constant proportions [Harmonien] must exist. Second, in the designing and measurement of a building, three, or at the most four, measurements are taken each time as the basic measure; if, as in the manner of octaves, they are doubled above and below themselves, several hundred measures [Grossen] can arise. What are the three measures other than consonant chords, and the four, dissonant chords? Enough of this, but I still want to make a few specific remarks on this topic. That

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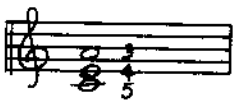
[5]Giacomo Barozzio (called "Vignola") was an Italian architect who lived from 1507 to 1573. The introduction to which this writer refers is probably to Regola delli cinque ordini d'architettura (1563).

[6]René Ouvrard (1624-1694) was active in academic and musical circles in France. His writings range from theology to music to science.

well-known problem for which a hundred oxen have been offered is that if the base of a triangle has four parts, one side has three parts, and the hypotenuse has five parts, then it forms an accurate right triangle. If we designate five as ut, then four becomes mi, and three, la. If three were represented by A, then the triangle in its measure would constitute the $\frac{6}{3}$ chord in notes:



It is very probable that the ancient Greeks and Romans used this kind of measuring, and therefore they were able to draw a whole lion from just one claw, from which the saying came, ex ungue leonem.

The one to whom we owe our thanks for all these explanations is a very capable seventy-six year old builder in Rome named Derizet, a student of the world-famous Desgode,[7] who re-discovered this system out of old writings and other observations that were made a few years before. He built two churches in Rome according to this system which catch one's eye immediately. Nothing is more regretable than that this capable man is already old and suffers from an unclear

[7]Antoine Desgodetz (or Desgodets) (1653-1728) was a French architect and archaeologist who spent a number of years in Rome recording exact measurements of ancient buildings.

delivery. Thus there is little hope that his treatise, which he has hardly begun, will ever be finished. I am . . .["]

From this one sees that buildings have already been produced by musical proportions--indeed even in our own times--which presumably are praised by all connoisseurs. It is known that the harmonic art of building was specified in the oldest times, because Noah's Ark, the Ark of the Covenant, the Altar (Mercy Seat), the Tabernacle of the Convent, Solomon's temple, and others were set up by musical proportions, as well as by the length, width, and height. In the correspondence of nature and its spiritual and physical elements one understands how the Creator put everything in order in quantity, mass, and weight, because the numbers give the right measure and sound, and the weight is the true strength of the sound.

I could cite still more examples of the agreement of music with other sciences. Because it is not useful to my purposes--and also to an extent because it has already been explained by others--I leave it out. I want only to include just so much from this treatise, such that if something in it does not meet with the liking of the reader, (because pleasing everyone is unlikely) he will think that I have written for the pleasure of beginners only, and not for connoisseurs. If the reader is convinced of this, then I am content that the second part, in which composition is considered and discussed in its entirety, will perhaps make up

for that which, in his opinion, is missing from the first part.

What I seek to show in every part is that the three chords are the foundation of all composition. Those who read this discussion with forethought will easily agree with each statement. If one knows the origin of all possible chords and what follows them, then it is not difficult to erect a building with these stones (see the previous footnote of explanation). Should yet a few chords exist which would not be found in the three chords and their inversions, they are understood by this rule: <u>When one or two tones in the upper voices are tied, then the tied part loses its own harmony underneath and gets in its place that harmony of the following tone; or the tied part will be regarded as a transitory tone</u>. This rule also applies to the bass voice, because if a tone in it is held, the upper voices can move on the next harmony, which really belongs to the following fundamental, or bass note. I have extracted this main rule from the most artful works. Its advantage is very great and is of extraordinary use. I will say more about how it produces very important things in composition and especially in all types of fugues, counterpoint, etc. I lament that this preface turned out somewhat more extensive than I had wanted. I dwelled on the various topics longer than I thought, despite the fact that I tried to be very brief, but such material

deserves to be properly explained, which should happen in the following parts [of the book].

Finally I commend [this work] to the reader so inclined and wait for his wise opinion. However, I leave the decision up to those who possess a true insight into the theory and practice of music. These I recognize as my judges and know that they are capable of judging in truth and justice.

Written in Stuttgart, on the 28th of December, 1754.

The First Chapter

ON INTERVALS

¶1.

To expound on intervals mathematically, thus repeating what many have said before me and have explained with some clarity,[a)] would be a pointless endeavor. I am even less interested merely in adding to the number of writings on music by manufacturing an eleventh book from ten books by various authors, embellishing it with unnecessary verbosity, and then recommending it to music lovers as my own work. My intention is to remark precisely on the intervals that appear in today's musical style, to point out their specific place and use, to explain the differences between them, and then to show how one [interval] originates out of the others.

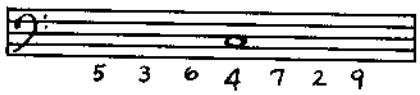
a) One may look up what Fux, Mattheson, Heinichen, Werkmeister, Prinz, Mitzler, Spiess, and others have written about this. This subject has been discussed sufficiently elsewhere; therefore I have deemed it unnecessary to treat it again here.

¶2.

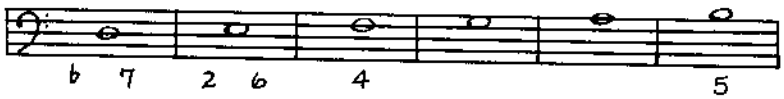
I divide intervals into common [gewöhnliche] and uncommon [ungewöhnliche].[b)] Of the common, there are seven in each major key. These may be seen when the fundamental

[Grundton] or final tone is in the bass. If the bass changes, still more arise. The following chart shows this:

First case, when the fundamental is in the bass



Second case, when the fundamental changes



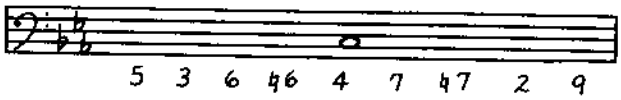
Here one finds that above the given main note C, seven different intervals enter, among which the major [grosse] one is shown by a natural sign, and the minor [kleine] one, on the other hand, is shown by a flat sign. By changing this main note C to D, two other intervals arise, namely the minor third and the minor seventh. If the bass is moved to E, the minor second and minor sixth are formed. When the bass reaches the fourth degree of the C scale, the augmented fourth is produced. When the bass moves to the fifth and sixth degrees, to G and A, no new interval is formed. But when the bass is the seventh degree of the C scale, then the popular diminished fifth is seen.

From this it is evident (1) that as often as the bass or root moves, several other intervals appear without a change

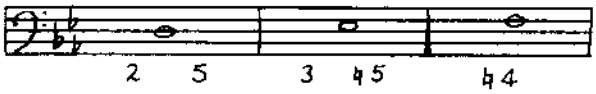
of key, (2) that in each major key the perfect and diminished fifth, the major and minor seventh, the major and minor ninth, and the major and minor second are present, and they are produced merely by changing the bass, and (3) that to the ancients the twelve church modes were based on nothing but these intervals. A particular modal scale is based merely on moving the bass of the C scale [Tonart].[c] For example, when a piece begins in C, it remains in this key without adding sharps or flats. The B-natural is excluded here [as the beginning of a mode] because a diminished fifth occurs instead of a perfect fifth in its key-note chord. Therefore, these twelve modes are nothing but today's C major, and the difference between them is that the two half steps found in C major (E-F and B-C) are moved to another place by changing the fundamental. For example, if we begin on F, the half steps would be on the fourth scale degree, B-C, and on the seventh, E-F, etc.

Having discussed all common intervals in major keys sufficiently, I must interrupt and mention something about the minor keys. Nine common intervals are found in each of the minor keys, the fifth, third, minor sixth, major sixth, fourth, minor seventh, major seventh, second and ninth. Among these are the arbitrary [zufällige] forms, the major sixth and the minor seventh.[d] When the fundamental changes a few other intervals can be added (as in the major keys). See the following example:

First case, when the fundamental stays the same



Second case, when it changes



All major and minor intervals are once more present in this example, a few of which are produced by changing the bass. In a present-day melody in a single minor key, these intervals all occur frequently.

b) I use the words "common" and "uncommon." The first appear in every key and really belong in the diatonic genus.[1] But the latter are related only to the chromatic and enharmonic genera; they are seldom used and serve mainly for unusual purposes.

c) These twelve modes are divided into two classes. Six of them are called Authentic, or the most important. The rest of them are named Plagal, secondary [Seiten], or submissive, because the fifth of each authentic was taken to become the new tonic as follows: The first was

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[1]As is apparent, Daube recognizes the three Greek Genera.

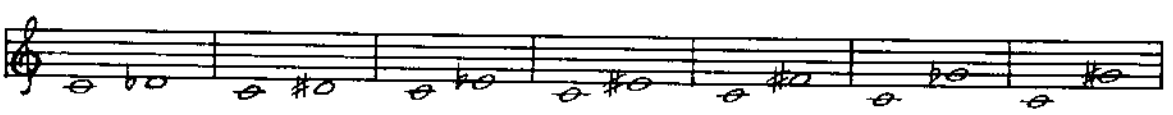
called Ionian, thus C. The second, Hypoionian, was from the fifth of the first, namely G. The third, Dorian, was D. The fourth, Hypodorian, was from the fifth of D, namely A. The fifth, Phrygian, was E. The sixth, Hypophrygian, was the fifth of the preceding one, i.e. B. The seventh, Lydian, was F. The eighth, Hypolydian, was the fifth of the previous one, or C. The ninth, Mixolydian, was G. The tenth, Hypomixolydian, was the fifth of the last one, namely D. The eleventh was Aeolian and began on A. Finally the twelfth, Hypoaeolian, was the fifth of the previous, i.e., E. Those that have the prefix "Hypo" were named plagal and were the fifth of the mode in which they closed. For example, if the piece begins in Hypodorian, it must end in Dorian.

d) I call these arbitrary [zufällige] because the major sixth appears in minor keys only in ascending lines, and the minor seventh appears even more seldom.

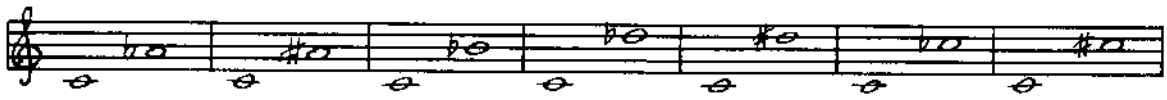
¶3.

There are fourteen uncommon intervals in all, calculated from the bass [Grundton] up:

Two seconds, two thirds, one fourth, two fifths,



two sixths, one seventh, two ninths, two octaves



one diminished one augmented

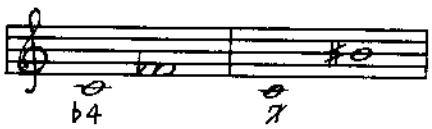
¶4.

A few of these intervals are indeed found in minor keys, such as the minor third, minor sixth and minor seventh. But these are called uncommon when they occasionally appear in major keys.

¶5.

A few very uncommon intervals can be added to the uncommon ones already described. They are the augmented fourth and the augmented seventh:

Very uncommon intervals in C major



Accordingly, if a double flat or double sharp is placed before the remaining intervals, calculated from the third up, they must be played a whole step higher or lower on the keyboard[2]

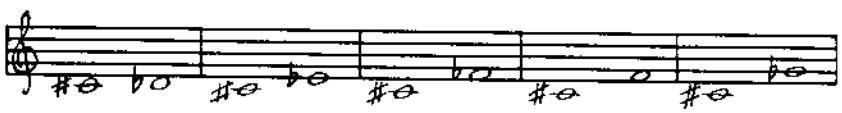
[2]The phrase Orgel und Clavier has been changed to "keyboard" throughout.

because of the lack of enharmonic genus. Thus, it is no longer the original interval, but is transformed into an entirely different one; other intervals arise in like manner. Only in singing and playing wind instruments or the violin will it be heard somewhat higher or lower, which cannot happen on keyboard instruments. The correct form is best expressed on paper. These frightful intervals crop up mostly, if not completely, in needless musing, because one can always compose a melody or harmony without them. The results of their effect will remain imperceptible as long as our present-day temperament exists, and E-flat [dis ♭] and D-sharp [dis ♯] are one and the same.

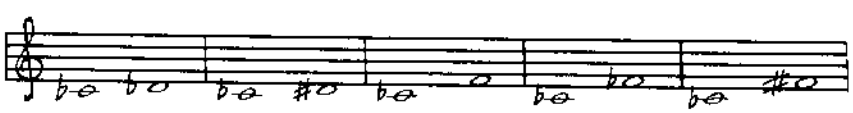
¶6.

This description of intervals is fundamentally very easy, and anyone can understand it if he places one or two sharps or flats before a particular interval. There will be more intervals if the root is moved up or down a half step:

The root moved a half step higher, and its intervals



The root moved a half step lower, and its intervals



¶7.

Most of these intervals exist only in theory and should appear only on paper. This secret might have disappeared entirely with its masters if the learned and famous Herr Mattheson had not revealed it to us and had not incorporated it into his works. The small number of these intervals which are still seen are used to express a sad or despondent passion and for a special effect which one encounters in the sacred and secular works of famous composers.

¶8.

I will not introduce any more intervals since they really are infinite; although [tonal] space is limited to the octave, it is infinitely divisible. Perhaps the ever-searching wit and diligence of men may discover an aid with which one might learn to distinguish between the intervals, since we already possess a tool in optometry through which we can recognize a grain of sand which has been divided into a thousand parts. At least the possibility of such a great number of intervals is beyond all doubts; yet [if they were to be used,] all music-making would be out of tune even if it were done with the finest ears and the best-tuned instruments. Finally one might state that we could bear all that music-making which is purified to the best degree just as little as we could breathe the air on the highest mountain. But that which applies to thorough-bass has already been mentioned. First of all, one

should note the common intervals that appear in each key. Most of the uncommon intervals are often considered to be ornaments or appoggiaturas; they occur nowadays mostly in the upper voices--since many composers are concerned only with outlandish effects--and are often found in chamber and opera music. Moderate use is always good.

¶9.

I will show the use of the common as well as uncommon intervals in the following chapters.

The Second Chapter

CONSONANCES AND DISSONANCES, AND FROM WHENCE THE LATTER ORIGINATE

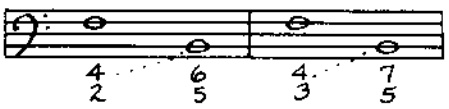
¶1.

The distinction between consonance and dissonance is obvious to anyone with some practical experience. It is known often to people who have done nothing at all in music. Only the fourth is excepted, since it has caused many disagreements heretofore; sometimes it is viewed as a consonance, and at other times, as a dissonance. The reason is that while dissonances should never appear freely, but always tied [from a previous consonance],[a)] that tie resolves to the consonance following it. The fourth formerly never had freedom to be alone, loose, and independent, but instead, it had to be tied. It could resolve to a third. In this case, the fourth would be explained as a dissonance. But some people gave it the right to be a consonance if it was unprepared and appeared with a sixth.

a) In today's operatic music, which is almost universally accepted, dissonances are used almost as freely as consonances. There is only a slight difference, but it is necessary that a beginner understand the true distinction and the reason for it.

¶2.

There is only one instance in which the [figured bass] 4 acts as a dissonance, and that is in its association with a 2 or a 3, whereby it becomes a diminished fifth in inversion:



Generally, it is good to note that when a fourth is inverted to a perfect fifth, it has the rights of consonances, whether it is accompanied by the ninth or the fifth.[b)]

b) When $\frac{9}{4}$ or $\frac{5}{4}$ appears, it will cause dissonances. However, in the first case the ninth is the cause, while in the latter, it is dissonant because both intervals are so close to each other. It is a well-known truth that perfect cannot produce anything imperfect. Every $\frac{8}{5}{}_{3}$ chord is entirely perfect. One can invert it as he wishes, and the fourth produced in the inversion cannot be called a dissonance.

¶3.

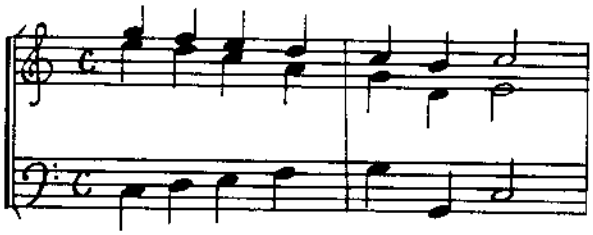
The main test of consonances and dissonances is whether a consonant (or dissonant) chord is still consonant (or dissonant) when it is inverted.

¶4.

All chords can become consonant or dissonant. A chord can become consonant when the dissonant interval is omitted.

This occurs often in two-voice and also sometimes in three-voice textures:

Consonant chords only



One will find that this example is correct according to the rules of composition, although no dissonance is found in it. But if the bass is to be heard in embellished form, a few dissonances surely need to be added to it. The above texture is appropriate in pieces with two like instruments, such as two flutes, oboes, horns, etc.[c)]

c) The old masters understood this when they invented two-voice pieces in which thirds and sixths were constantly exchanged with the octave. Then from these two voices they produced four voices by writing a third above each voice. This was usually the basis of their four-voice counterpoint. There will be more about this in the second part.[1]

¶5.

Dissonant chords originate: (1) when one interval is omitted from a chord and is replaced by another, (2) in

[1] "The second part" refers to Daube's 1773 treatise, Der musikalische Dilettant.

continuous ties which are frequently found in sacred works, masses, etc., in chamber style, as well as in duets in operatic style, (3) when the upper voice or the bass ascends or descends in half-steps, which is often found in the threefold style.[2] Now that operas have flourished to such an extent in Germany, and now that one tries to express that which is natural, pleasant, and flowing (whereby the true purpose of pleasing the ear is kept once and for all), now, I say, the excessive use of dissonance has abated and remains only with those who experience pleasure from being different and who reject the common taste. One can use either dissonance or consonance according to the way that this or that passion is to be portrayed.

¶6.

Perfect consonances are octaves and fifths. Imperfect consonances are thirds, sixths, and fourths in each key.[d)] The learned Mattheson claims that there are more: there are three octaves, diminished [verkleinerte], perfect [gewöhnliche], and augmented [vergrösserte]; three fifths, diminished [kleine], perfect [gewohnliche], and augmented [übermässige]; four sixths, diminished [verkleinerte], minor [kleine], major [grossgewöhnliche], and augmented [übermässige]; four thirds, diminished

[2]Dreifacher Stil is mentioned several times throughout this work and apparently refers to the three styles then in use--sacred, chamber, and operatic.

[verkleinerte], minor [kleine], major [grossgewöhnliche], and augmented [übermässige].

[According to Mattheson,] all these intervals should be considered consonant only because they are derived from consonances in name; however, this cannot be, since all dissonances which are derived from consonances would have to pass for consonances. The test of this is easy. The best arbitrator is the ear of those who understand well, or the very intelligent, and of the ignorant.[e)] One will soon learn that it does not sound right. And why should these passages be consonances (except for the diminished fifth), when they do not belong in a diatonic key?

An excess of true consonances in all kinds of melodies can be tolerated more easily than just a small number of these false ones (consonances), which are related only nominally. They should be used infrequently (except for the diminished fifth and the augmented sixth), just to express disorderly and irregular effects [Affekten], such as in the representation of an extraordinary emphasis. They are seldom encountered in sacred and operatic music, and even more seldom in chamber music.

d) The word imperfect [unvollkommen] is used here to mean not as perfect [vollkommen] as what preceded; indeed, the quality of the third and sixth will always depend on whether the key is major or minor. On the contrary, a fourth must be followed by a third. Likewise,

the sixth usually proceeds to a fifth when the bass does not move.

e) The praise and opinion of the public is often the best arbiter or the mark of good music.

¶7.

In my opinion it would be better if one would treat as consonances those [intervals] which are natural in each key and which are confirmed [as consonances] by the ear. The most perfect chord arises from a third, fifth, and octave. This combination is always called the chord of the key-note [Grundton] of every key. Why? It is made up of two perfect intervals, namely the unison, or octave, and the fifth, and of a somewhat imperfect interval, the variable third.

Dissonant chords are those which contain even one dissonant interval, and the fewer the perfect consonances they contain, the greater the imperfection or dissonance. The whole host of chromatic and enharmonic genera, and especially contemporary mixtures [of these], would belong in this category.

¶8.

The use that one gets out of consonances and dissonances is equally great.[f] One cannot do without either one, especially in pieces where the harmonic triad is used. Yet, as I already mentioned, in two-voice passages one [dissonance] can sometimes be omitted. But this can be done only in specific

kinds of pieces, such as trumpet or [natural] horn pieces (even these are much more artful than they were a few years ago) and also in some dances; but other than these cases, this never occurs. A beginner must observe especially the three primary chords [Hauptakkorde][3] and the various dissonant chords produced through their inversion. He should also construct his fantasies and preludes accordingly, and he should not prefer the uncommon over the common.

The most exact comparison may be the following: consonances are what in painting is called light, brightness, or brilliant color. Dissonances are what one calls darkness, shadow, or deep colors. Just as no painted description can be beautiful without depth, shadows, or darkness,--in fact, some have been found in which light or brightness were used very sparingly, and yet they have been considered great masterpieces--in the same manner, no musical piece can be good which consists merely of consonances. Further, there are pieces which contain many dissonances and which may be called the more artful because of them. One finds these in the so-called fugues, in double counterpoint, and in music with continual use of ties, such as masses and other pieces.

> f) All of harmony is based on this [equality of use of consonance or dissonance]. Everywhere in our visible world we find pairs in which one is consonant, or

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[3]These are explained in Chapter 3.

harmonious, while the other is dissonant, or unharmonious. One is eternal, while the other is fleeting, such as light and darkness, blessing and curse, good and evil, friendship and enmity, love and hate, health and illness, etc. If good balance is to be derived from this the relationship must be reciprocal: that is to say, if good is never as strong as evil, then evil cannot be subdued, and if evil grows too strong, good can easily be conquered by it. This is the true harmony of nature. Just as a very ill person rejoices over his complete recovery, the ear senses a real delight when a harmonious consonance follows a dissonance. The famous Father Kircher writes about this very nicely in his Musurgia.[4]

¶9.

The main rule of composition is to make pleasant and pleasing [music] available to the multitudes; the end purpose is the pleasure of the ear, according to particular effects [Affekten]. Thus, it should be our constant aim not to prevent the pleasant and agreeable by too great a number of discords, but to avoid those uncommon intervals as much as possible, to use those dissonances which are common to any key, and to be careful about this both in improvisation and in composition.

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[4]Athanasius Kircher, Musurgia universalis, sive Ars magna consoni et dissoni, Rome, 1650.

If one does want to use the uncommon intervals, he should use them very sparingly, like certain spices in cooking.

¶10.

Some of these reflections really belong to composition; however, they are also necessary to one who is interested in thorough-bass. A well-laid foundation in thorough-bass is already a good move in the direction of composition. Harmony, or the combining of different voices, consists in the succession of consonant and dissonant chords. Thorough-bass consists merely of chords. The knowledge of chords leads to their succession and arpeggiation. From this arises preludes. Preluding leads to the invention of melodies. All categories of songs are called melodies. Most types of songs require none or very few of the above-mentioned uncommon intervals.[g)] Thus, these reflections are necessary even to one who is knowledgeable in thorough-bass, and they serve for accompanying as well as for preluding. For these two types of playing it is necessary that one know these facts, but in composition they are utterly essential. There will be more on composition in another part.[5]

g) Measure and purpose are to be used in all things. The excessive use of one or the other in all types [of melodies] should be avoided. The key should always be established. Frequent chromatic passages prevent flowing

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[5] Der musikalische Dilettant, 1773.

and natural [music]. A piece or fantasy should contain no other neighboring key except, in the case of a major tonality, the fifth and sixth keys, and in the case of a minor tonality, the third and fifth keys. The further a piece goes from these related keys, the more unclear and unpleasant it becomes. Few pieces are exceptions to this.

These remarks are not addressed to a person who is inclined to artificially complex and high-flown eye-music [Augen-Musik]. These comments were written only for beginners. It is necessary to know all chords, licenses, ties, etc., but not to imitate them.

The Third Chapter

ON THE THREE PRIMARY CHORDS AND HOW VARIOUS SECONDARY CHORDS ARISE THEREFROM

¶1.

The whole foundation of thorough-bass rests on the following three primary chords: (1) the chord built on the key-note [Grundton] (on which every piece is composed), (2) the chord on the fourth degree, and (3) the chord on the fifth of the key.[1]

¶2.

These three chords contain all chords found in thorough-bass, both consonant and dissonant.[a)] To my knowledge, until now no one has discovered these basic truths, examined them, put them into practical use, and set them forth for use and acceptance by musical science. All writings published before the present work are evidence of the knowledge of many chords figures, etc. One is startled when he looks at the charts of Heinichen, Fux, Mattheson, and others. How many alternate harmonizations of a single interval can exist,[b)] when in fact all intervals and their accompaniment should be dependent on their key? Very few permit an exception.

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[1] In what follows, Daube's three primary chords have been rendered most often as: "key-note chord" [Grundtonsaccord], "chord of the fourth" [4ten Accord], and "chord of the fifth" [5ten Accord].

a) Exceptions are those [intervals] which were mentioned in the previous chapter and those that might result from an anticipation or suspension [Vor- oder Nachruckung (Anticipatio und Retardatio)]. If they were placed in their regular position [Lage], they of necessity would retain their basis in the three primary chords; this also happens when the one chromatic interval is removed.

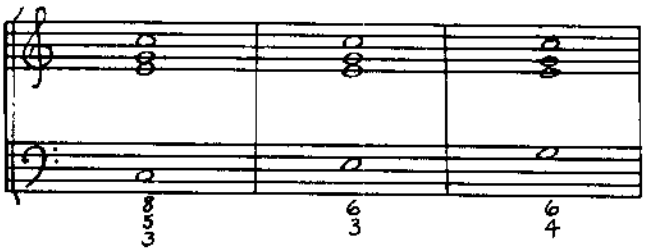
b) If one consults the authors mentioned, he will find how many kinds of seconds, thirds, fourths, fifths, sixths, sevenths, octaves, and ninths are to be found, since most of them are included in every major or minor key, as I have already proved in the first chapter. The accompaniment of these intervals is extremely diverse and multiple, notwithstanding that even these must conform to the basic key.

¶3.

It is necessary to explore the three chords mentioned in order to be able to demonstrate the chords, figures, etc., which are contained therein and derive therefrom. One can choose a C major chord, for example, as the key-note [chord].[c] Its designation is $\begin{smallmatrix}8\\5\\3\end{smallmatrix}$; when its third, E, is put in the bass and the complete chord is retained, then the designation is $\begin{smallmatrix}6\\3\end{smallmatrix}$, a different symbol from the first, and yet the same chord will be played in the accompaniment. The second inversion [Umwendung] of this key-note chord occurs when the fifth is

in the bass and the other tones or intervals are retained. The figure $\frac{6}{4}$ then arises, which is yet another designation; but basically, like the other two structures, it is the same chord on the keyboard:

The same harmony



Three different designations

Here we see three different figures which are fulfilled by one single chord in the accompaniment. A beginner should familiarize himself thoroughly with these inversions in the remaining twenty-three keys.

> c) This key is more useful here than the others because (1) it is the easiest for a beginner to use, (2) it is natural and simple, (3) it needs neither sharps nor flats, and (4) it is the central point or central key of all the rest and thus points the way toward sharps or flats. Because of these reasons, and also because many people who have never learned [to read] notes can still play melodies in this key (but rarely in others), it is to be concluded that a beginner generally should begin

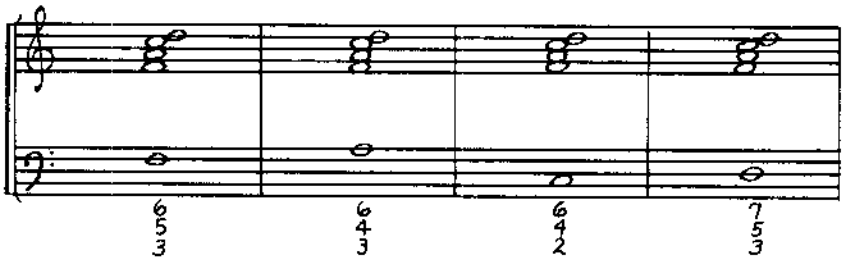
learning thorough-bass in this key. This is not to say that this key is so different from the others as far as the effects [Affekten] are concerned, because all other keys now in use (with the exception of the minor keys) are different only in register. For example, D major is one step higher, just as B-flat is a step lower than C.

The minor keys, however, show an entirely different effect [Wirkung]; these are a product of more recent times, since the ancients knew nothing of them. Even though these masters had the mode [Tonart] of Aeolian, which agrees closely with today's A minor, the Aeolian had its origin in the Ionian key. Thus it was forced to remain similar to the Ionian, but without the two sharps which occur in the ascending form and which are true marks of A minor.

¶4.

As I mentioned, the second main chord is built on the fourth degree above the key-note, F. Its symbol is $\begin{smallmatrix}6\\5\\3\end{smallmatrix}$. The first inversion occurs when the third is put in the bass, resulting in the symbol $\begin{smallmatrix}6\\4\\3\end{smallmatrix}$. This harmony is the same as that of the previous chord. In the second inversion the fifth is in the bass, and the chord bears the symbol $\begin{smallmatrix}6\\4\\2\end{smallmatrix}$ and is the same harmony as the previous two chords. Finally, when the remaining note, the sixth above the bass, is put in the bass, a $\begin{smallmatrix}7\\5\\3\end{smallmatrix}$ structure occurs. These four different symbols all have the harmony of the first $\begin{smallmatrix}6\\5\\3\end{smallmatrix}$ chord:[d]

Same kind of chord

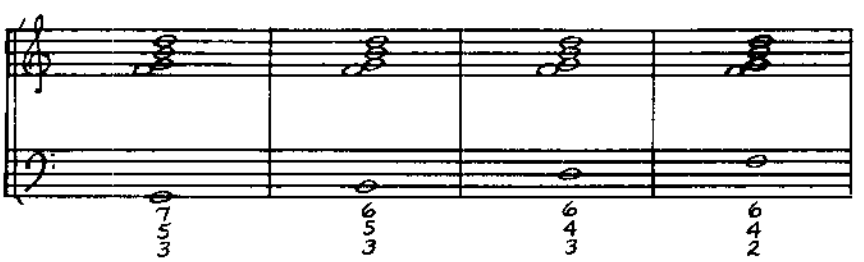


Four different symbols

¶5.

The third main chord of thorough-bass is the chord of the fifth, $\begin{smallmatrix}7\\5\\3\end{smallmatrix}$.[e] In its first inversion, when its third is in the bass and the remaining notes are added, the symbol $\begin{smallmatrix}6\\5\\3\end{smallmatrix}$ results. It is the same harmony as the previous chord. If one puts the fifth, D in the bass and the other intervals are added, the figure $\begin{smallmatrix}6\\4\\3\end{smallmatrix}$ appears. Likewise, it is the same chord as both of the previous ones. The last inversion is formed when the seventh of the chord is in the bass, and the other tones are left the same; thus one finds the symbol $\begin{smallmatrix}6\\4\\2\end{smallmatrix}$. This chord of the fifth, as analyzed here, possesses four different symbols which require only one chord in the harmonization:

The same harmony

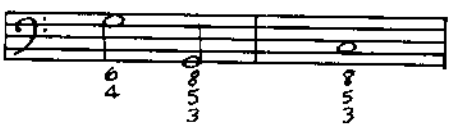


Four different symbols

Thus, any time one of these four bass notes appears in the key of C, the chord of the fifth, namely the $\frac{7}{5}_{3}$ chord, is played.

d) Mattheson, Heinichen, Spiess, and Kellner have said little about inversion [Umwendung]. They have mentioned it only with reference to recitative style without finding out how most of the chords, symbols, etc., originated. However, it would have been extraordinarily helpful for every beginner if they had dealt with inversions.

e) It amazes me that so many famous and experienced men, who have thought about the musical scale, do not think of putting a seventh above the chord of the fifth, but instead they either use the $\frac{5}{3}$ chord, or they add an octave. As far as the symbols are concerned, I wonder what kind of difference there is between the key-note chord $\frac{8}{5}_{3}$ and this chord of the fifth under the key-note. Both are exactly equal in this respect. Not only is it not good, it is not even permitted to go from a perfect consonance to another equally perfect consonance (even if this should happen in a leap up or down). But one hears this continually, for example, if one approaches a cadence, such as:



Here the chord of the fifth has precisely the same structure as the final chord. But it would be much better if the chord of the fifth had a seventh instead of the octave, which would resolve to the perfect key-note chord.[2]

Moreover, why does a seventh sometimes give rise to a modulation? What is the reason? And finally, because the $\begin{smallmatrix}6\\4\\3\end{smallmatrix}$ chord occurs on the second degree of the scale--of which the three in the above symbol is just the inversion of the seventh--, the whole chord is just the third inversion of the chord of the fifth. Likewise, how often does one not encounter $\begin{smallmatrix}6\\5\\3\end{smallmatrix}$ on the seventh of the key? Then what is the five here but the inversion of the seventh of the chord of the fifth itself? Furthermore, from where does the $\begin{smallmatrix}6\\4\\2\end{smallmatrix}$ chord come if it appears on the fourth degree of the scale? Is it not once again an inversion of the harmony of the fifth? And another question! Why should we put up with the octave above the bass note, since this is added arbitrarily? This occurs when the bass moves in sixths with the upper voice, namely when the bass has B-natural and the upper voice, G. On the contrary, it should never happen when the passage remains in the key and falls from the fifth to the tonic.

Finally, I feel that there should not be two equally perfect chords in each key, but that the fundamental

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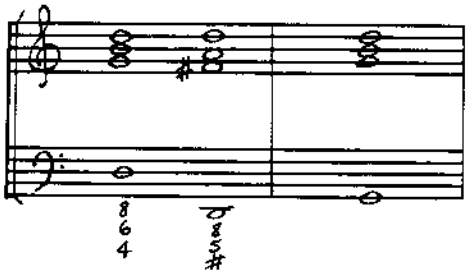
[2]Daube's contrast of the perfect key-note chord with a chord to which a seventh has been added resembles Rameau's ideas, despite Daube's denial of any familiarity with Rameau.

or ending tone, which directs the progression, should have its own accompaniment. No other note should have the same symbol unless it is, so to speak, in place of the key-note. One does encounter this in most compositions anyway, notwithstanding that their composers do not mention it in their published writings. Still, there could be one exception, that is, if the octave were already in the $\frac{6}{4}$ chord and also in the final chord of the cadence:



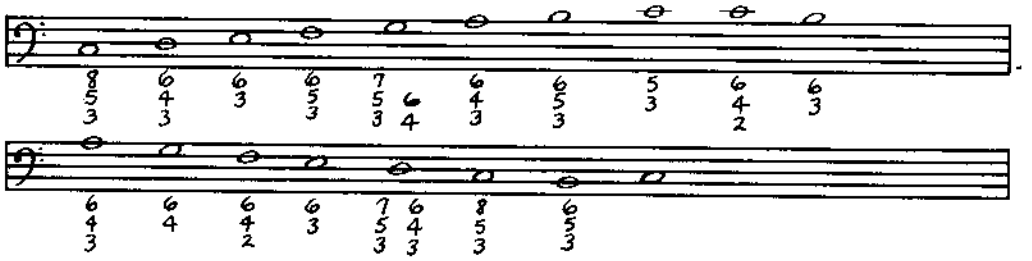
The same holds true for the above-mentioned sixth passages.

¶6.

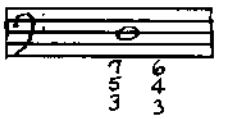
From these inversions that I have described here one can conclude readily that most signatures and symbols of thorough-bass are included in these three chords; therefore a beginner must watch out only for these three chords and their analyses. Thus, in whatever key the modulation occurs, the major seventh always appears, and the half step above that note is the octave or new key-note of the piece or melody.

¶7.

The musical scale, both ascending and descending, must be harmonized with these three primary chords:



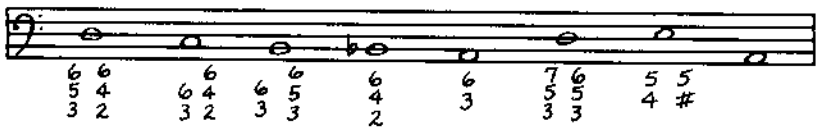
The chord above the key-note is the most perfect chord because of the third and fifth in it. The second scale degree is harmonized with the $\begin{smallmatrix}6\\4\\3\end{smallmatrix}$ chord, as was already shown in a footnote. Here the chord of the fourth degree $\begin{smallmatrix}7\\(5)\\3\end{smallmatrix}$ could also precede the $\begin{smallmatrix}6\\4\\3\end{smallmatrix}$ chord:[f)]



The intervals of the key-note chord are assigned to the E because E is not contained in the other two [primary] chords; consequently, E belongs to the key-note chord, whose other two tones, G and C, are added. F, the fourth of the scale, is harmonized with its own chord. The fifth of the scale takes the responsibility here for two chords, its own chord and the last inversion of the key-note chord. This $\begin{smallmatrix}6\\4\end{smallmatrix}$ chord really should precede the $\begin{smallmatrix}7\\5\\3\end{smallmatrix}$ chord. But since in this example the chord of the fifth degree is followed by the first inversion of the chord of the fourth, which must never follow the chord of the fifth, the harmony of the key-note must be

inserted between them. The chord above A is, as I said, the first inversion of the F chord and is figured with $\begin{smallmatrix}6\\4\\3\end{smallmatrix}$. Next, the seventh of the scale is harmonized with a $\begin{smallmatrix}6\\5\\3\end{smallmatrix}$ chord, the first inversion of the chord of the fifth.

As the scale descends, the second C bears the symbol $\begin{smallmatrix}6\\4\\2\end{smallmatrix}$. This chord is the second inversion of the chord of the fourth. The B is not placed immediately after the first key-note so that the [second inversion of the] chord of the fourth may be heard before it (indeed all inversions of each chord [are present]). The B follows with the harmony it previously had except that the fifth above the bass (the seventh of the chord) is omitted because the bass descends. From this the following rule is derived: <u>The fifth and sixth above a bass note can never appear together in one chord in a descending bass line; in such a case, a second chord would have to be heard above the same bass note, as</u> [in the example from the first to the second chord]:



After this chord [the chord of the fifth above the B in the first example of this paragraph] comes the chord of the fourth, just as in the ascending line. Here there is an exception to the hierarchical ordering of the three primary chords, which results only from this stepwise descending line.

The following rule comes about through this exception: The chord of the fourth can never follow the chord of the fifth except when the bass moves in sixths with the upper voice. This rule is related to the previous rule. In addition to its own harmony, the fifth of the scale can be harmonized with the key-note chord; yet, because the following F in the descending line loses its own chord (that of the fourth) and is harmonized instead with the last inversion of the chord of the fifth, the fifth degree (G) is better harmonized with the key-note $\frac{6}{4}$ chord because its own harmony follows. I have already shown why the F in the descending scale has a different chord: the key-note can never follow the chord of the fourth. The third of the scale is harmonized just as it was in the ascending line. But the second has two chords: first, an inversion of the chord of the fourth, and then the chord of the fifth, as in the ascending line. After this comes the key-note itself, then the [first] inversion of the chord of the fifth and the cadence.

f) One could make the following objection. D is in the chord of the fourth as well as in the [chord of the] fifth, and both a $\frac{7}{5}{}_{3}$ chord and a $\frac{6}{4}{}_{3}$ chord can harmonize it. It is important to know that these three chords are always controlled by their hierarchical order. One must always go from the chord of the fifth or its inversions to the key-note chord or its inversions, but never

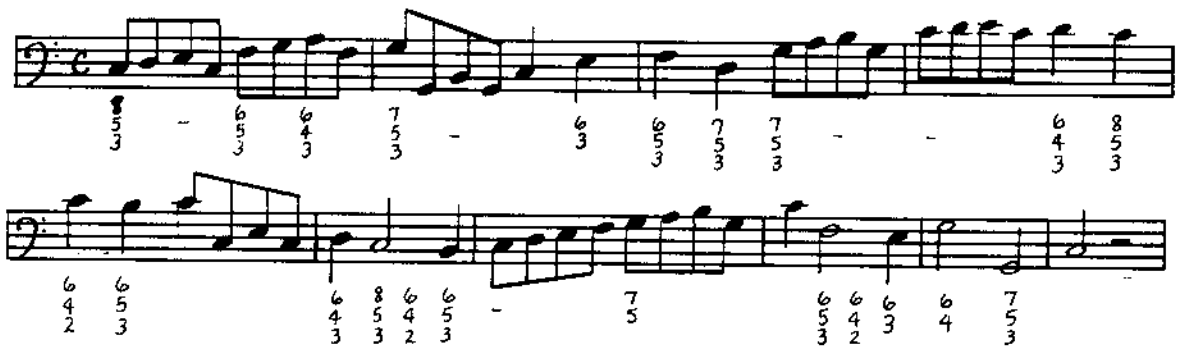
from the chord of the fourth or its inversions to the key-note chord. Of these three chords only the middle one [the chord of the fourth][3] can be omitted depending on the position of the upper voices, which happens in the example shown above.

¶8.

From this explanation, we see that the three primary chords cover the greatest part of thorough-bass and that they are the true foundation of ascending or descending melodic action, either in bass or soprano. Composition--and even melody--are based on these three chords.

9.

For further proof and clarification I have set these three chords in a regular bass line:



Here one may see, as I have already mentioned, the greater part of the figures, which trouble many beginners and waste much of their time. These figures become easy through this discovery, especially if one considers that the chord of the

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[3]See Chapter 3, ¶9, footnote g).

fourth may not even appear, depending on the nature of the melody, or when it is present--and it often is--, it must always precede the chord of the fifth.[g)]

One should also note that as often as the key changes or the melody moves into another key, the three chords of the new key must be presented, and those of the previous key are no longer used unless the melody is to return to that original key. In observing this, one must be careful not to move the right hand while accompanying, but to leave it in the most central octave as much as possible, especially since one octave contains all chords of the twenty-four keys. In this way one can avoid all faulty passages, which usually result from moving the hand too much. Even though such playing requires a trained person, such a player may still not be able to avoid an incorrect fifth; however, this should be avoided by leaving the hand in one octave.

g) The chord of the fourth can never precede the key-note chord. But if this does happen, it is not the chord of the fourth but a key-note chord, and the chord that follows will be its own subordinate chord of the fifth. For example, if the key-note chord C follows the chord of the fourth of C, then this chord of the fourth is the key-note of F and the following chord is its chord of the fifth, C.

¶10.

It would be very good if one would make himself familiar with all these numbers and positions in these three chords by practicing them industriously or transposing them into the most frequently used keys. In doing this one would be able to form his own opinion as to whether a thorough-bass is well figured, how to figure such a bass voice, and how one should harmonize an unfigured bass voice. As I said, all common figures are included in one key, except for the unique ninth, whose origin will be shown in the following chapter.

¶11.

All remaining chords do not belong in a regular key, but usually are arbitrarily chosen structures which are only defensible because of today's taste.[h)] I have shown how they are useful; all of them belong to the chromatic and enharmonic genera. Indeed, there are many passages of thorough-bass made up of only the three primary chords, and yet they are still composed by the most famous masters. If one would only take the trouble to examine a few scores of chamber and theatrical music, he would find many pieces which contain nothing but the chords mentioned here, and which do not include a single ninth. These [ninths] can be omitted more often in realization, especially where they are not specifically written in. Since they usually can be considered as an appoggiatura

[Vorschlag], and such accented dissonances do happen often enough in today's taste, the accompanist does not have to use them; rather, he should stay with his straight thorough-bass and use nothing but the prescribed figures or, for lack of them, use the three chords in correct order and repeat them throughout the key or the piece.

h) It is true that foreign passages and intervals are infiltrating music due to today's growing taste for opera, and that they also enter into church and chamber music, since great masters have special intentions when they write these passages, especially in opera. However, there are many who want to prove their art by complicating each theme or melody in such a way that one has trouble recognizing the true, governing key. If this gets the upper hand, as Muratori[4] and Meurmet have feared, the confusion will overthrow the whole order of the musical system. Absolutely no key can be maintained any longer, except at the end.

¶12.

The following discussion will explain the foreign passages. It will show how they originate from the three

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[4]This is probably the opera critic Ludovico Antonio Muratori (1672-1750) who is mentioned in the writings of Vignola. Robert Eitner, Biographisch-Bibliographisches Quellen-Lexikon der Musiker und Musikgelehrten der christlichen Zeitrechnung bis zur Mitte des neunzehnten Jahrhunderts, 10 vols. (New York: Musurgia, [1947]), VII, 120-21.

primary chords and how much these chords contribute to a full understanding of thorough-bass.

The Fourth Chapter

THE ORIGIN OF ALL OTHER FIGURES OR CHORDS

¶1.

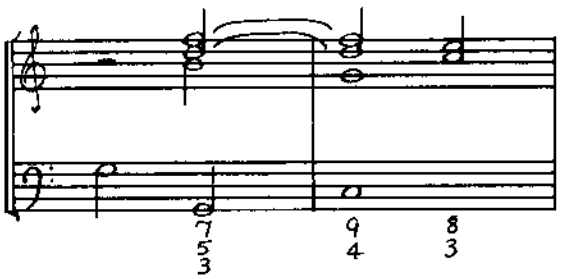
We begin, of course, with the ninth. I have demonstrated the general idea in the preceding chapter. But if one wants to speak about its origin in particular, he must say that it arises in different ways. Likewise, it is changeable in accompaniment. First of all, by methods already shown, one can view it as a suspension [Vorhaltung] of the previous note in an upper voice over a chord which follows immediately. Or, the ninth can be the third or fifth of a dissonant chord,[a)] which remains oblique when the dissonant chord ascends or descends to a consonant one. Thereupon it descends by step and completes the consonant chord.

a) The ninth can also be the third or fifth of a consonant chord. This happens when the fifth and third of a key-note chord are held over into the next chord. This results in a $\begin{smallmatrix}9\\7\\5\end{smallmatrix}$ chord on the fourth [degree] which usually resolves to $\begin{smallmatrix}8\\6\\5\end{smallmatrix}$ in the accompaniment or harmonization of the chord of the fourth. The third above the key-note can also become a ninth when the key-note moves up to the second while that third is repeated; this ninth resolves to the octave. A ninth can also be produced

when the octave above the key-note is repeated as the bass moves down a whole or half step; however this is more common in a dissonant chord. All ninths appear more often in dissonant than in consonant chords. These remarks are appropriate here, since the most complete description possible of the origin of the ninth is of great use to the beginner.

¶2.

To express this even more clearly, if one takes the chord of the fifth (shown in the previous chapter) with a seventh, and the bass moves to the key-note while the two highest voices are tied above the first half of the key-note chord, then the ninth and fourth are produced:



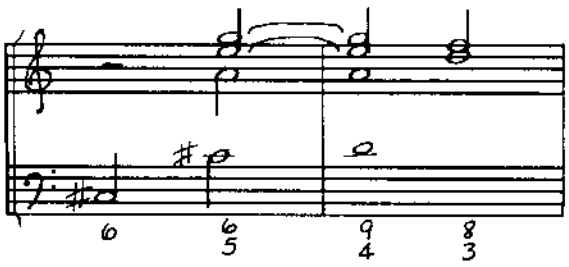
In the other half [of the measure] is the harmony of the key-note chord.

¶3.

Likewise, the ninth is produced when the third of the key-note [sic][1] is in the bass which occurs in the first

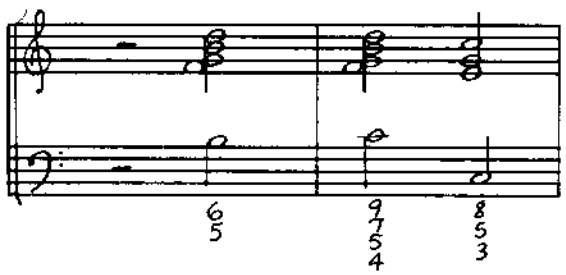
[1]Daube obviously means the chord of the fifth.

inversion of that chord, and the bass ascends a half step, above which the two upper voices are tied (as in the previous example); they then resolve downward to the key-note chord:



¶4.

Third, the ninth is formed when one upper voice forms a third [actually, a 10th] with the bass and the bass moves up a half or whole step while the upper voices are tied above it. Subsequently, the ninth resolves to the octave:

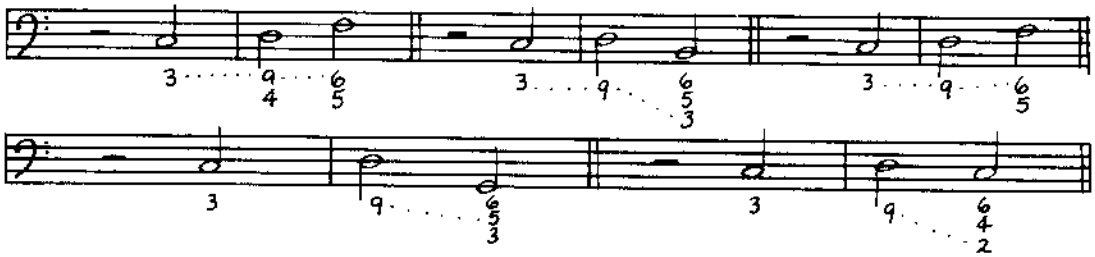


¶5.

In general, one sees from the uniformity of these examples that the ninth can always be considered a delay [Verzögerung] or suspension [Zurückbehaltung] of the note of the previous chord. It is from the anticipation [Anticipation] and retardation [Retardation] that all other dissonant chords arise.

¶6.

The ninth usually resolves to the octave, but can also resolve to the third or fifth of the fundamental, or to another chord of a different key if the tone of resolution is contained therein:[b)]



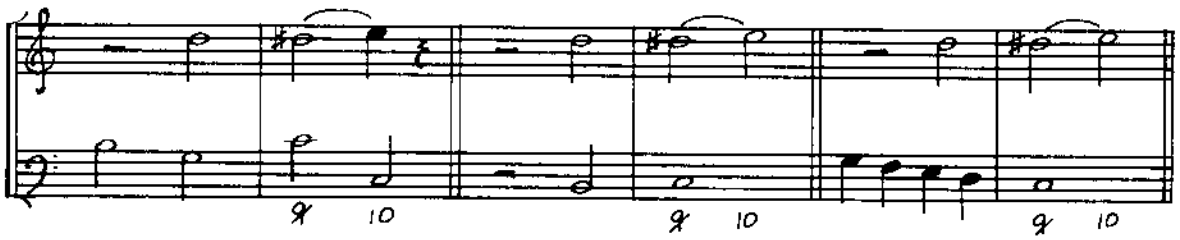
b) These passages, which are of great use in preluding and composing, should be noted well because foreign passages will often be preferred, especially in today's style of composition. They are frequently found in fugues, masses, etc., but can also be used in other pieces, especially in recitatives.

¶7.

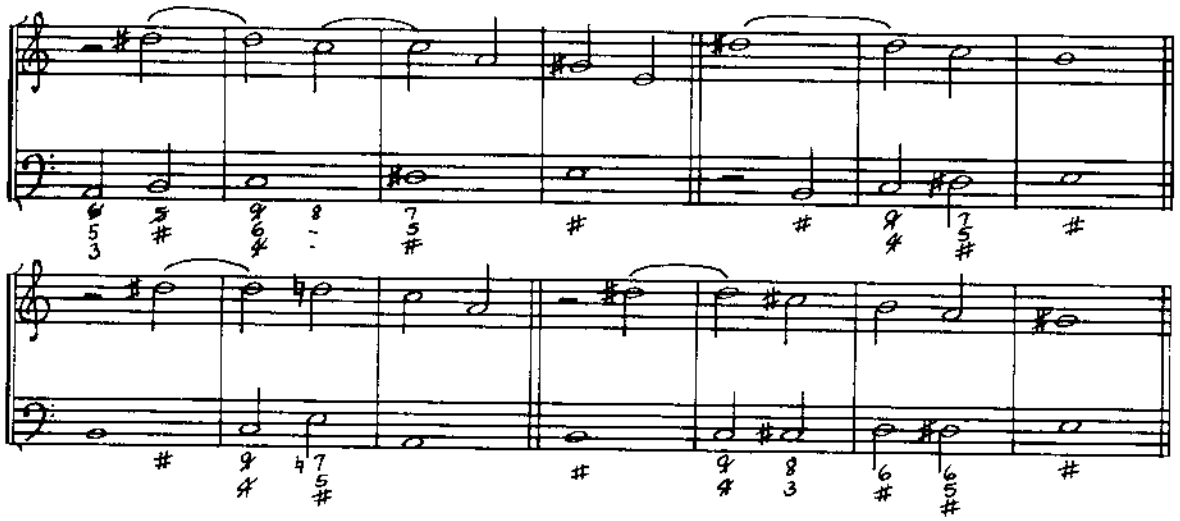
The ninth is usually harmonized with the fourth, with $\frac{5}{4}$, $\frac{7}{5}$, $\frac{6}{4}$, and with $\frac{5}{3}$; on occasion it is harmonized only with the third. However, all of these intervals come about after one chord or another has been played, and one, two, or three tones are held over into the next chord.

¶8.

Augmented ninths (I have encountered both contrived and well-motivated ones in a single great work) are something yet to be considered. They do not belong in any key, but rather should be included in the uncommon intervals,[c] which were already discussed in the first chapter. They are always to be viewed as unexpected appoggiaturas or ornaments, in which case they resolve to the tenth:



They seldom resolve to the octave, sixth, or to another interval, and they should be used with great discretion:[d]



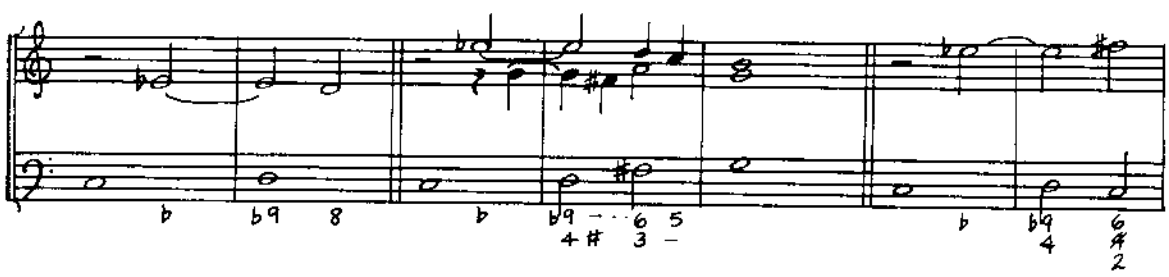
As I mentioned, they require a strong accompaniment and great caution in composition. The less they are used, the better. They create an extraordinary emphasis and are of great use in depicting a particular effect [Affekt] in operatic style.

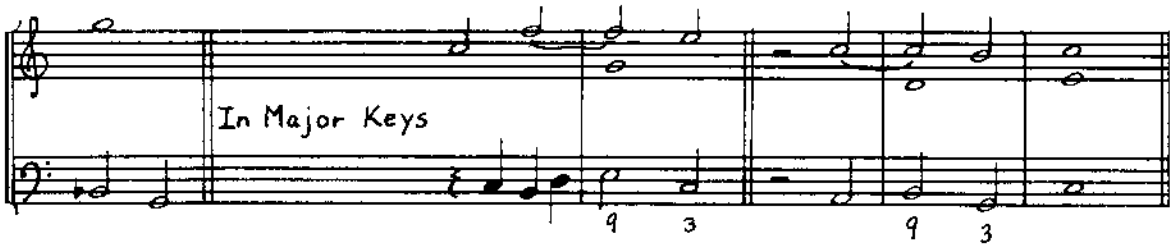
c) Their proper name is appoggiatura, or the filling-in of an empty space between a second, such as a D-sharp between a D and an E.

d) In the first two examples the C in the bass is a passing tone because the chord of the fifth precedes and follows it. But the third example can only be explained by considering the beginning to be a strange or fleeting cadence; this also occurs in the fourth example. It is enough to say that they follow the rule.

¶9.

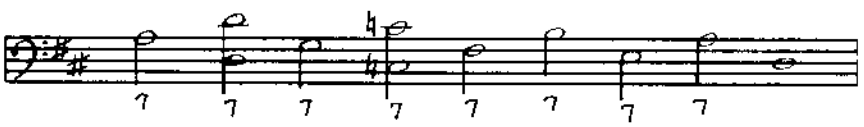
Minor ninths are rare. They usually are found in minor keys, and seldom in major keys. They can be produced when, for example, a minor third above the bass is held while the bass ascends a step. They resolve, like the previous ninths, to the octave or in the inversion of a fundamental [chord]:





¶10.

The sequence of seventh chords [progressing up a fourth] also may be found in the remaining figures. These occur when the third of a chord of the fifth is held over into the next chord, replacing the consonant octave. Then the third of that chord is again held over into the next chord, avoiding the octave. As long as one holds the third into the following chord, sevenths are produced. Likewise, resolution occurs through the seventh of the chord of the fifth, as was shown in the previous chapter.[e)] For example, if one places a seventh above A, this seventh indicates that it belongs to the chord of the fifth of D. D is therefore its key-note. In such seventh chord sequences there is just this distinction: the key-note chord must be considered to be at the same time a chord of the fifth (a modulation up a fourth). As we have said, in this succession of key-note chords [Grundtons-Accorde] each is at the same time a chord of the fifth with an added seventh.



This example begins with an A [chord]. This A chord with a seventh above it indicates that it is the chord of the fifth of the key-note D. Because of the similarity between the key-note D and the chord of the fifth of G, the seventh may again be added. This chord of the fifth proceeds to its key-note chord, G, whose seventh indicates that it can also be the chord of the fifth of the key-note C, which indeed follows. But here there is a small exception. In this sequence of seventh chords which goes down by fifths, a sharp is lost with each chord so that the progression would end up with a B-flat. To prevent flats in the progression, the first flat is omitted (above C), resulting in a larger seventh than the previous ones.[2] Because of this major seventh (C to B), the next chord cannot be built on F, but on F-sharp, above which the minor seventh returns. This procedure is used only to prevent both a motion to B-flat in the bass, which is too large a descent, and also to give the opportunity for the sequence to rise again and to end up with the original key-note.

It also should be noted in such progressions that when they are relatively short the major third will always be present, as at the beginning of the progression where the first four chords all have major thirds as the lowest interval. On the other hand, the fifth, sixth, and seventh chords

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[2]Only the first three are dominant seventh chords.

have minor thirds, while the major third returns in the eighth and last chord.[f] These seventh sequences are of great use in thorough-bass, in preluding, and even in composition. A beginner should master them thoroughly, because next to the three primary chords and the ninth, they make up almost the whole foundation of thorough-bass; thus they are essential to know.

e) This again is clear proof that the seventh is to be tolerated above the chord of the fifth of every key; indeed, it belongs rightfully to the chord of the fifth. Otherwise, there would be no reason for, or explanation of, the origin of these seventh chord progressions.

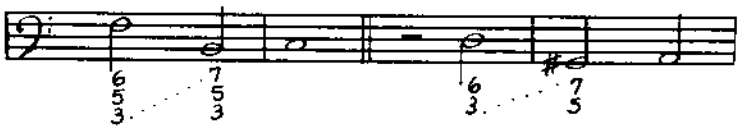
f) Major thirds could be used throughout this example; but because the major third of the F-sharp is too harsh against the previous [C] chord, it is better to omit it. If one wants to resume using major thirds above the B, then F-sharp could be seen as the inversion of the chord of the fourth of E major. But the reason for the appearance of the major third with the minor seventh becomes clear by the above statement: every chord has two functions, that of a key-note, providing a resolution for the previous chord, and that of a chord of the fifth, resolving to the next chord.

Thus [these seventh chord sequences] are based upon the three primary chords and are utterly essential

according to the rules of composition. There is no piece of music without them, especially if it is of a concertante nature. They are the keys to simple as well as to complicated composition.

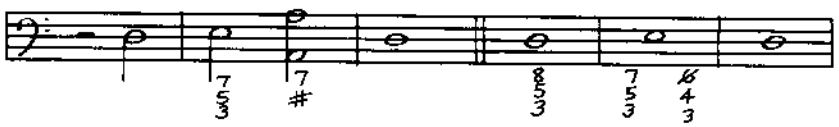
¶11.

The other kind of seventh is formed when the third of a chord of the fourth is held while the bass moves to the third of the chord of the fifth; this usually resolves in the key-note chord:



¶12.

The seventh also results from the inversion of the chord of the fourth, as shown in the previous chapter, followed by a leap upward or downward to the chord of the fifth. Or, the bass may remain oblique, and since this tone is also found in the chord of the fifth, an inversion of this chord may occur:



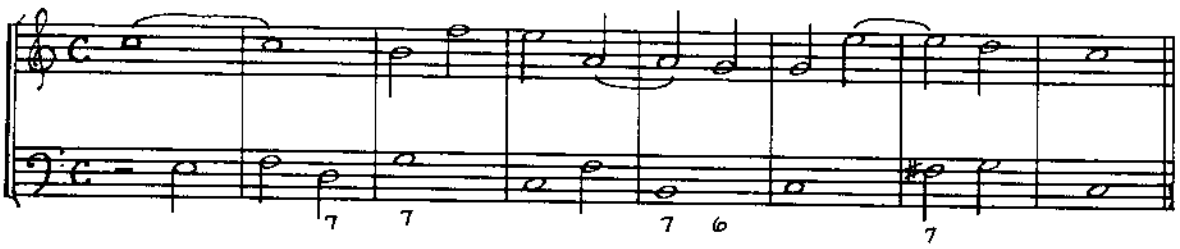
One can see that all of these sevenths are formed by holding one tone over into the next chord and then resolving

it in the chord of the fifth. The seventh can be harmonized in various ways. Most of the time it is with $\frac{5}{3}$; seldom is it with $\frac{4}{2}$ or 6, the latter coming about from the holding over of a previous chord.

¶13.

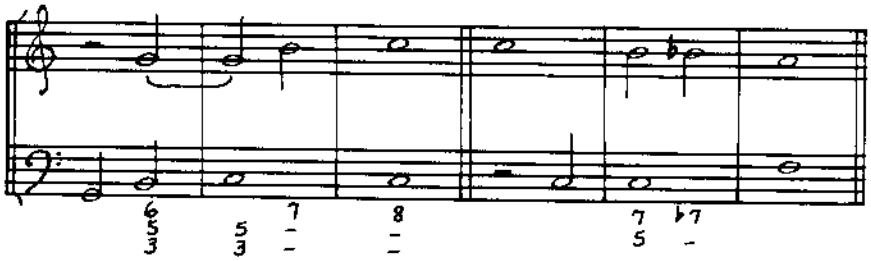
It is interesting that four different sevenths are found in every key, and yet are all of the same size. There are two natural sevenths in the three primary chords, one in the last inversion of the chord of the fourth, and one in the chord of the fifth. A composite [zusammengesetzte] seventh is formed when the third of the chord of the fourth is suspended over the chord of the fifth while the third of the chord of the fifth appears in the bass. An irregular seventh is formed when the third of the key-note is held above the chord of the fourth, the root of which is raised a half-step, progressing to the chord of the fifth:

two natural, one composite, one irregular

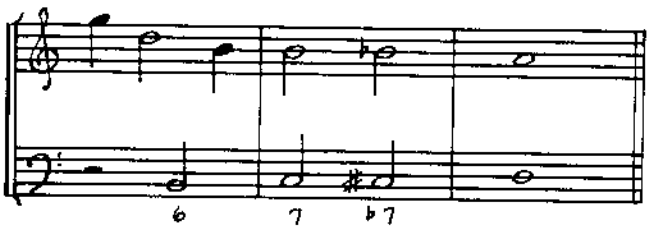


¶14.

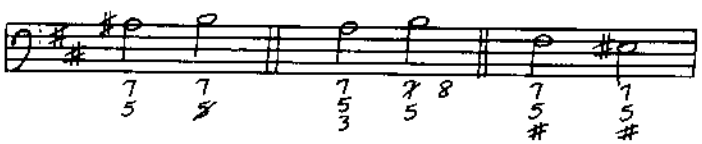
The proper resolution of the major seventh is to the octave above the root, but it can sometimes resolve to the minor seventh. This could not happen if there were no seventh in the chord of the fifth:



Although it is unusual, the major seventh can also be resolved to the diminished seventh:



Two consecutive sevenths can also appear, the first being either minor or major,[3] and the second either major, minor, or augmented. But one resolves to the next one:



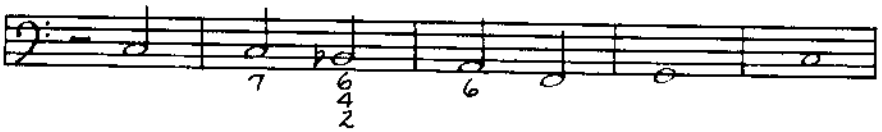
[3]The first seventh of the first measure is diminished.

In this example the first chord is the first inversion of the chord of the fifth of B minor and retains the third and the ninth [sic][4] of its chord of the fourth. Usually this chord resolves to the key-note B, but because this key-note chord is very similar to the chord of the fifth of E minor, a seventh can be added above it. In the second example, the major seventh comes about simply by putting the A-sharp of the first chord in the upper voice of the chord to which it resolves. The A-sharp could also be considered to be an ornament or appoggiatura.

The third example shows that although the resolution of the chord of the fifth does not occur normally in the bass, it does occur in the upper voices through the most important tones of the key-note chord, B and D.

The major seventh also resolves to the second:

A major seventh resolved by the inversion [of a chord]



¶15.

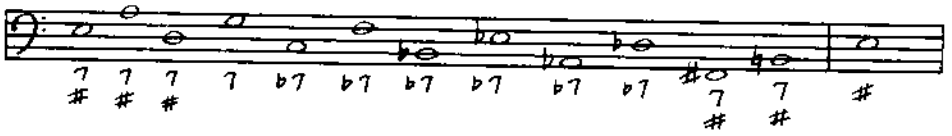
A few unusual seventh passages and their special resolutions, which could be discussed here, will be included in the seventh chapter [¶10]. There are a few more chords that are formed when one tone is suspended over into another

[4]The ninth of this chord is not present.

chord. For example, a $\frac{6}{\#}$ or $\frac{6}{4}$ chord on the fourth scale degree is nothing but the last inversion of the chord of the fifth with the third above the bass from the previous chord of the fourth replacing the second above the bass in the chord of the fifth. This will be discussed later.

¶16.

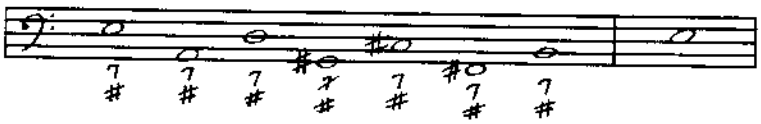
In closing this chapter, I would like to relate how one can go through all twelve major and minor keys merely with seventh passages and also how they are changed with sharps and flats:[g)]



Here are the twelve major keys. The seventh sequence in the twelve minor keys is not at all different. Since these key-note chords must also be considered to be chords of the fifth--which is proven by their sevenths and their resolutions to another fundamental (the same is true for every chord of the fifth of all major and minor keys, all of which have a major third)--a minor third, which indicates a minor key, cannot occur here. These seventh chord passages are the substance of preluding.

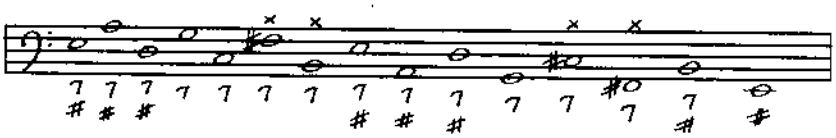
If one wants to shorten the number of chords and end with the beginning chord, and do this without offending his musical ear, he should replace the fourth note, G, with

G-sharp and go to C-sharp, the third note from the end [of the seventh chords]:



This applies to the fifth note also; C-sharp is used instead of C. The first four [notes] remain unchanged.

Finally, one can begin the transformation with the sixth note. In this case the B-flat in the preceding chord must be omitted, and the seventh sequence could be further extended:



As in the previous example, the major third and minor third are produced. This succession of sevenths may not proceed in the same way as the first one, that is, in ascending fourths and descending fifths of equal size. On the contrary, here and in the previous example there are leaps of augmented fourths, in the first example [sic][5] from the third note D to G-sharp, and from C to F-sharp in the second example.[6] Similarly, neither example contains a flat as

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[5]The second example of ¶16.

[6]The third example of ¶16.

the first example had. All of the unequal thirds have arisen out of these unequal leaps up or down, that is, in the chords marked with an "x". To extend the last example further one could use a C instead of the C-sharp toward the end and continue into the flat keys.

g) If a beginner wants to play this progression of seventh chords, it will generally be easier to play G-sharp and D in the right hand (along with B-natural). Then he can move these two [or three] fingers down a half step as each bass note is played. But if his right hand gets too close to the bass notes, he can move it up an octave and continue moving down in half steps.

¶17.

One may ask why a few tones are notated with flats in the first example and with sharps in the second and third examples. The answer is that in the first example the chords appear in their natural position and form; thus there is a constant loss of sharps so that by the fourth note, G, there are no more sharps. The rest of the minor sevenths cannot have sharps, but must have flats. In an ordinary circle of falling fifths or rising fourths which uses the same size interval, there are eventually no sharps present. Progression through equal sized fifths would be against the natural key signatures of every major key. But the

reason for the absence of flats in the second example is that a change occurs at the fourth note. The G is sharped because, first of all, the G-sharp is still retained in one's memory from the first chord, and second, if G-sharp were notated with flats [as A-flat], the leap would be up a fifth instead of a fourth, and a seventh could not follow. From the fact that the notes which follow are sharped, one must conclude that flats cannot follow sharps, especially in this case, because of the sequence of fourths or fifths. Flats can only follow sharps in the first example.

The Fifth Chapter

HOW MANY WAYS ONE CAN MODULATE FROM ONE KEY TO ANOTHER

¶1.

It was not my intention to insert this chapter here. This discussion should have followed the instructions on resolutions. However, there are three more chapters[1] that deal in part with various kinds of resolutions--common as well as uncommon, whereby passages occur for which a beginner must already know how to modulate into different keys[a)]--, and to understand these, I have taken the opportunity to insert this section here and also to begin instructions on how many ways there are to modulate up a fifth.

a) This discussion is one of the most important in thorough-bass and is likewise indispensible in preluding. Many people boast of understanding the rules of composition exactly, and yet they commit errors contrary to these rules: they reach the key that they want just by chance with no transition chords and without the slightest bit of preparation. There are very few instances in which this should happen. One begins

[1]Chapters 6, 7, and 8.

> to wonder, when one finds pieces in which a modulation to the most closely-related keys is handled so poorly, [or] when would-be composers assure us that nothing is more difficult than choosing the way to modulate to another key, because there are so many different ways. Melody and harmony have always maintained the potential for infinite variation. To these twelve different kinds of modulations which were cited above, more could be added depending on what was needed. Enough! If a beginner has grasped this well, it should be very easy for him to produce clever modulations when improvising.

¶2.

There are three ways to modulate up a fifth: (1) through the fourth of the key of the fifth, (2) through the fifth of the key of the fifth, and (3) through the inversion of the chord of the fourth [of the key of the fifth]. In the first way the only difference between the [chord of the] fourth of the key of the fifth and the previous key-note [chord] is the added sixth in the former. While the old key-note [chord] has $\frac{5}{3}$ above the bass, the new chord of the fourth has $\frac{6}{5}_{3}$, since the old key-note now appears as a new chord of the fourth. This small alteration allows one to take the old key-note with the added sixth and to reach the new key-note chord through its chord of the fifth.

In the second way the old key-note is held while the chord above it changes to the fifth of the new key $\binom{6}{(4)}{2}$. Then the bass moves down a half or a whole step to become the third of the new key-note [chord]. In the third way a third is added below the old key-note chord. Then either the bass remains there while the harmony above it changes to the new chord of the fifth, or the bass goes up a fourth to the new chord of the fifth which then proceeds to the new key-note itself.

¶3.

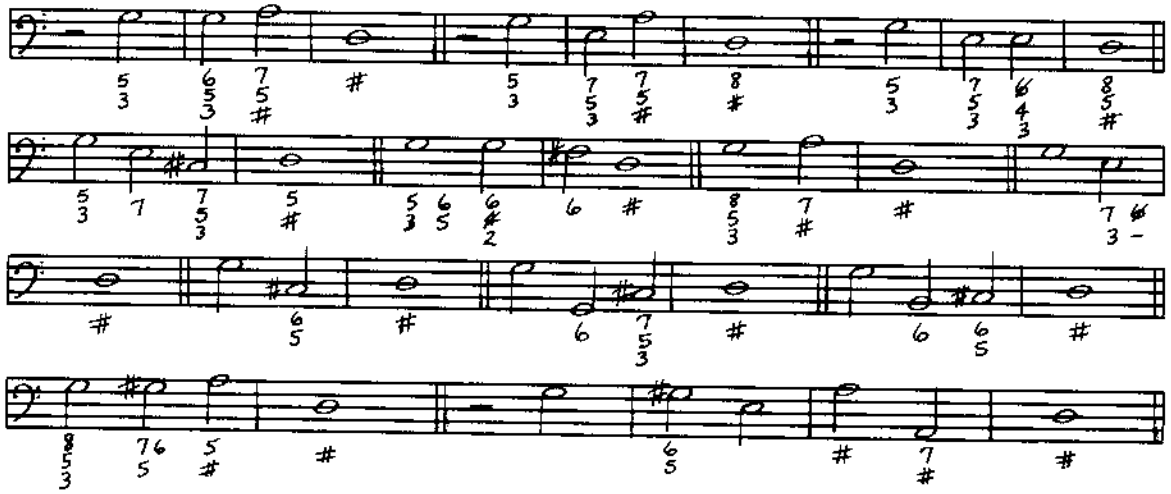
Generally it should be noted that in all modulations one should leave the old key-note chord unchanged whenever possible. One should see if any tones of the key-note chord are found in the chords of the fourth or fifth of the new key, in which case the modulation has already begun and needs no further elaboration.

¶4.

The [chords of the] fourth and fifth of a new key should always precede the new key-note. The [chord of the] fourth may be left out according to the position of the soprano voice, especially if the old key-note chord is very similar to the new chord of the fourth. The harmony of the new chord of the fifth can never be omitted; such would cause an ellipsis, and the new key-note would not be supported by the octave.

¶5.

Many ways of modulating arise out of the inversion of the new chords of the fourth and fifth. Twelve ways can be found, ten of which are natural:

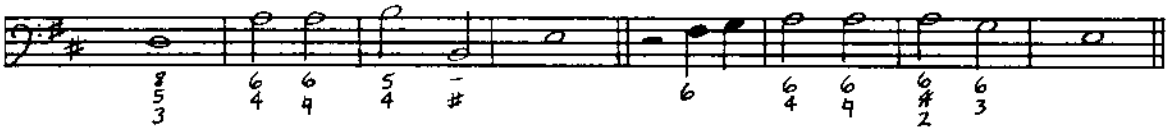


Here one can see that this great variety can come about just from the inversion of the chords of the fourth and fifth. This is undoubtedly of great use.

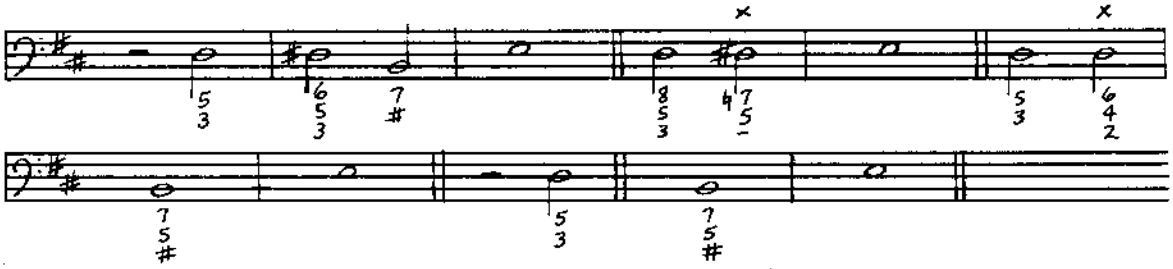
¶6.

After the modulation up a fifth comes the modulation to the [key of the] sixth. The above example shows modulations to D. Two notes in the key-note chord of D, namely F-sharp and A, are found in the chords of the fourth and fifth of the key of the sixth. Accordingly, it is easy to get to this key by retaining these two common tones:

By the chord of the fourth of the sixth key



By the chord of the fifth of the sixth key



These are the ways which are used most often. From the instructions given here anyone can discover more ways. It should be remembered that the chords marked by "x" constitute exceptions. It will be recalled from previous chapters that the minor seventh in the chord of the fifth [A] and the single minor third in the chord of the fourth [C] are combined.[2] This minor third can be considered a member of the chord of the fifth and is ordinarily resolved to the key-note chord. The $\frac{6}{4}{}_{2}$ chord above the second "x" is just a deceptive chord which one thinks will return the progression to G, since subsequently the complete harmony remains above the bass which is a step lower, except that the previous "2" ascends a half step to become a major third. This passage is very useful today as is demonstrated in the threefold style.[3]

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[2]This occurs in the first chord marked "x" above.

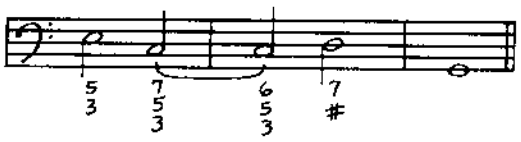
[3]See footnote 2, Chapter 2.

¶7.

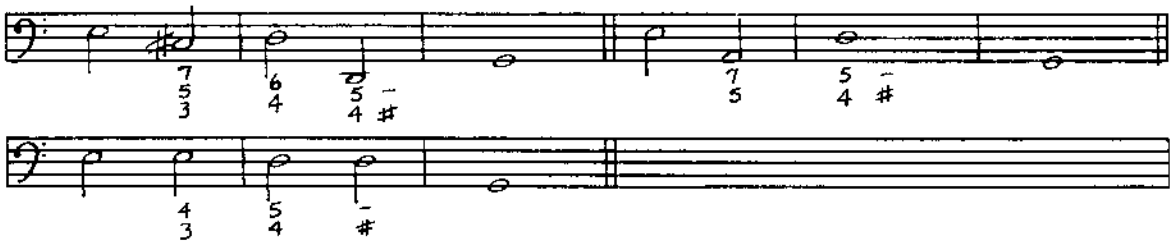
A beginner should be very well acquainted with these two modulations, which are the most important in major keys. He should play the fifth or major third of the new key distinctly "so that the old key-note chord will lose no more than one, or at the most two, tones; otherwise, the ear will be offended."

¶8.

It is also necessary to give brief instructions on how to return to the original key-note from these two keys. The above-mentioned rule should be noted here. For example, two tones in the $\begin{smallmatrix}8\\5\\3\end{smallmatrix}$ chord of E minor, E and G, are also in the chord of the fourth of the original key [G]. Therefore one can retain the E minor chord and just move the bass down a third; then the seventh that is formed can resolve to a sixth. This produces a complete chord of the fourth of the key of G. The chord of the fifth can follow in the usual manner, and then the key-note itself:



C-sharp, A, or E can be used [as the bass note of the pivot chord] instead of C:

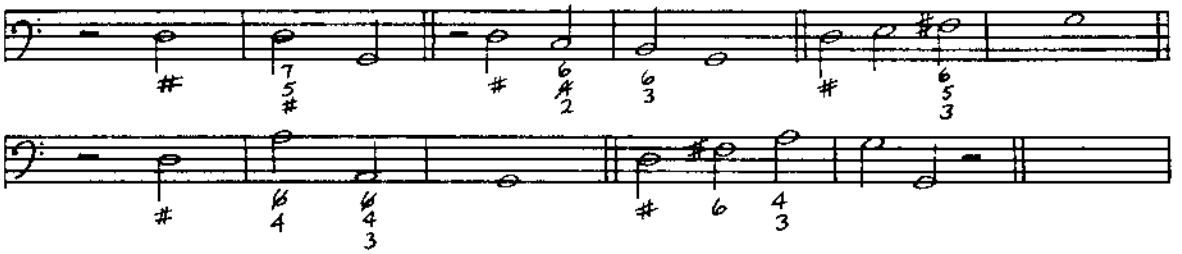


The C-sharp in the first example announces the D to which it proceeds, but only the second seventh gives rise to the chord of the fifth of G. The second chord of the second example is only an inversion of the chord of the fourth of G. The $\frac{4}{3}$ chord in the third example is also an inversion, except that the sixth above the bass is omitted.

¶9.

The first modulation and its return are similar. A D major chord is very similar to the chord of the fifth of G, the only difference being the seventh in the latter. The modulation back to G can happen in as many ways as the chord with the seventh can be inverted. It should also be noted that the chord of the fourth cannot precede [the chord of the fifth of G] as it did in the modulation from G to D. From that we may remark "that in entering as well as leaving a key, the harmony of the chord of the fourth should come first, unless the new chord of the fourth has no common tones with the old key-note chord, in which case this chord of the fourth should be left out and the chord of the fifth

of the new key should be used."[4] The inversions of the chord of the fifth show how many ways there are to get to the first tone:[b)]



b) Whoever grasps the previous example, this one, and the following small examples in this chapter, and whoever has tried transposing several times, will find thorough-bass easy. Also, in order to accompany an unrehearsed piece skillfully, one must transpose all of these examples into all twenty-four keys and practice them with and without figures until he is completely familiar with them. But only when one knows the reason for these modulations will he understand these examples theoretically as well as practically.

¶10.

To describe modulation in minor in the simplest terms possible, [we choose] in A, for example, the first modulation to the third, that is, to C.[c)] The previous remarks also

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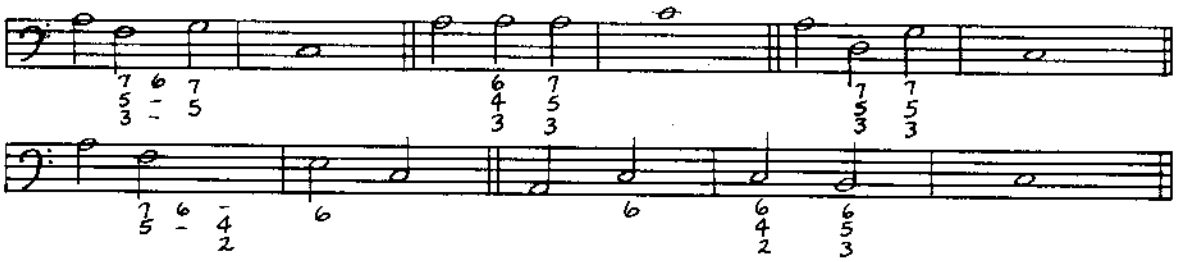
[4]Daube's "similar" chords, or chords with common tones, involve adding a tone to a triad. Further, he seems to think that these common tones must be at the bottom of the chord.

apply to this. The A minor key-note chord includes C and E. Now one must look for a chord in the new key that is somewhat similar to this chord. The most suitable chord for this is the new chord of the fourth, because it contains both tones, A and C. Thus we may conclude that this new chord of the fourth can follow the old key-note chord, then proceed to the new chord of the fifth, and end with its key-note:



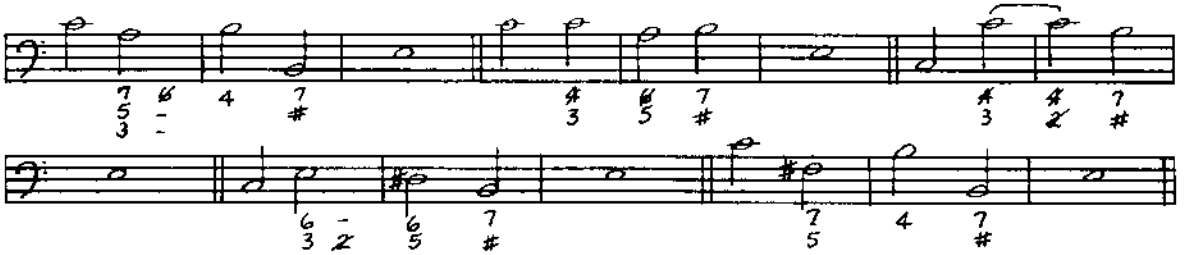
Here there are five variants of modulations up a third, all of which come about through the inversions of the chord of the fourth.

c) It is noteworthy that for many years the first modulation from a minor key had to be up a third, but in major keys it had to be up a fifth. One might wonder about the origin of this practice. As far as I am concerned, since modulations and mixing keys allow melodies to continue, this should be an enjoyment to the ear, which should consist of animation and joy (but seldom sorrow). Minor keys are by their nature contrary to this; thus a minor key cannot proceed to another minor

key. For example, E minor should not follow A minor; the melody would turn out to be much too sad. In order to please the ear a major key must always follow a minor key. After this the piece can return to a minor key, especially when it is obliged to end in minor. But a major key is inclined to animation; consequently the ear would experience much too fast a change if a minor key followed it immediately. But this must happen when the ear is already satiated, so to speak, with joy; thus the motion of major to minor can occur in the second modulation. It is a great musician who can produce animated and joyful melodies, and yet can deal with them without using the above guidelines.

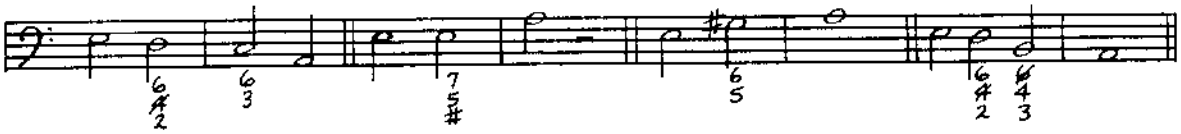
¶11.

In proceeding to the second modulation, to the [key of the] fifth, one should again note whether the chord of the fourth or fifth of the key-note E has any correspondences with the key-note chord of C. Again one finds two tones, C and E, which are in both the key-note C chord and the chord of the fourth of the new key. Thus we see the following modulations:



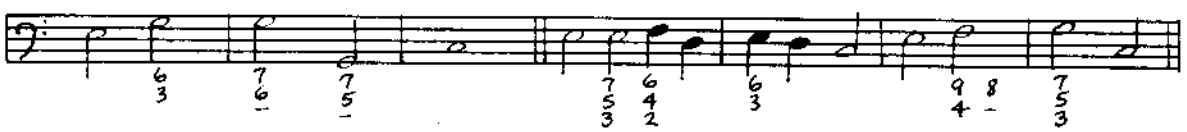
¶12.

To modulate back to A minor it is better to use its chord of the fifth than its chord of the fourth; only the third [of the chord of the fifth] need be raised and the octave changed to the seventh:



It is more difficult to modulate back to C major without using too many chords. This is because the key-note chord of E minor is not similar to the chords of the fourth or fifth of C.[5] It might be said that a $\frac{6}{4}$ chord belongs over the first half of the chord of the fifth of C; thus two of its tones are common to the key-note E chord. However, since these two chords are perfect (they are the key-note E and the $\frac{6}{4}$ on the chord of the fifth of C, which is just an inversion and can also be seen as a perfect key-note C chord), this cannot happen, except when one uses the $\frac{7}{6}$, which appears above the chord of the fifth of C. It is the same with a seventh which is formed when the bass, E, moves up a half step, producing the $\frac{6}{4}{}_{2}$ chord, after which the proper resolution to C can follow:

By the ninth



¶13.

Accordingly, this has prepared the student to modulate to the most closely-related keys and to return. The charts which will be presented later will give additional instructions, especially on how to modulate to other keys with the fewest number of chords. It is certain that the more remote the keys, the more imperfect the ways to modulate. Yet, if the foundation is laid well through the examples shown here and through their repeated practice, then the modulations to all other keys will be accomplished easily.[d)]

d) It is true that today all arts and sciences have reached a very high degree of perfection; however, there are many who do not know the fundamentals [Grund], and their further researches are based only on hear-say and on mere practice. If only the supporters [of the arts and sciences] would try to discover adequate theoretical bases [Gründe] to the extent possible, to disclose this discovery to the world, to encourage good talent, and to investigate further with all their might, then finally the theorist as well as the practitioner would be benefited, for without theory a mere practical art will soon find its limits. Undoubtedly, all arts and sciences would improve considerably, dillitantism would cease, and a beginner would not need to exert so much effort and spend so much time in learning a science.

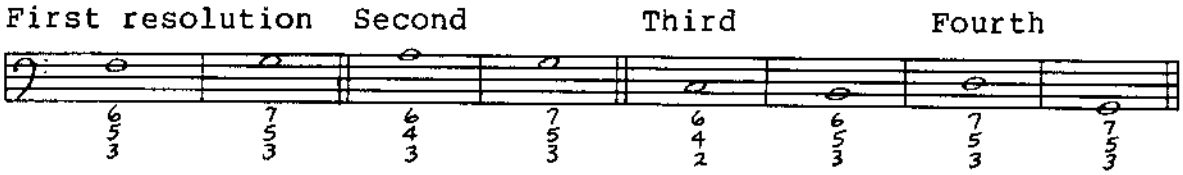
Then everyone would strive to know both theory and practice, which would be easier and would produce a great desire to advance. But it is very well-known that one can often learn the least from the greatest artists, who lack as much in theory as they have accomplished in practice.

The Sixth Chapter

ON COMMON RESOLUTIONS

¶1.

I am obliged to repeat some of the things that were discussed in the third chapter in order to show how each dissonant chord can be inverted and how many ways it can resolve. I have already proven that the whole foundation [Grund] of thorough-bass rests on three primary chords and their inversions. But up to this point I postponed the discussion of whether every inversion resolves[a)] to a fundamental position or to the first inversion chord. The inversions of the chord of the fourth and its resolutions are as follows:



a) A resolution is the change or replacement of an imperfect interval with a better interval, that is, the movement from a dissonance to a consonance. But each [resolution] is more easily understood by the tones in the upper voices than from the entire chord. For example, the chord of the fourth contains two intervals, the fifth and sixth above the bass, that form a second. On the other hand, the chord of the fifth is made up

of nothing but thirds, from G to B, B to D, and D to F. Thus the chord of the fifth is less imperfect than the chord of the fourth, and the chord of the fourth can proceed to the chord of the fifth.

¶2.

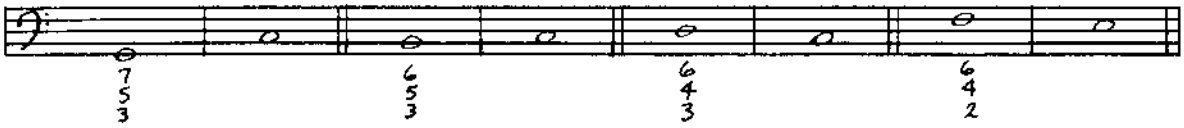
The chord of the fourth resolves to the chord of the fifth.[b)] Here one finds that all [resolutions of the chord of the fourth], except the third one, go to the fundamental position chord of the fifth. The bass note of the third resolution goes to the third of the chord of the fifth, which resolution is caused by the second [above the bass]; but basically it is the same progression.

b) I have remarked previously that the chord of the fourth cannot go to the key-note chord. This is because the second $(\frac{6}{5})$ in the chord of the fourth usually should resolve to a third. For this to happen the top of the second is held, and the bottom note moves down a step. This $\frac{6}{5}$ never appears unless the bass either ascends a step or remains the same; if it does not change, the chord produced is a $\frac{6}{4}_{2}$ chord. Furthermore, the leap is too far, and the change is too drastic for an entirely imperfect chord to jump to a completely perfect chord. If this rule is ignored and the chord of the fourth does proceed to the key-note chord, then the sixth must be omitted; but then it is no longer a chord

of the fourth, but is a key-note chord which proceeds to its own chord of the fifth.

¶3.

The inversions of the chord of the fifth resolve to the key-note chord in the same way that the chord of the fourth resolved to the chord of the fifth:



The bass of the third position[1] [Umwendung] goes to the third of the key-note chord. The other bass notes go to the fundamental.

¶4.

It is worth noting that the inversion of the chord of the fifth is more dissonant than the other inversions. This chord is used quite often in thorough-bass; in fact, it is found in almost all pieces of music. The reason, as I have mentioned, may be that the further apart the tones of a dissonant interval are, the less dissonant they are. Thus the opposite is true. The closer the dissonant tones are to each other, such as $\frac{6}{5}$, $\frac{5}{4}$, $\frac{4}{2}$, and $\frac{4}{3}$, the greater the dissonance.

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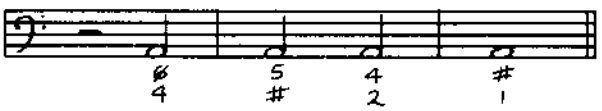
[1]Daube's third position is the second inversion.

¶5.

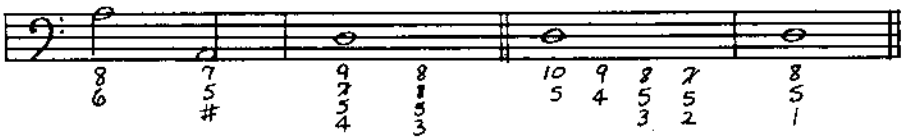
The combination of a second with a fourth [4] comes about not as a $\frac{4}{2}$ chord does, but generally follows $\frac{6}{4}$ and $\frac{5}{3}$ chords and is resolved to $\frac{3}{1}$. Some feel that this chord should be changed to $\frac{9}{4}$, which would take the common resolution of the ninth. This opinion is wrong because (1) the ninth has a very different origin, as was shown in a previous chapter,[2] (2) in this chord no tone except the bass note is held over [from the previous chord], which is the opposite of the ninth; and (3) the resolution of this chord would be neither to the fifth nor to the octave; in this case the fourth does not move up to the fifth, nor does the lower second go down to the octave, all of which would be necessary for the resolution of a $\frac{9}{4}$ chord. "Generally a $\frac{4}{2}$ chord is present when the bass is held before it and after it, but the ninth occurs when the bass moves up or down." Of course, this chord seems strange to many people, since it is in fact rather rare; yet it is based on the rules of harmony. It can be seen frequently in operas by Graun:



[2]Chapter 4.

¶6.

The same situation exists in the $\overset{7}{5}\ 2$ chord, which is often misused by being changed to a $\overset{9\ 7}{5}\ 4$ chord. The latter is produced by sustaining the upper voices, but the former comes about by sustaining the bass:

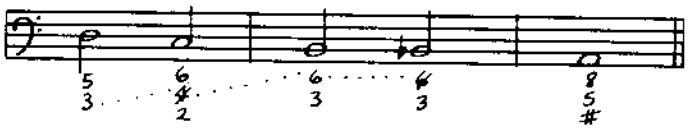


Both have the same kind of resolution, but not the same origin, because the $\overset{9}{5}\ \overset{7}{4}$ chord is to be considered just a suspension [Verzögerung] of an entire chord of the fifth above the key-note. $\overset{7}{5}\ 2$, on the other hand, appears above the held bass as a true harmony, just as its preparatory chord did. It should also be noted that when a ninth occurs above a sustained bass, a tenth must always precede it. Even though a tenth can often be considered as nothing but a third in a higher register, in this case it cannot be a third, for otherwise the ninth could not be permitted here. Both of the upper voices move in sixths, which together with oblique motion (when one voice is held and the others move) produces a good contrapuntal effect.

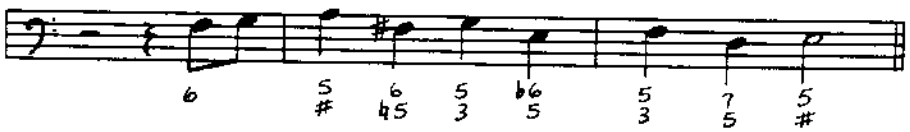
¶7.

One more type of common or ordinary resolution comes about when the bass or the soprano ascends or descends chromatically. Here, common chords are resolved according to their key, except for the augmented sixth which is uncommon and is derived from two different keys simultaneously. They are:

Example in which the upper voice ascends chromatically



Example in which the upper voice descends chromatically



The first chord is a D minor chord. The second one is the last inversion of the chord of the fifth of G major which, because it is rather similar to the D minor chord, fits quite nicely in this progression and then resolves to its own keynote chord. The chord of the fourth is unusual because it contains both a flat and a sharp: The B-flat in the bass is the third of the chord of the fourth of D minor, but the G-sharp is borrowed from the chord of the fifth of A minor and is to be regarded here simply as an ornament, embellishment, appoggiatura, etc., in order to fill up the empty space

found between the G and the A in the upper voice. This chord has already achieved the status of a legitimate chord, even though it is not contained in any truely diatonic key. It has a good effect, particularly when it is used infrequently.

Chords above a chromatically descending line also resolve naturally, as may be seen in the second example. This progression begins with an inversion of a D minor chord which goes to its chord of the fifth, which has a major third. The next chord is the first inversion of the chord of the fifth of G major, which is similar to the key-note chord of D minor. It too can resolve the chord of the fifth of D minor; after this chord follows its own key-note chord, G major. Then the upper voice descends another half step as the bass goes a third down, producing the chord of the fifth of F major, which must resolve to the key-note chord of F major. The next chord is the chord of the fourth of A minor, with the fifth of the previous chord suspended above it as a seventh [instead of the usual sixth]. This is followed by the chord of the fifth of A minor itself. In both of these examples one sees no chord (other than the one uncommon chord) or resolution other than the common resolutions; all have been shown to come from my three primary chords.

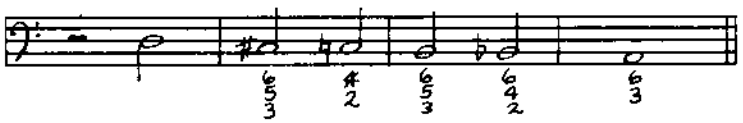
c) These structures, which in the past were rare, are now used often in sacred and operatic music. They are found in all artful compositions as well as in chamber

music. However, frequent use of them is to be recommended neither in improvisation nor in composition. The more seldom these and the following chords are used, the better.

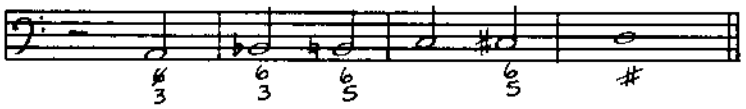
¶8.

The next example will show that such chromatic lines may occur in the lowest voice, the bass. Most of the time they are harmonized in the following way:

Example of the bass moving down in half steps



Example of the bass moving up in half steps



The first example would be just like the previous one if the figured bass did not prescribe another melody. One can see that this example shows a series of inversions of the chord of the fifth and the key-note chord. The second note, C-sharp, is harmonized with the first inversion of the chord of the fifth of D minor. It resolves to a chord similar to the key-note chord of D minor, namely to the last inversion of the chord of the fifth of G major. The key-note chord of G major follows in first inversion, but since it

is in the exact same position as the chord of the fifth of C minor, it borrows a diminished fifth from C minor. (This diminished fifth is the seventh of the chord of the fifth of C major.) The next bass note should move up a half step because of the $\frac{6}{5}$ in the chord, but instead, like the first chord in the previous bar, it too descends a half step to the last inversion of the chord of the fifth of F major, which is similar to the key-note chord of C major. Finally, the resolution in the first inversion of the key-note chord of F major occurs.

¶9.

The following rule is derived from these unusual resolutions which I have shown: "A chord of the fifth can resolve to another chord of the fifth which replaces the key-note chord." And similarly, "Every key-note chord (with an occasional change in the quality of the third) can also serve as a chord of the fifth," or "a chord of the fifth can replace a key-note chord." This has already been shown in the sequence of seventh chords.[3]

The second example, based on ascending half steps, illustrates the same thing. The first chord is the second inversion of the key-note chord of G minor [sic].[4] The second chord is the first inversion of the key-note G minor

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[3]Chapter 4, ¶16.

[4]Daube obviously means the chord of the fifth.

chord to which the first chord resolves. With the symbol $\begin{smallmatrix}6\\5\\3\end{smallmatrix}$ [sic][5] the bass moves up a half step, indicating that this is the first inversion of the chord of the fifth of C major which resolves to the key-note C major chord. The C-sharp is the raised seventh of D minor, and that chord is the first inversion of the chord of the fifth of D minor to which it resolves.[d)]

d) These two examples and the explanation of them should be noted well, because when two, three, or more successive half steps appear in a bass line, they can be harmonized only with the chords shown here. There is hardly any bass line which does not have at least two consecutive half steps. This example also can be used to modulate first from D minor to G major, and then to C and to F major.

The second example shows how one can modulate up a fourth, from G minor to C major. The first bass note in this progression could be harmonized with a $\begin{smallmatrix}6\\5\\3\end{smallmatrix}$ chord, which would produce the [first] inversion of the chord of the fifth of B-flat major. The second chord would have a fifth instead of a sixth and would thus be transformed into the key-note chord of B-flat major. The other chords would remain unchanged, and it would be clear that the progression could go from C major to

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[5]The symbol is $\begin{smallmatrix}6\\5\end{smallmatrix}$ in the third chord of the second example.

D minor. Transposition [of this progression] into other keys would be useful.

¶10.

All of these examples show that the chord of the fifth[e)] must always precede the key-note chord. But since the key-note chord is similar to the chord of the fifth of a closely-related key--that is, the only difference is the quality of the third or the presence of a seventh--then the resolution of the chord of the fifth can often be to the chord of the fifth of another key. These passages have become very popular in spite of the fact that such continuous modulations offend the ear, especially if they occur very frequently. It is best if such passages are used in concertante voices; otherwise, [they should be used] sparingly.

e) In present-day compositional technique, the complex use of the chord of the fifth is encountered very often. One finds it in the threefold style.[6] It is one of the greatest musical works of art when one can deceive the ear in a pleasant way. This is accomplished when one expects a melody to proceed to one key, but it goes into another key, and in general, when the continuation of the melody cannot be predicted from what one has heard, as often occurs. This results from one chord

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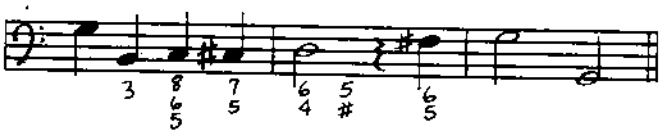
[6]See footnote 2, Chapter 2.

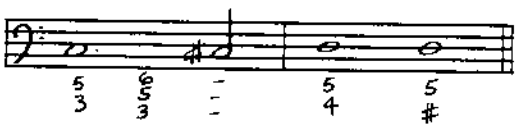
of the fifth going unexpectedly to another chord of the fifth. This occurs in examples already introduced here by means of deceptive cadences, and also when no sequential repetition of the melody is heard, etc.

¶11.

One more supposedly common resolution which belongs in the group of general resolutions should be mentioned here. It is when the bass rises a half step after the chord of the fourth; this would indicate modulation to the next closely-related key, after which the bass would move to the chord of the fifth:

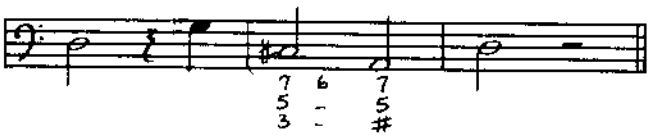


It usually happens when the chord of the fourth includes an octave above the bass in the top voice which moves to a seventh. On the next beat (measure two) this seventh becomes a sixth and then resolves to a fifth. The sharp that does not belong to the key of G major is first of all to be regarded as a passing tone in the bass; furthermore, as I have said, since every chord of the fifth can also be a key-note chord, this chord of the fifth can be considered to be a key-note D chord, which, in this case, the C-sharp indicates.

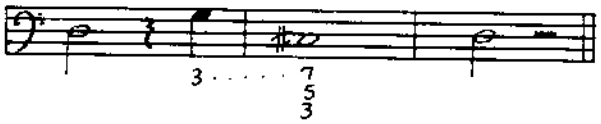


¶12.

It is also possible that the third of the chord of the fourth is retained in the first inversion of the chord of the fifth, and thereby becomes a seventh. This seventh resolves in the usual manner to the sixth:

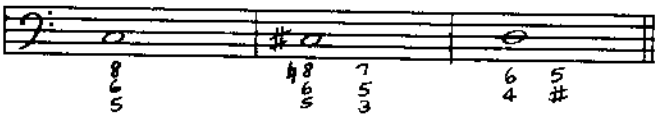


This seventh sometimes remains in the chord of the fifth and is only resolved when the key-note chord enters:



¶13.

The octave in the chord of the fourth can be held while the bass moves up a half step, creating a diminished octave. This resolves to a seventh, which in turn usually resolves to the sixth and fifth:



¶14.

Nowadays these last two passages are considered well-known and common, despite the fact that they were seldom

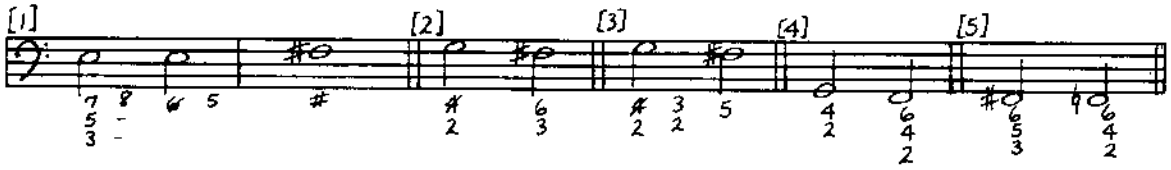
regarded as legitimate in past times, in particular since the twelve modes were still popular.[f] Now they are utterly essential and appear in all categories of composition. They have proven their worth. Therefore, beginners must know them.

f) These twelve modes were discussed in the first chapter.

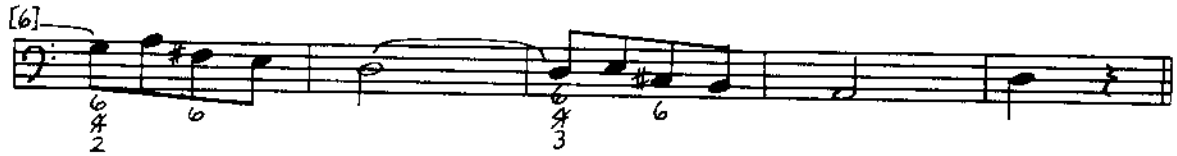
¶15.

Among the common resolutions are also those which are found especially in operatic and recitative styles:

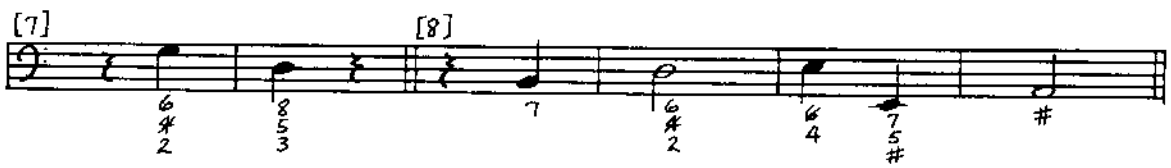
Example of resolutions of a diatonic seventh to an octave, a fourth to a fifth and to a third, a second to another second, and a diminished fifth to a fourth.



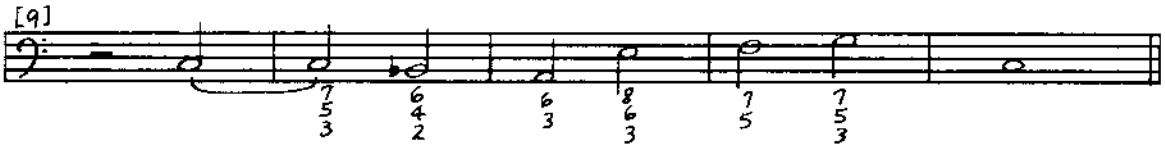
Example of a second going to a unison



Example in which the bass leaps up a fifth or down a fourth after a $\frac{4}{2}$ chord, and similarly, one in which the bass [with a seventh] leaps to a $\frac{4}{2}$ chord, after which it moves a step upward



Example of a $\begin{matrix}6\\4\\2\end{matrix}$ chord following a $\begin{matrix}7\\5\\3\end{matrix}$ chord and of two consecutive sevenths without a leap in the bass



¶16.

These particular progressions sometimes seem to be very unusual; however, one can consider the octave which follows the seventh in the first example as an embellishment [Durchgang].[7] In the second example the $\begin{matrix}5\\2\end{matrix}$ chord following the $\begin{matrix}4\\2\end{matrix}$ chord is simply [a result of] a delay of the earlier F-sharp [of the first example]. Likewise, the second harmony, $\begin{matrix}2\\3\end{matrix}$ [sic],[8] in the third example is to be regarded as embellishing. Its resolution in the third [sic][9] example should be $\begin{matrix}4\\2\end{matrix}$ to $\begin{matrix}3\\1\end{matrix}$, but here it goes to the last inversion of the chord of the fifth of C major. The resolution in the fifth example is the same as in the previous one. The second in the $\begin{matrix}6\\4\\2\end{matrix}$ chord in the sixth example does not resolve until the F-sharp, above which is the first inversion of the keynote chord. The unison [A], on the other hand, is to be regarded as merely embellishing. The seventh, eighth, and ninth examples show only alterations and inversions of the chord of the

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[7]Throughout ¶16, context has often dictated translation of Durchgang and durchgehend as "embellishment" or "embellishing."

[8]Figured bass of the second harmony is $\begin{matrix}3\\2\end{matrix}$.

[9]This refers to the fourth example.

fifth. In the last example it should be noted that two consecutive sevenths appear at the end, despite the bass voice's stepwise movement upward. The octave of the previous chord of the fifth or key-note chord[10] is held over into the next key-note chord or chord of the fourth of C major and becomes its seventh. As the bass moves up a step, this seventh is transformed into the fifth of the true chord of the fifth of C major.[g)]

g) When one looks at recitative style, especially at the present time, he will see a number of resolutions and chord formations which formerly were detested and which were regarded as great blunders. But now when one looks at these passages, he sees them as nothing but mere inversions and variants [Spielwerk] of the changeable chord of the fifth, or as embellishments which are valid and are used justifiably. But on the other hand, when these passages are used too often, they tend to give rise to too much disorder. In the last example one sees two chords which have a double significance. The first key-note chord and the first inversion of C major,[11] can also be considered to be the chord of the fifth of F, and the following chord

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[10] This depends on whether it is considered to be in F major or C major.

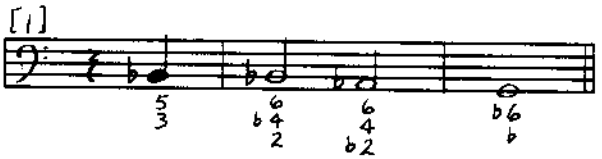
[11] This is the second chord of the third measure in the ninth example above.

of the fourth of C major can also be the key-note chord of F major.

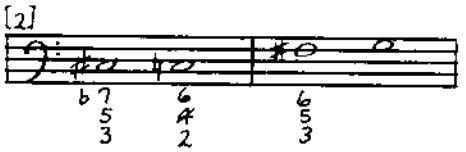
¶17.

The following resolutions deserve to be included here. The first is the resolution of the $\frac{4}{2}$ chord to another chord:

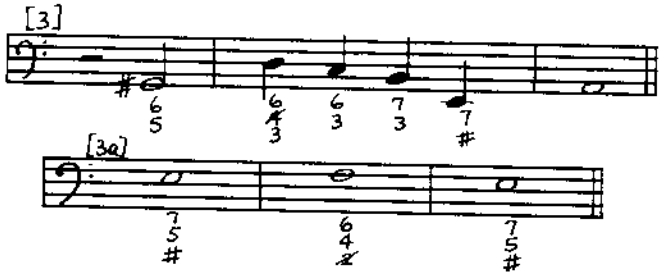
Resolution of a bass figure 2 to another figure 2



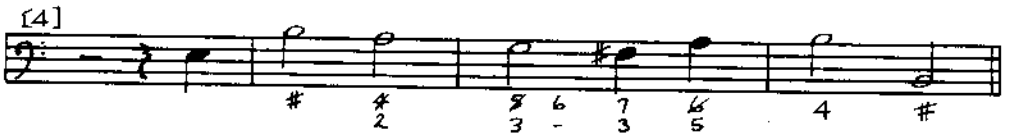
The ♭7 is resolved by a chord



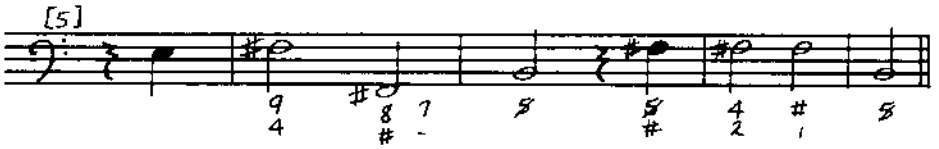
The inverted chord of the fifth takes on yet another third



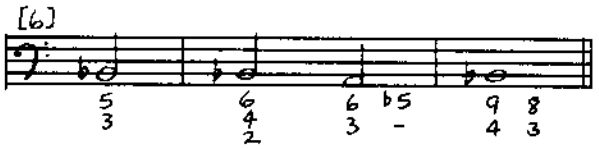
The origin of the augmented fifth and its resolution



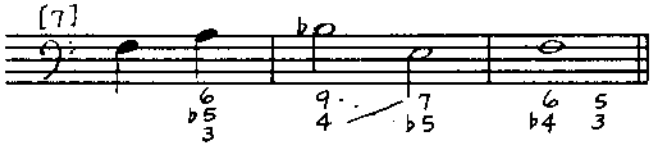
The difference between the $\frac{9}{4}$ and $\frac{4}{2}$ chords



The same chords in another example



Resolution of the $\frac{9}{4}$ chord to the $\frac{7}{5}$ chord

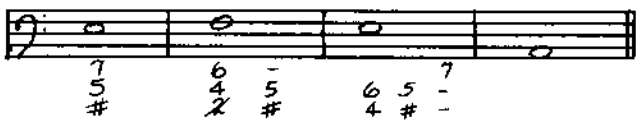


I could add more to the passages shown here if I wanted to lengthen this treatise. [But] a beginner is able to see enough from this to prove that the source of all these and even more passages is founded on my three primary chords. To prove this I will explain these examples: The $\flat\frac{6}{4}{}_{2}$ chord is always produced by a repeated bass note (as shown in the first example above)[12] and resolves with the same bass to a $\frac{5}{3}{}_{1}$ chord, which would be a chord of the fifth in the key of this example. In its place, however, the last inversion of the chord of the fifth occurs, whereby two $\frac{6}{4}{}_{2}$ chords arise. The following rule results: <u>When the harmonies resolve regularly, the bass occasionally can move irregularly, if</u>

[12] See ¶5 above.

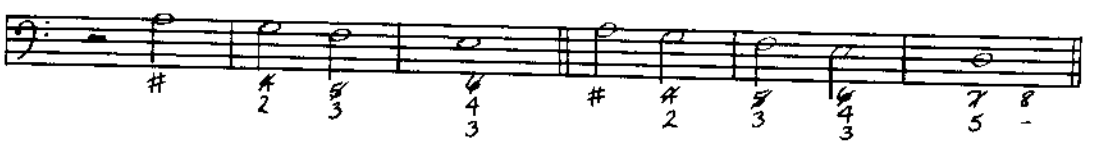
the main dissonant interval is resolved regularly in the following chord. In this example [the first one] the first second should resolve to a unison, but this interval is changed to another second in the next chord, and the three upper voices resolve normally. The diminished seventh in the second example resolves to a sixth as the bass is held, or to a fifth if the bass ascends a half step, that is, to the key-note or chord of the fifth. But here it resolved to the last inversion of the chord of the fifth, which is the same thing.

In the third example the F is added in the second chord. From that the following rule is derived: When a main chord is repeated, a foreign tone can be added, or a new note can replace an old one and remain in it until it moves on with the complete harmony. The next example [3a] shows that the harmony of a chord can stay the same while the bass changes irregularly. Either this new bass must yield to the old bass, or the harmony can change from $\frac{6}{4}_{2}$ to $\frac{5}{3}$ above the new bass. The $\frac{5}{3}$ chord then becomes $\frac{6}{4}$ when the bass returns to the first note, whereupon, with complete resolution, the restoration of the first chord follows with $\frac{5}{3}$ or $\frac{7}{5}_{3}$:



In the fourth example one sees that an augmented fifth is produced merely by holding the upper voice. This occurs when the major third of the chord of the fifth is held in the upper voice while the bass moves down to the minor third of the key-note chord (in minor keys). This major third must resolve to the sixth above the bass [which is the third of the key-note chord]. In general, this interval is to be considered as merely an embellishment or delay of the upper voice. But if one wants to resolve it in another way, the bass can move one or two steps lower, where the augmented fifth first becomes a sixth and then a seventh, and must be resolved to the octave above the bass.[13] One could also change this fifth to a diminished fifth.[14] This would happen if the bass were to move from the third of the key-note chord up a half step while the fifth above it were held; then the key-note chord would become the chord of the fifth in the key of the fourth. The resolution would be to the [new] key-note:

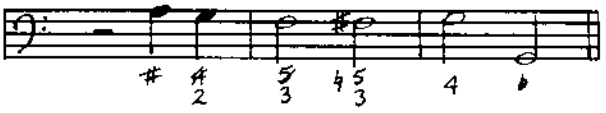
First way Second way



[13]See the "Second Way" in the following example.

[14]See the "Third Way" in the following example.

Third way to resolve [the augmented fifth]



The fifth example[15] shows once again that the $\frac{9}{4}$ chord originates when one interval of the previous chord is held over into the next chord, which in this example turns out to be the third of the E chord. It also shows that the $\frac{4}{2}$, on the other hand, would have a completely different origin, when it is produced by the bass having been prepared by a common tone (F-sharp in this example) and held in the next chord. In spite of such different origins, both of the chords have the same resolution on the keyboard. The only difference between this example and the sixth one is that in the latter, the bass must move down a half step because of its $\frac{6}{4}{}_{2}$ harmony, and especially because of the augmented fourth. The resolution of the ninth is the same as in the fifth example. The seventh example shows that a $\frac{9}{4}$ chord could resolve to another chord if only the required octave and third are present in the chord of resolution, as is the case here.[16]

¶18.

Whatever might have escaped notice will be added according to the examples discussed here by anyone who knows my

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[15] From the seven examples in ¶17 above.

[16] The "required octave and third" are the B-flat and D-flat in the resolving diminished seventh chord.

three primary chords, their inversions, as well as the normal resolutions of all dissonant intervals. These are:[h)]

The augmented ninth resolves upward to the tenth.

The major ninth resolves downward to the octave.

The minor ninth resolves downward to the octave.

The diminished octave resolves downward to the minor seventh.

The major seventh resolves upward to the octave.

The minor seventh resolves downward to the sixth.

The diminished seventh resolves downward to the sixth.

The augmented sixth generally resolves to the octave: the upper voice moves up a half step and the bass, down a half step.

The major sixth moves to the fifth when the bass is held; but when the bass moves up a [whole] step, the upper note descends a [whole] step and produces a fourth.

The minor sixth resolves to the diminished fifth when the bass is repeated; but if the bass moves up a [half] step, the minor sixth descends a [whole] step to form a fourth.

The augmented fifth resolves upward to the sixth.

The diminished fifth resolves to the third when each voice moves a half step inward.

The augmented fourth resolves upward to the sixth; that is, the upper voice moves up a half step, while the bass moves down a half or a whole step.

The perfect fourth should proceed to the major or minor third.

The diminished fourth resolves to the minor third.

The augmented second resolves to the third (1) when the upper voice moves up a half step as the bass is held, or (2) when the upper voice is held and the bass moves down a half step.

The major second resolves to the third when the bass moves down a half step and the upper voice does not move.

The major second can also resolve downward to the unison.

The minor second resolves in like manner to the unison.

The resolution of both seconds occurs when the bass is stationary; the harmony was $\frac{5}{3}$, followed by $\frac{4}{2}$, resolving to $\frac{3}{1}$, which was already shown above.

> h) This means that when the bass does not move, the resolution occurs above this bass voice or bass note, but [that is not true] when the bass moves. The three names, large [grosse], usual [ordentliche], and small [kleine] ninth are elsewhere called augmented [übermässige], normal [gewöhnliche], and reduced [verkleinerte]--or sometimes small [kleine]--according to the requirements of the key.[17]

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[17]As noted in the Commentary, interval qualities have been translated according to current standard practice.

¶19.

The resolution of all dissonances can be accomplished in the following ways: (1) regularly, as these examples show; (2) irregularly, when they are not resolved immediately, but are resolved by another dissonant interval and by a leap of the bass, and also when they are displaced by an interval of the harmony of the bass; and (3) very irregularly, when the dissonant interval resolves not to the following chord in its own key, but either to the chord of the fifth or key-note chord of another key. That is to say, the bass is repeated and has a major third instead of a minor third, or one interval is changed, or the bass ascends or descends to an inversion of a chord outside the key.

¶20.

In the execution of the last two ways one must take care that the particular tone of resolution is in the harmony of either the familiar or the new chord; if the bass itself is that tone, it ascends, descends, or stays the same, or modulates to a new key at will. Then the resolution still occurs according to the rules of composition, as has been illustrated sufficiently in my examples.

The Seventh Chapter

ON UNCOMMON RESOLUTIONS

¶1.

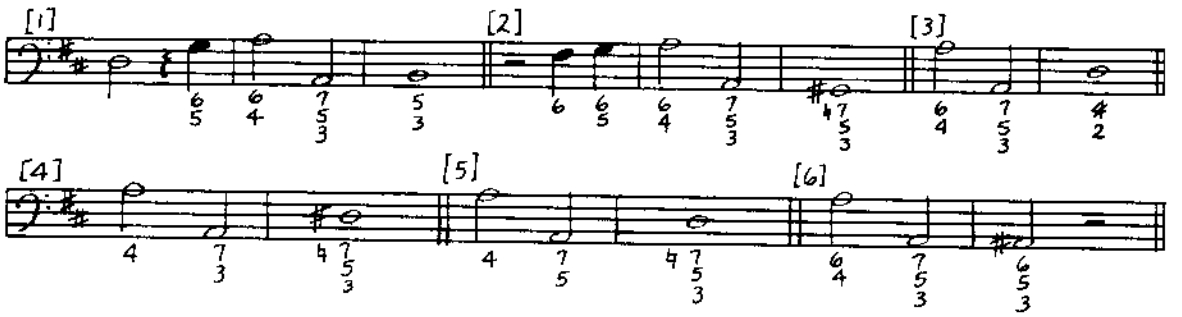
Uncommon or strange resolutions are those chords which are used in the place of natural chords (which occurred according to the three primary rules).

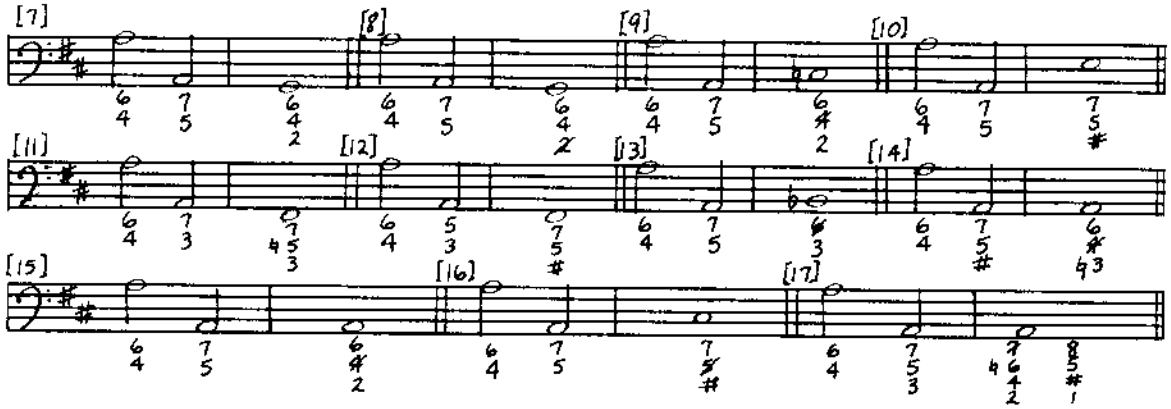
¶2.

Every chord of the fifth resolves to its governing key-note. For example, the key-note chord, D, follows the chord of the fifth, A, naturally. But when the key-note chord of the second closely-related key [B minor] follows the chord of the fifth, this progression is extraordinary and unnatural. Consequently, it is one of [those described in] the first paragraph.

¶3.

I would like to begin with the uncommon resolutions of the chord of the fifth. There are many ways in which it can resolve:[a)]





The first resolution of the chord of the fifth of the key of D major is to the B minor chord.[b] Others, [the second and third resolutions], go to the key-note, which is accompanied by the harmony of the chord of the fifth of A major. The fourth resolution is to the chord of the fifth of E minor, with the retention of the minor third of the chord of the fourth of that key. The fifth progression resolves normally to D, except that a minor seventh replaces the octave in the D chord; this indicates the chord of the fifth of G major. In the sixth example the resolution is to the chord of the fifth of B minor. In the seventh, it is to the [third] inversion of the chord of the fifth and consequently is to be seen as a delay in the progression. But since a regular approach to the cadence preceded, in which case one expects the key-note [chord], this chord creates simply an uncommon resolution.

The eighth progression again retains the previous chord of the fifth, but uses A-flat [sic][1] instead of A, which

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[1] A-sharp.

indicates a modulation to B minor. The ninth resolution is to the last inversion of the chord of the fifth of G major. The upper voices have the entire harmony of the normal resolution chord; only the bass is changed. The tenth progression is to the chord of the fifth of A major. In the eleventh, the bass moves down a third to form a $\sharp\frac{7}{5}_{3}$ chord, which indicates G major. The twelfth is to the chord of the fifth of B minor. The thirteenth is quite extraordinary: both the bass and the seventh above it ascend a half step, producing the augmented sixth, the resolution of which I have discussed in the previous chapter.

In the fourteenth example the bass is repeated with $\frac{6}{\sharp 4}$ harmony, which borrows the minor third from the chord of the fourth and the $\frac{6}{4}$ from the chord of the fifth of E minor. The fifteenth is almost the same; the bass is repeated and contains the entire chord of the fifth of E minor. The sixteenth is also special, because the bass leaps up a minor third [sic][2] to C-sharp and is harmonized with the chord of the fifth of F-sharp minor. In the seventeenth example the bass is repeated and the upper voices form a diminished seventh chord which resolves to the chord of the fifth.

a) The Italians called these uncommon resolutions of the chord of the fifth Cadenze ffuggite, which means evaded [entweichende], transitory [durchgehende], and

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[2] A major third.

fleeing [wegfliehende] cadences. Since the key-note is supposed to follow the normal chord of the fifth, these occur when the bass goes to a totally different key-note and chord.

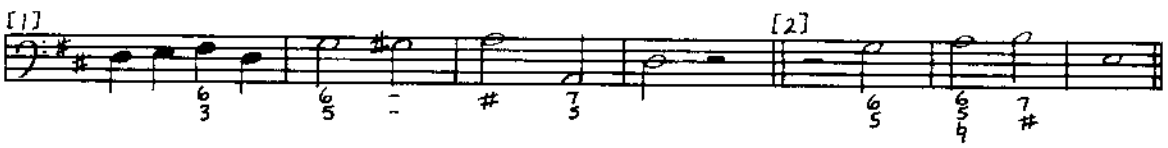
b) There would be parallel perfect fifths, here, A - E to B - F-sharp, if the chord of the fifth had no seventh in it; I have already dealt with this in the third chapter. But here the seventh resolves to the fifth, which is according to normal practice.

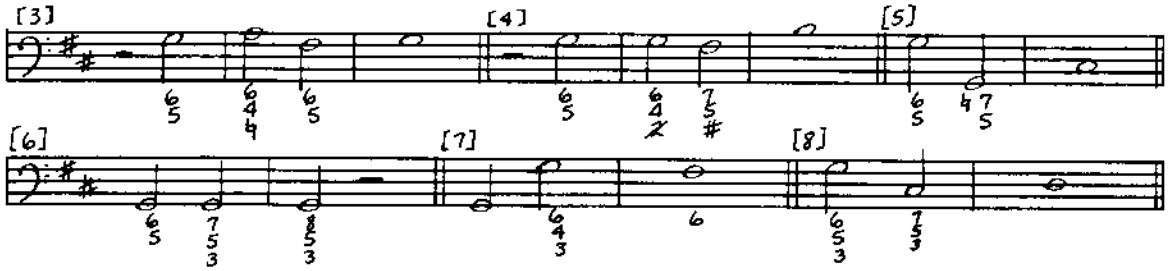
¶4.

These seventeen various resolutions are in vogue nowadays. They generally are used in the cadence or closing formula of the return to the original key, which is followed by the second regular cadence or closing. They are used most often in fugues, masses, and other artful pieces, and, with few exceptions, also appear in chamber and operatic music. An accompanist should know all of them in order to be able to use them in preluding, since they have a good effect.

¶5.

The chord of the fourth also has many resolutions. These are demonstrated in the following examples:[c)]





In the first example the chord of the fourth of D major can be transformed into the chord of the fifth of A major just by raising one note. The progression returns to D major by adding the seventh to the key-note chord of A major. The second example goes from the chord of the fourth of D major to the chord of the fourth of E minor, and from there to E minor itself through its chord of the fifth. The third example also shows how the chord of the fourth may go to the third position[3] of the chord of the fifth of G major by repeating the sixth [sic][4] above the first bass note; this E [sic][5] then becomes the sixth in the second position chord of the fifth.

In the fourth example the fundamental of the chord of the fourth is repeated but with $\frac{6}{2}$ above it, which along with the following chord of the fifth indicates B minor. The fifth example shows how a seventh replaces the sixth above the bass note, G, and produces the chord of the fifth of

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[3]For the same use of Umwendung, see Chapter 6, footnote 1.

[4]Fifth.

[5]D.

C major, which resolves to the key-note chord of C major. In the sixth example the sixth in the first chord is replaced by a major seventh above the second bass note, G; this major seventh resolves to the octave above the third G.

In the seventh example the bass is again repeated, above which the fifth changes to an [augmented] fourth, which produces the chord of the fifth of D major; although the third of the previous chord is retained, it takes its normal resolution to the first inversion of the key-note chord of D major. The eighth example shows that the chord of the fourth can be followed by a leap in the bass. This leap is to the chord of the fifth, which retains the third of the previous chord. Even though this example is nothing but an inversion of the $\begin{smallmatrix}6\\4\\2\end{smallmatrix}$ chord [sic][6] in the previous example, it is even less familiar than that example and usually appears above the chord of the fourth with the fifth omitted.

> c) The reason for not illustrating these chords in their order of progression (the chord of the fourth preceding the chord of the fifth) is that, first, the chord of the fifth is essential; no melody can be found in which the chord of the fifth does not always precede the key-note chord, but many passages can be found in which the chord of the fourth is left out. Second, the chord of the fifth is subject to far more changes than the chord of the fourth.

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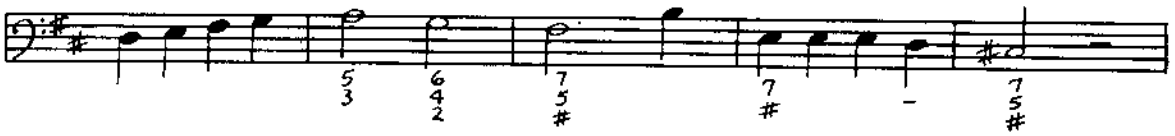
[6] It is an inversion of the chord of the seventh example.

¶6.

The following examples also show irregular resolutions, which appear more frequently in today's church music and have a special effect:

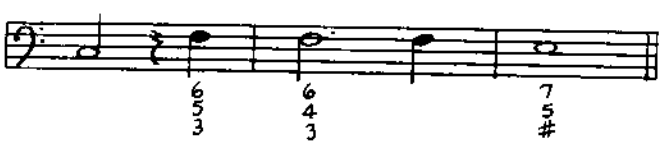


After the second chord in the second measure, one expects the first inversion of the key-note chord of D major, but instead, the chord of the fifth of B minor is inserted. The only difference between this and the previous chord is that the A is sharped in the chord of the fifth, producing a major third. The chord of the fifth of A major resolves in the same way at the end of this progression.

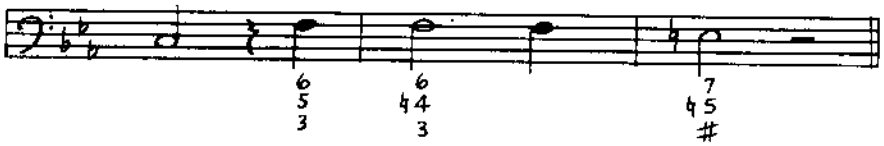
¶7.

When the chord of the fourth is repeated with the fifth changed to a raised fourth [and all other voices held], the resolution [illustrated above] can also take place. In a minor key this is done quite smoothly:[d)]

In a major key



In a minor key

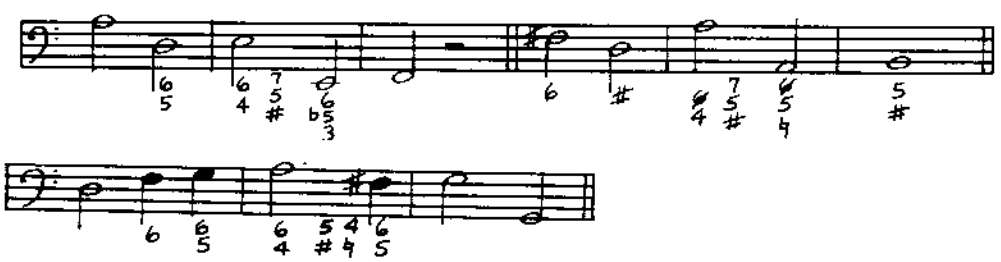


The resolution of the $\begin{matrix}6\\4\\3\end{matrix}$ chord in the first example is more deceptive aurally than the previous progression. In minor keys it sounds more pleasant when the minor third, which is a flatted note, is kept oblique by changing it enharmonically to a sharped note. Consequently, because there is no enharmonic genus, there is no change in harmony except that the bass goes down a half step.

d) Bach and Handel used these passages often in their keyboard pieces, as is seen in their printed works and manuscripts. Nowadays one encounters these and the following examples in almost all categories [of music].

¶8.

A chord of the fifth may also change to an unusual chord as the bass is held; it then resolves to a remote key-note:



These progressions have quite a special effect when the upper voice has a trill in the first key which is changed and seeks

another key. For example, in the first passage the trill is on C - B-natural or A - G-sharp in the chord of the fifth of A minor, after which it is repeated on C - B-flat or A - G. This change sounds both very pleasant and yet unusual. The second example retains the usual trill in the tenor without change, but the bass has a sixth instead of a seventh. This changes the chord of the fifth to the chord of the fourth of the second key, which, in this case, is E. In the third example the chord of the fifth goes to the chord of the fifth of the key of the fourth. The trill in the discant occurs first on the major third, and then on the minor third through which this change of key comes about.

¶9.

If a diminished seventh is present above the third of the chord of the fifth, the origin of which I showed in the previous chapter,[7] a pleasant change comes about when the bass moves down a half step instead of up a half step, producing the $\begin{smallmatrix}6\\4\\2\end{smallmatrix}$ chord--the complete chord of the fifth of C minor. Because this chord of the fifth of C minor is similar to the key-note chord of G minor, it can replace the G minor chord and resolve the diminished seventh interval:

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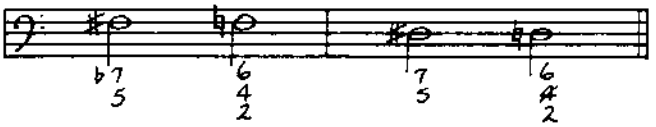
[7]Chapter 6, ¶12.

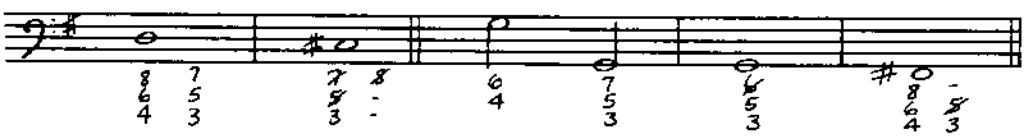
Resolution of the diminished seventh to a $\frac{6}{4}$ chord



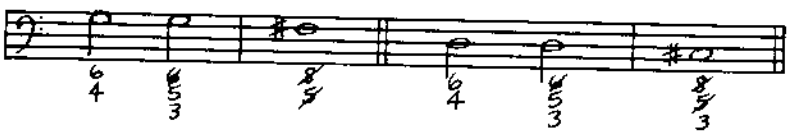
¶10.

These and the previous examples are useful and are encountered often. The more uncommon they are, the more eager one is to give them attention. The following examples belong in that category also:

Special resolution of the seventh



Here, one is tempted to say: what an extraordinary and outrageous passage. But the puzzle is quickly solved when one determines whether the ear can differentiate between C and B-sharp--on the keyboard, that is.[e)] If there is no difference, then these modulations and resolutions to C-sharp and F-sharp are proper and are done according to the rules; the ear itself will agree with this. Renotating the numbers enharmonically can make it clearer although it sounds the same:



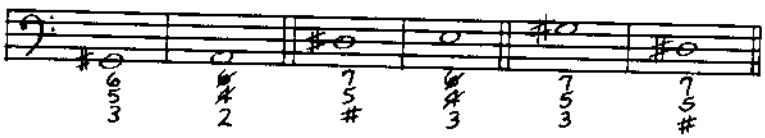
One can see that even though these passages are extremely unusual, the resolutions are nevertheless correct. Their strength and energy are found especially in recitatives.

> e) I wish, of course, that a better temperament were available, and also that keyboards were organized in a different way. This could be done on the organ with the help of three manuals, and thus the enharmonic genus, which previously has existed only on paper, would not be completely lost. The small difference, which is perceptible on the violin, cello, etc., and also on wind instruments--this really is based on fingering--is not to be considered; the organ and clavier are the main instruments, to which the voice and instruments should conform. But for this it is a futile wish, as long as one discovers upon investigation so many mistakes and shortcomings which work against pure tuning in the performance of a piece. If both teachers and pupils would require the use of mathematics in music (as much as is necessary), then composition and performance would be much clearer and more appreciated. The enharmonic genus would prove to be of greatest use.
>
> Is it not a beautiful ornament when a singer holds one tone and pulls it up one step by lowering and raising [the pitch] gradually, so that the listener does not hear the half or quarter tones in between? What

really happens is that because the enharmonic interval is found between these two notes, it is heard anyway. One also sees this when, in transposing a piece, it sounds better in one key than in another. One might make an experiment: transpose a piece from the key of E major down a third to C major. What difference or different effect would there be? This is done often, for example, in the performance of an opera, when a singer has to transpose an aria. Everyone has had this experience.

¶11.

The following progressions might also seem very strange. But they are not as peculiar as the previous one. In any case, [each of] these chords resolves to a related chord:



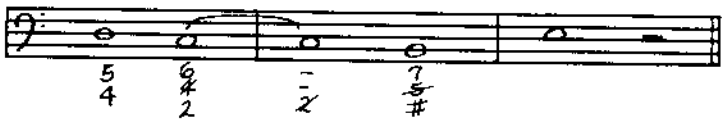
The first inversion of the chord of the fifth should go to its key-note chord, A minor (first example). But instead it resolves to the chord of the fifth of the second closely-related key which, in this example, would be E minor. Two tones from the first chord are retained in the second chord, and one of them--the fifth--is sharped and becomes a fourth in the second chord.

The second example is somewhat similar to the first, in that only two tones are altered. The first chord is the chord of the fifth of E minor which has a seventh instead of the usual sixth. Normally, this chord should resolve to the key-note chord of E minor, of which only the fundamental and third are present with two foreign intervals added, an augmented fourth and a major sixth. These additional intervals are from the chord of the fifth of B minor, and because they are particularly prominent, this whole harmony is in the key of B minor.

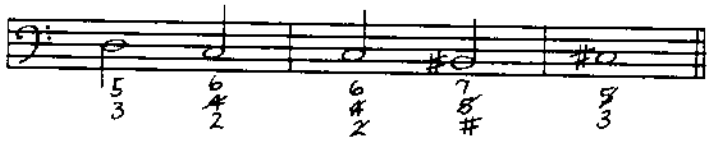
The third example is somewhat less familiar. The first inversion of the chord of the fifth of A minor with a diminished seventh above it goes to the first inversion of the chord of the fifth of E minor instead of to A minor; likewise, it has a diminished seventh above it, and is a first inversion just as the preceding one was. Who would think that the inversion of the chord of the fifth of A could resolve to the [chord of the] fifth of E? From this comes the following rule: <u>When two notes in the upper voices resolve normally, the bass can change freely and take on a sharp or flat from outside of the key</u>. This may be seen here, since the third and fifth of the first chord resolve correctly down a step--that is, to the fundamental A and its third, C.

¶12.

If the bass note of a chord were to be held and only one sharp were to be added to an upper voice, thereby producing another key, such a progression would belong in the category of special resolutions:



Or in the following way

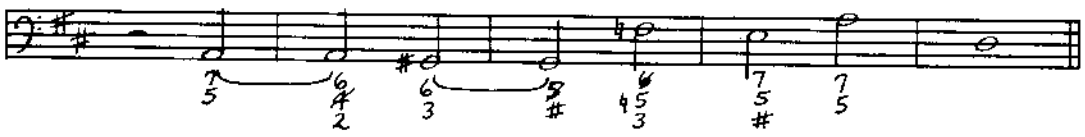


The first example needs no further explanation, but [the second one] is different because the chord of the fourth in this example has been transformed into the [first] inversion of the chord of the fifth of C-sharp by retaining the harmony of the previous chord, which only differs from it visually. This altered chord is legitimate according to the rules insomuch as the difference in the enharmonic genera is perceived only with the eyes (as I have already mentioned in footnotes). Thus nothing can be said against even this modulation. It is quite a good exercise when one plays immediately after a chord another one which is [enharmonically] changed, in which [case] it is never possible to perceive any change in intervals (as the bass seems to

indicate). This may be seen here, since there is an augmented second above C, and over B-sharp (which is the same as C on the keyboard) is to be found a third, which must also be D-sharp. The F-sharp was the augmented fourth in the previous chord, but here it is a [diminished] fifth. Whoever has not recognized this imperfection will not know what to do when a case arises with chords that have been altered in this way, or what he should do with this third and fifth. He will not grasp quickly the fact that the previous augmented second and augmented fourth could be the same as the third and fifth, although the new bass has not moved (on the keyboard).

¶13.

Whoever has enjoyed these uncommon modulations and chords will also not be offended by the following. These passages are quite peculiar; no passage is found in them which is resolved according to its key, yet they are common and are allowed:



From the rules I have given, it is well-known that every chord of the fifth has a seventh, and indeed that every chord of the fifth can resolve to another chord of the fifth (which two perfect key-note chords cannot do). Here one finds that

the first chord is the chord of the fifth of D major which proceeds irregularly to the chord of the fifth of E minor; following this is indeed the first inversion of the E minor chord, which is really the chord of the fifth of A major. Then the bass is tied, the third of the previous chord is sharped, and the sixth resolves to a fifth, all of which change it to the chord of the fifth of C-sharp minor. Instead of going to the key-note chord, the bass leaps up to F. The major third is transformed [enharmonically] into a fifth [C], and the perfect fifth [D-sharp] is held over, but it becomes an augmented sixth because of the bass ascent [to F]. This chord is one of the least common; I have already given detailed information about it in the first chapter. Because of its harmony, especially the augmented sixth, it should resolve to the key-note chord of E minor, but in this case the chord of the fifth of A major is inserted and takes its place. After this comes the first chord, the chord of the fifth of D major, which takes the place of the A major chord, and the example closes on the key-note D major chord. These are very unusual resolutions. They are based on the above rules, and whenever they depart from the rules, individual usages have been discussed.

¶14.

It is not my intention to catalogue all uncommon progressions. I believe that one who begins thorough-bass has enough

in the examples which I have given and analyzed.[f] If one knows the three primary chords, their common as well as uncommon resolutions, and if one has practiced them through frequent transpositions, particularly in the four main clefs [bass, tenor, alto and soprano], then this practice and these examples will be enough inducement to find even more [such progressions]. The number of extraordinary passages is smaller by far than the number of different kinds of chords which one finds nowadays in other books. Nevertheless, the greatest part of those results from the inversions of my three primary chords.

f) Whoever desires to learn more can consult the works of Mattheson, such as Die grosse Generalbassschule, Die kleine Generalbassschule, Der vollkommene Kapellmeister, etc. Heinichen's treatise can also be consulted. There are even more writings which show a large number of all kinds of chords. This is against my nature; otherwise I would have borrowed material from them. What I have written here was drawn from my own experience.

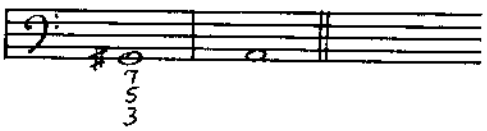
The Eighth Chapter

ON HOW MANY WAYS A DISSONANT CHORD CAN BE RESOLVED

¶1.

I have already shown in previous chapters the resolution of dissonances to the three primary chords as well as to other chords. I have also pointed out how one can go from one dissonance to another. But how and in what various ways a single dissonant chord can be resolved has been mentioned only briefly. This knowledge is especially necessary to an organist, so that in any situation he can go quickly from one chord or key to the remotest [key] without the result sounding offensive. Forthcoming charts will show more about this. It is the diminished seventh chord which is subject to the most changes. It can be resolved into various keys. The following example shows this:

First resolution of the diminished seventh [chord]

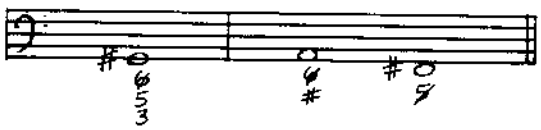


¶2.

This chord normally resolves to the key-note chord of A minor. If one wants to resolve it to F-sharp minor, he

changes the figured bass; that is, the diminished seventh becomes a major sixth (F becomes E-sharp). But on the keyboard the chord is enharmonically the same:

Second resolution to F-sharp minor



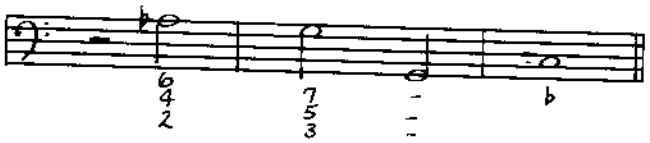
To the ear this is the same chord as in the first example. The diminished seventh must be changed to a major sixth only on paper, because in every key, major as well as minor, the seventh scale degree [Intervall] (or the third of the chord of the fifth) should form a major seventh with the key-note, and in F-sharp minor the third of the chord of the fifth is not E, but E-sharp [E ♯]. (What good is the other designation, E-sharp [Es], since it does not exist, and what is the real difference between E-sharp [Es] and F?). Thus even here it must be considered to be a major sixth, and this chord can be called none other than the second inversion of the chord of the fifth of F-sharp minor, even though the fifth of the chord, D, belongs to the chord of the fourth of this key. Meanwhile, this tone from the chord of the fourth (namely the third of the chord of the fourth) appears very often in the chord of the fifth and in view of its resolution is used as a note that really belongs to it. It is resolved, together with the rest of the chord, to the key-

note chord, or to its first inversion, as is seen in this example. The two diminished seventh chords do not sound different, except in their resolutions.

¶3.

This same diminished seventh chord can also be changed by using a flat, and in spite of this change, the harmony remains the same as the last form; only the figures show the change:

Third resolution to C minor



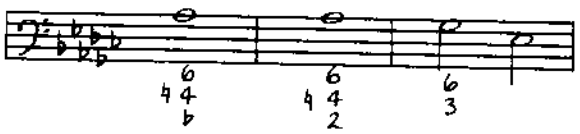
Here the only change is the enharmonic change of the G-sharp to A-flat, which makes the previous [minor] third appear as an augmented second. However, this change is not to be ascribed to the [sound of the] transformed interval; rather, [it is only] because the G-sharp, now designated with a flat, is pushed to a higher position on the staff, since the previous third has been changed so that the G-sharp, which was in a space, is now designated as A-flat on a line. A third cannot occupy such a narrow space visually; instead, it must content itself with being an augmented second. If the enharmonic genus truely existed, it would rightfully take this position anyway, since this A-flat would have to be higher than the G-sharp. It may be seen that the resolution of

this chord consists merely of the descent of the bass by half step while the other voices all remain the same. Through this motion of the bass arises the complete chord of the fifth of C minor, whereupon the key-note chord of C minor itself follows.

¶4.

One more enharmonic respelling [Versetzung] which leads to the remotest key without changing the complete chord should be considered:

Fourth resolution to E-flat minor



The previous complete chord, which is respelled with flats, appears here. The only difference is that the augmented second in the previous chord is now expressed as a minor third. The augmented fourth resolves to the fifth that follows in the second chord [C-flat - F goes to B-flat - F]. The chord of the fifth of D-sharp minor results [in the first chord] from this particular enharmonic respelling, although the third of the chord of the fourth [B] is retained. Subsequently, this third resolves to the [figured bass] 2,[1] whereby the last inversion of the complete chord of the fifth is produced,

[1]It is respelled enharmonically as an augmented second.

followed by the first inversion and then the key-note [chord] of D-sharp minor itself.

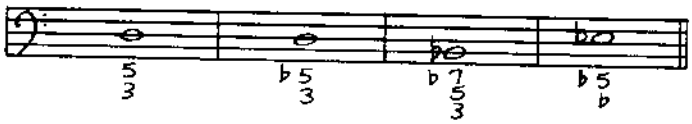
¶5.

Consider how the single chord of the diminished seventh may undergo so many changes of meaning [Veränderungen] without changing the complete chord. Sometimes it appears in its original form, and sometimes one interval is noticeably changed, in which case it puts on a mask, although underneath it cannot conceal its real form from the ear. If it appeared even stranger yet, it would still be recognized by the ear. From what follows it, its nature is revealed. All four changes are natural, and each is resolved according to its key.

¶6.

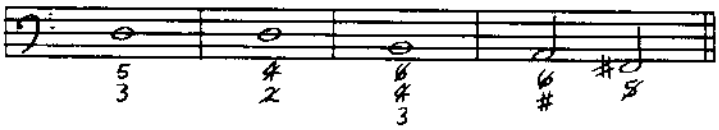
It is particularly noteworthy that all minor keys are more apt to bring about these enharmonic changes than the major keys. One might choose, for example, the key-note chord of D minor.[a)] This is far more suitable for these changes than D major. A modulation from D minor to D-sharp minor would occur as follows:

To go from D minor to D-sharp minor



Here only the fifth of the second chord is diminished. The upper parts remain the same until the key-note chord of D-sharp minor brings about the resolution. The same chord on the keyboard (as in the previous examples) is used to go to F-sharp minor, although different intervals occur:

To reach F-sharp minor from D minor



One finds that the augmented second in the second chord [E-sharp] is the same as the previous F enharmonically, and that the augmented fourth is the same as the diminished fifth in the previous example. The third chord here is merely the inversion of the second chord, just as the last [sic][2] chord is the first inversion of the key-note chord of F-sharp minor.

One can reach C minor or A minor in the same way. This is done by moving the voice which has the perfect fifth down a half step to an augmented fourth; by doing so the chord inverts itself and then goes to the key-note chord of A minor. C minor is different only in that instead of the sharp, a flat precedes the top note in the second chord:

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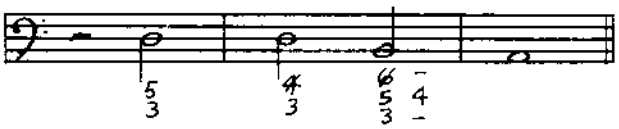
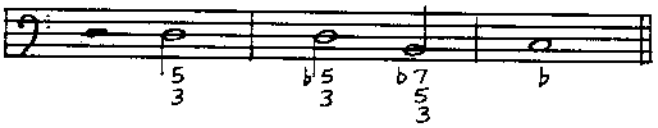
[2]Daube means the next to last chord.

Modulation from D minor to A minor



To reach C minor from D minor



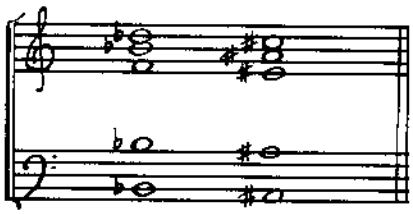
a) I know full well that the minor key-note chord is not a dissonant chord; this certainly should be stated here. But it does not belong to the group of completely perfect chords; only its chord of the fifth, which is the same as the chord of the fifth in major keys, gives it the appearance of perfection. Completely perfect key-note chords are found only in major keys. [Minor key-note chords] are halfway between perfect and imperfect chords. In the past a piece never ended on a minor key-note chord. One still encounters this today, in Evangelical as well as in Catholic churches, where pieces still usually end in major keys, despite the fact that the beginning and the middle are in a minor key. The reason in my opinion is to be found in metaphysics.

¶7.

Those key-note chords which have several sharps or flats can undergo similar changes easily. One may choose B-flat

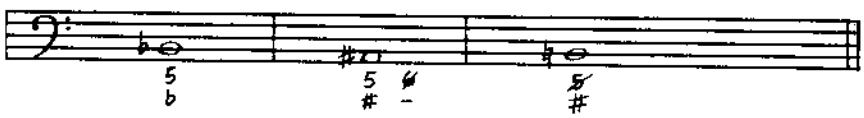
minor, whose key-note chord has two flats, B-flat and C-sharp or D-flat. If this chord were changed to sharps, it would give rise to more enharmonic respellings [Verwechslungen] than in its regular form:

The key-note chord of B-flat minor changed to sharps

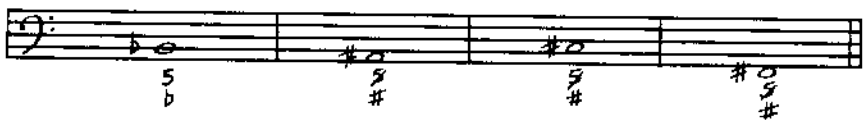


This change can give occasion for a modulation. The top two intervals, as well as the bass, show that one can reach B major quite easily. Also the lowest interval shows that F-sharp major is not far away. To go to G-sharp minor is also possible. Furthermore, if one changes only the D-flat in the first chord enharmonically to a C-sharp, the modulation to D minor would easily be accomplished. It is necessary, for the sake of a beginner, to show all four modulations here:

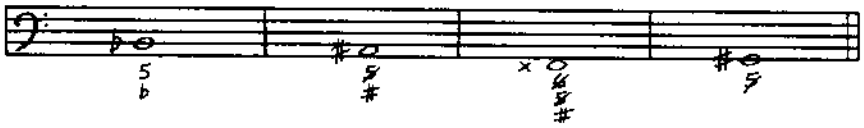
Modulation from B-flat minor to B major



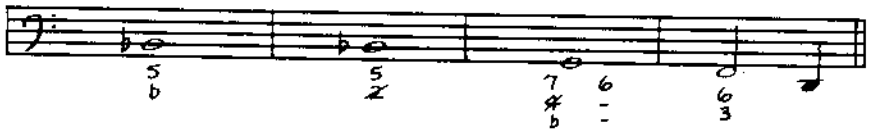
Modulation from B-flat minor to F-sharp major



Modulation from B-flat minor to G-sharp minor



Modulation from B-flat minor to D minor



The first example shows that the sixth which is added with the enharmonic change, results in the chord of the fifth of B major, which resolves normally to the key-note chord of B major. In the modulation from B-flat to F-sharp the second chord is changed [enharmonically] and receives a different interval, namely the fifth, after which comes the resolution in F-sharp. In the third chord of the third example the bass is forced to change and goes down a minor third to F-double sharp (enharmonically, G). A minor sixth is added, producing the chord of the fifth, or its first inversion, of C-sharp minor [sic].[3] It resolves to the key-note chord of G-sharp minor. The fourth example shows that when the third (D-flat) of the first chord is changed to a C-sharp (an augmented second above the bass) in the second chord, and [the fifth of the first two chords becomes a] suspended seventh [in the third chord], (which resolves to

[3]The chord of the fifth of G-sharp minor.

a sixth), then this chord can resolve to the first inversion of D minor.

¶7[a].

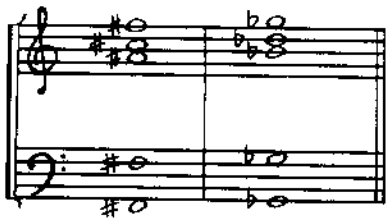
One can observe from these and the previous examples that when chords with flats are changed to sharps, such chords cannot be figured naturally. When a sharp is added to the figures, it does not widen an interval; instead, it prevents the playing of a diminished third, diminished fifth, sixth, etc. In these cases the natural thirds or fifths are always intended. If one wants to express the size of an interval with flats, to prevent its being enlarged by the use of a sharp (for example, when there is a 3 or a 3 above an A-sharp), then one could use the ordinary major third, namely D, which (with the flat) should really be C-sharp. This designation would be out of the ordinary and contrary to the real function of sharps and flats, which is that the sharp always raises a note a half step. Natural signs, not flats, belong in keys with sharps. No sharps can be admitted into keys with flats; instead, raising a note is expressed with natural signs. This natural sign always returns a note to its previous position, as, for example, [the form in which] the notes are found in C major. It also happens that when a sharp is added to a note that is already sharped, the diatonic interval is raised a whole step; but if one wants to take away the second sharp, he can conveniently use a natural

sign, which will return the note to one sharp. Consequently, from this description it is very easy to understand why I did not use a flat among many sharps. Likewise, the reason why I did not use natural signs is that the use of a sharp does not represent the intervals as they are found in the natural form in C major. This remark will become important in the forthcoming charts.

¶8.

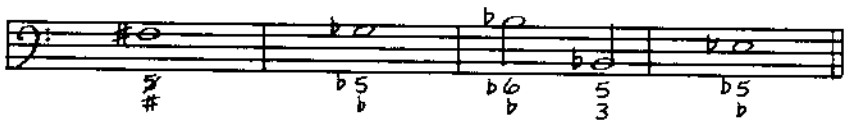
A few major keys can take on changes similar to those of minor keys, especially those which have many sharps or flats. As I have already said, they are stripped of their signs and acquire the look of imprefect chords, especially on paper.[b] One may take, for example, an F-sharp major [chord] and rewrite the chord in flats:

F-sharp major chord rewritten in flats

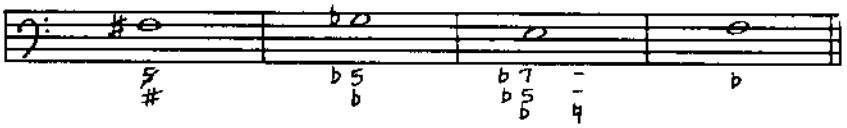


In this form one can modulate to D-sharp minor, to F minor, and to B-flat minor:

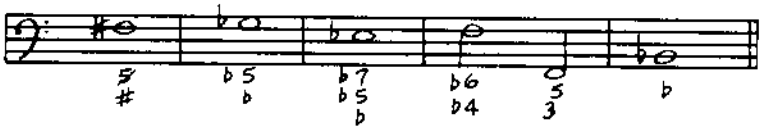
Modulation from F-sharp major to D-sharp minor by the change into flats



Likewise, to F minor

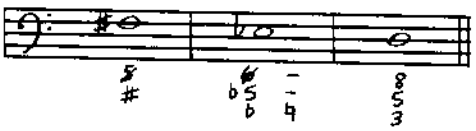


and also to B-flat minor



When the fifth designated by a sharp is held over into the second chord, one can go to D minor:

Modulation from F-sharp major to D minor



From this it is easy to understand how strange such sudden changes must appear to an accompanist, when they occur in figured basses, as so often is found in recitative style. Through this discussion I hope that it becomes easy. In the first example, above the B-flat in the third measure, the $\begin{smallmatrix}6\\3\end{smallmatrix}$ is resolved to $\begin{smallmatrix}5\\3\end{smallmatrix}$, resulting in the chord of the fifth of D-sharp minor, followed by a D-sharp minor chord. I have included this example here merely because of the [enharmonic] change, since I know that these two keys can be seen in sharps as well as in flats. In the second example only the bass in the third measure is changed into the major third of the

chord of the fifth of F minor, after which the diatonic third [above the bass] appears, making the whole progression rather clever; the resolution is to the key-note chord, F minor.[c)] The third example also shows few changes in the harmony. The bass goes down a minor third (or augmented second), retaining totally the harmony above it, which results in the chord of the fourth of B-flat minor, even though the minor seventh does not belong to it, but has the freedom to be suspended to it. The chord of the fifth and the key-note chord of B-flat minor follow normally. According to the fourth example, one can reach the remote key of D minor by changing only a few intervals. Even though the ear is not offended, it does occur by means of a chord which contains the most unusual intervals. The second chord contains an augmented sixth, which is so named because the lowest note, the bass, is not found at all in the key of D minor. The fifth of this chord is really the third of the chord of the fourth of D minor; consequently, the B-flat and the C-sharp belong to D minor, to which the C-sharp (the raised seventh) is the key [Schlüssel]. The lowered third, [G-flat] which does not belong in this chord, resolves to the raised third. Enough! Even this chord has become enfranchised and can function as a chord of the fifth in an emergency, when the key-note chord, D minor, follows after all. I should also mention something about a chord with flats changed into one

with [sharps];[4] but because the previous key-note chord from the major key was written in flats,[5] I thought it unnecessary to place another similar chord from a major key here. He who knows this will also know how to modulate to more keys. One need only see that if one selects a key-note chord which has two, or at least one, sharp or flat, and changes it according to these instructions, the key to which it can best be resolved will be self-evident. Likewise, [one need also see] whether it can be changed to a chord of the fourth or fifth through ascent or descent of the bass, in which case it will exhibit either the third of the chord of the fourth or the invariable major third of the chord of the fifth.

b) I have already explained the word "imperfect" in the second chapter in footnote c) [sic][6] as well as above. To the notion of "imperfection" may be added the lack of enharmonic genus. I do not mean to say that only the keys with sharps or flats are capable of such enharmonic respelling. No! All twenty-four keys can be changed [in this manner]. But this is difficult for a beginner and would cause much confusion.

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[4]The open space in this sentence in the original should no doubt contain a sharp sign.

[5]See ¶7 above.

[6]Footnote d).

c) The diminished third could have remained here without the minor third following it. Although it is counted among the uncommon intervals, which were discussed in the first chapter, here it may appear, along with the diminished seventh, as a suspension, which is resolved in the key-note chord.

¶9.

If a beginner wants to know how many times one can change this [diminished seventh] chord, expressed as $\begin{matrix}\flat 7\\5\\3\end{matrix}$, $\begin{matrix}6\\\flat 5\\3\end{matrix}$, $\begin{matrix}6\\4\\2\end{matrix}$, or $\begin{matrix}6\\4\\2\end{matrix}$, without changing its harmony, and to how many other key-note chords it can resolve without changing that chord from which they all derive, the following chart concerning the diminished seventh chord should satisfy his curiosity. The only chord with the diminished seventh[d] is the one which includes all these different figures in it, figures which result from its analysis and inversion. I have presented it in five different keys, so that one can see how it acts in sharps and in flats, and I have shown first its three inversions and how it behaves when it appears figured differently, where each of its four intervals becomes the major third of a chord of the fifth.

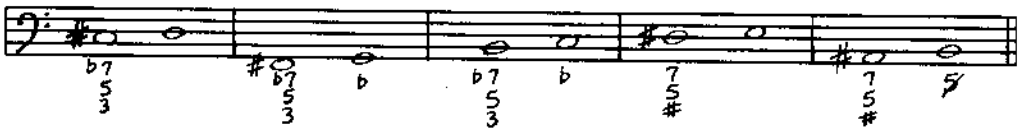
d) I have shown its origin above and have proved that it really is the [first inversion of the] chord of the fifth with the sixth omitted, replaced by the minor third of the chord of the fourth. I have also stated

how many ways it can appear on paper, but here it is shown in its inversions.

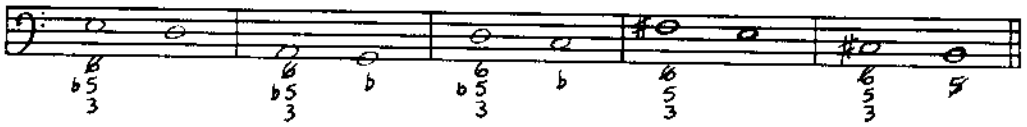
Chart concerning the Diminished Seventh Chord

1. Resolution of the Diminished Seventh Chord to

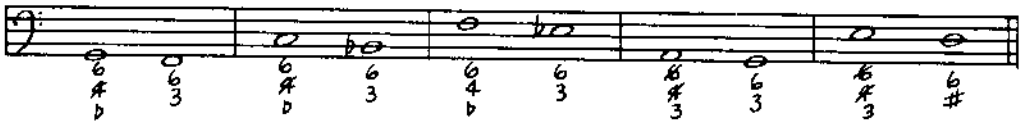
D minor, to G minor, to C minor, to E minor, to B minor.



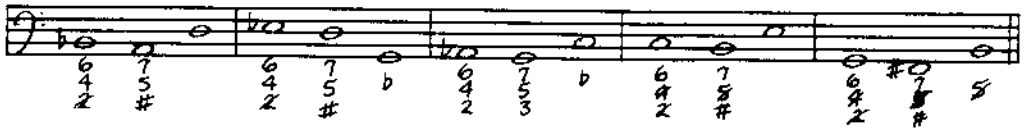
First inversion



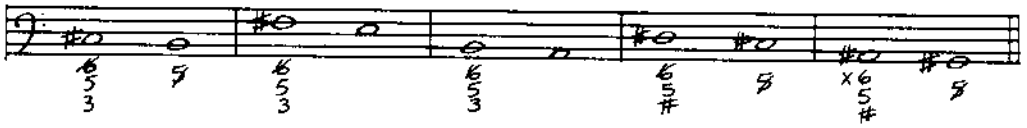
Second inversion



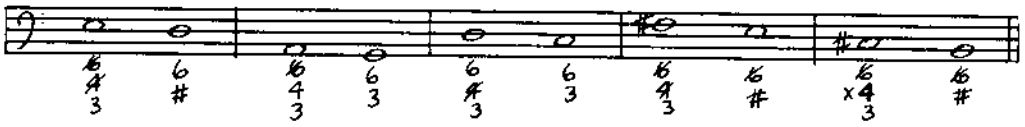
Third inversion



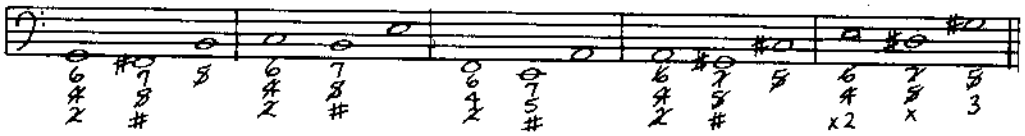
2. Change of the diminished seventh to an augmented sixth.
Resolution to
B minor, E minor, A minor, C# minor, G# minor



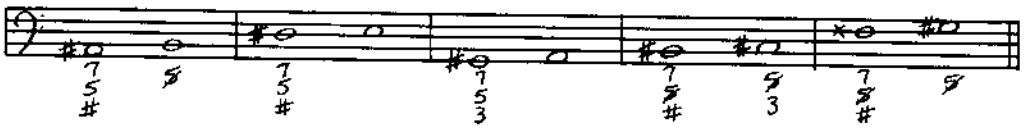
First inversion



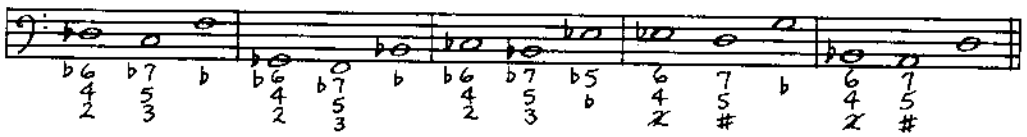
Second inversion



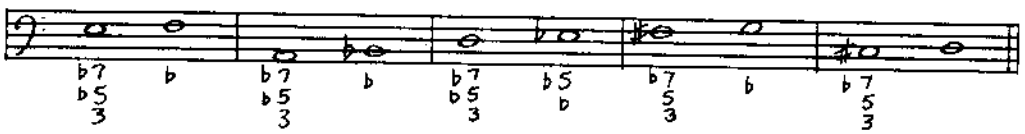
Third inversion



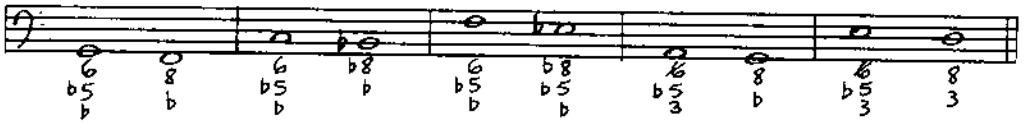
3. Change of the diminished seventh [chord] to $^{6}_{4}{}_{2}$. Resolution to F minor, B♭ minor, D# minor, G minor, D minor



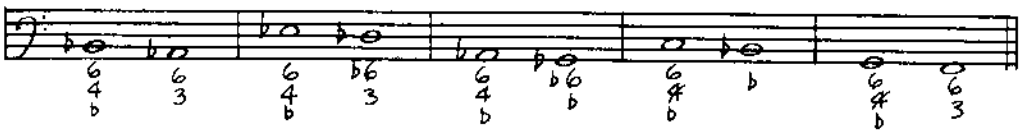
First inversion



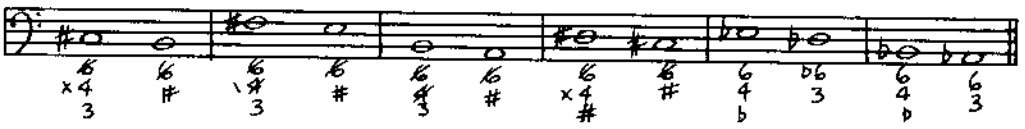
Second inversion



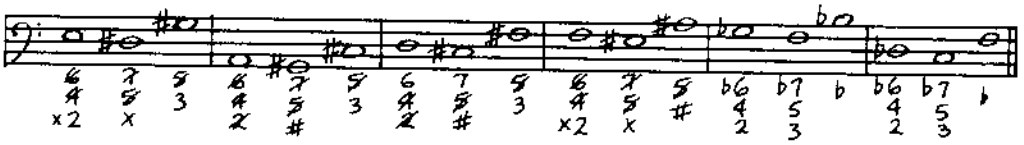
Third inversion



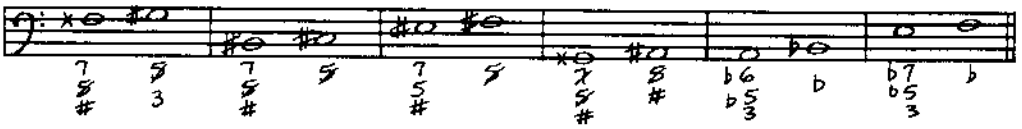
Change of the diminished seventh [chord] to $\begin{matrix}6\\4\\3\end{matrix}$. Resolution to G♯ minor, C♯ minor, F♯ minor, B♭ minor F minor



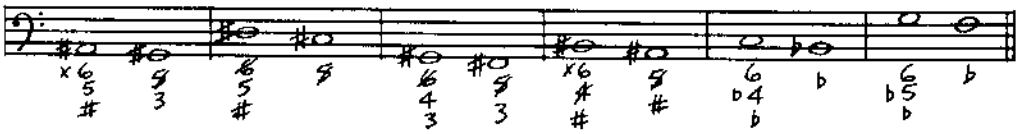
First inversion



Second inversion



Third inversion



¶10.

One must marvel when he considers that sixteen different chords can arise out of one single chord. But this difference is only visual; on the keyboard it is the same chord which,

because it is made up of four intervals, has that many inversions, and according to how the resolution occurs, produces such different symbols. This diminished seventh chord is resolved here in four ways.

First, in its natural form, it goes to that chord upon which it really is dependent. Here I must again recall what I have already mentioned about the origin of this chord: it is nothing but the first inversion of the chord of the fifth of a minor key, which borrows the third of the chord of the fourth, assuming that this third or the bass has preceded. This third of the chord of the fourth joins the chord of the fifth in such a way that most of the time it remains in the harmony and waits for its full resolution. One understands that this third cannot maintain this position completely, because when it is in the bass it cannot remain unchanged until the full resolution to the fifth harmony; instead, the fundamental of the chord of the fifth must replace it. After it disappears, the proper fifth harmony changes to the key-note chord. For this reason I had to put the three possible diminished sevenths sometimes in root position, and sometimes in first, second, or third inversion.

[Second,] in example 2., the [same] diminished seventh chord, remaining in the ear, resolves to the key-note chord of B minor. Here the first alteration is done on paper: The diminished seventh now appears as a major sixth, [thus creating] a change of inversion and name [of one tone].

[The top note] had been a B-flat on the space above the fifth line, but now it is the major third of the chord of the fifth of B minor, A-sharp, located one step lower on the staff. Despite this change in appearance, the diminished seventh chord becomes apparent again when the major sixth is put in the bass, as can be seen in the third inversion in the second chart.

Third, the diminished seventh chord can be seen in still another form when the bass is changed from C-sharp to D-flat, as is seen in example 3. In this new form both the figured bass and the intervals of the chord are changed; ([the upper three tones] actually belong to the chord of the fifth of F minor, of which the augmented second (E-natural) is the major third), except for the bass, which is really the minor third of the chord of the fourth, as I have previously mentioned, and which thereby cannot resolve its whole harmony to the key-note, as is obvious from the bass note of the next chord.

[Fourth] in example 4., the diminished seventh chord appears to be different once again in that its diminished seventh is changed to a major sixth. The fifth, changed to an augmented fourth, shows that the half step above it is really the key-note of G-sharp minor, to which the whole harmony can resolve, especially since the bass, the augmented fourth, and the major sixth are all true tones of the chord of the fifth of G-sharp minor. The augmented fourth is

really the major third of this chord, while the minor third (E) belongs to the chord of the fourth, as I have shown in the preceding examples, although it only resolves with the entire harmony of the fifth to the key-note chord of C-sharp minor [sic]. [7]

This diminished seventh chord, regardless of its appearance, is changed four times and reappears through the inversion of each chord as shown in the description of the second illustration. It is seen in first inversion in the third example and in second inversion in the fourth one.

¶11.

From this one sees that there are as many tones of a diminished seventh chord which, through change of sharps or flats can become the major seventh of one key or another, as there are notational transformations of the chord. For example, in the first chord (C-sharp, E, G, B-flat), C-sharp is the major seventh of D, to which it properly resolves. In the first chord of the second [sic] [8] example, the augmented second is the major seventh of F minor, to which this chord could resolve. The first chord of example 4. shows that the augmented fourth is the major seventh of G-sharp minor, to which it resolves. From this, everyone can see that all four tones of the diminished seventh chord can be changed

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[7] The key-note chord of G-sharp minor.

[8] The third example.

to the major seventh, or major third of the chord of the fifth, of a key. I have even illustrated some spellings with double sharps and double flats to show a beginner that it is important that an accompanist know both forms, and that although they sound the same, the figures are different; they often appear in recitative style in which they give many an advanced musician problems. This quick change can occur easily; after one or more chords with either sharps or flats, the following chord has a sharp or flat even though, according to its nature, the opposite would be more appropriate.

¶12.

According to these instructions and explanations, every diminished seventh chord can be resolved in four different keys and can be analyzed in four different ways. I have shown five varieties of a diminished seventh chord in the above tables so that one can see the difference between expressing that chord in sharps and in flats, and so that by playing it in many keys with changes in accidentals, one may become more adept at playing in the remaining [keys].

¶13.

The use which one derives from learning this is as follows: Because only a few more chords other than the three primary chords and the diminished seventh chord (which was analyzed here) exist which are not included here (I showed the origin of the ninth chord previously), one need only

understand and familiarize himself with these chords and the charts. In this way the path to accompaniment, indeed to a full knowledge of thorough-bass, will be made easy. This is the key to resolving all dissonant chords. In preluding one knows how to use the best inversions, modulations, etc., without effort, as well as the most expedient way to go from one key to the remotest key without the ear sensing a great change. At the same time one learns how each chord should be evaluated: i.e., one knows its derivation. The frequent modulations make it possible to invent many melodies through which one can improvise. One comes, thereby, to the point of being able to assess each piece through [knowledge of its] foundation: that is, by the bass--whether it is figured well or poorly, etc.

In accompanying an unfigured bass it will rarely be difficult to find the appropriate harmony above it unless the whole piece is tied throughout, and no key is fixed except at the beginning and at the end. [In such pieces] the dissonant chords are often left unresolved, and the music often falls into these dissonant chords without the dissonant interval having been prepared. When a piece has such properties, it is impossible to play all of the chords without a figured bass. Similarly, how many are there who want to compose but have very little knowledge; they use passages and chords where they do not belong, so that their works are so full of dark and obscure dissonant chords that no

organization can be found anywhere. A special textbook is required (at least for the upper voices) for the composer to complete it properly. But pieces which are based on a natural melody and which also have an easy and flowing quality may always be accompanied unfigured by using the instructions given here. Consequently, most bass lines will be played well with the help of the three primary chords and this diminished seventh chord--which also owes its existence to these three chords--especially when a few rules which might occur here and there are taken into account.

The Ninth Chapter
ON INTERVALS IN GENERAL, KEY SIGNATURES AND KEY RELATIONSHIPS, TABLES FOR PRELUDING

¶1.

For the sake of beginners I must repeat the instructions on intervals which I presented in the first chapter. There I named the most common intervals, but I did not show that a beginner should learn them to the extent that from a given tone he knows immediately what an augmented third, or an augmented sixth, ninth, etc., from that tone is. In order to know these and all present-day intervals which may occur either with sharps or flats, I intend to provide additional instructions by means of an interval chart. This can help a beginner to learn intervals most quickly and can also help an advanced person to think about them further, because it shows not only the intervals that appear on the keyboard, but also a number of intervals which may appear in the recitative style used today.

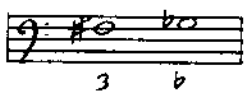
¶2.

The student will see immediately the most common minor and major intervals on this chart and how they are clearly named and explained, if he just follows from the unison over

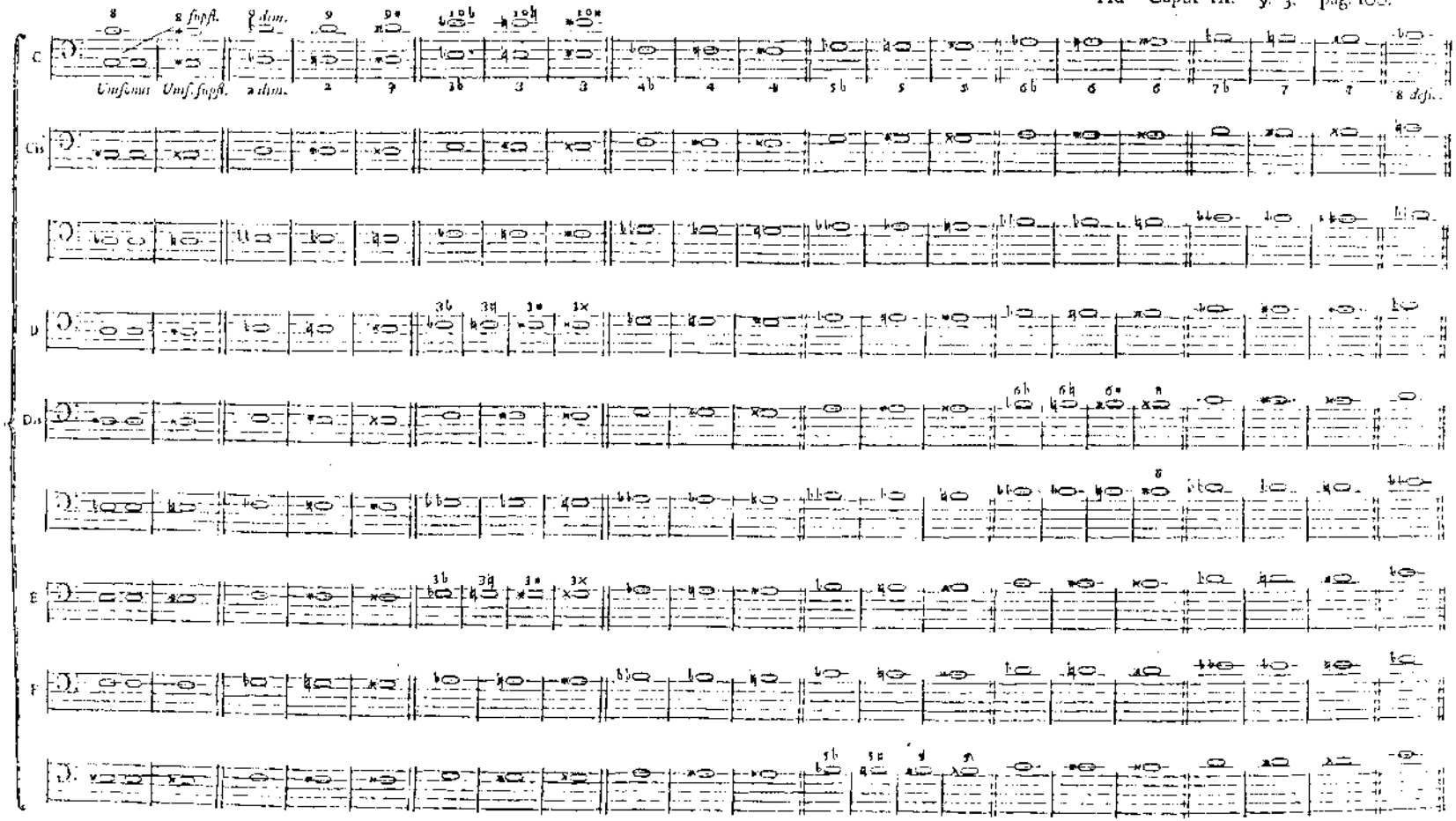
to the right. But since today's taste seems to seek out everything that is unusual, I have found it necessary to include the chromatic and enharmonic intervals. It is a well-known fact that experienced players do not even know what they should play when they see B-sharp, for example, (C on the keyboard) with the symbol "diminished 7"; they might play A-sharp, but this diminished seventh indicates only A-natural. How many figures are there which exist only on paper, as I have stated at times, and will not result from counting staff lines, as beginners love to do. Since these intervals are written out, every accompanist should know them so that he will not play incorrectly, for which purpose this chart will give him sufficient information.

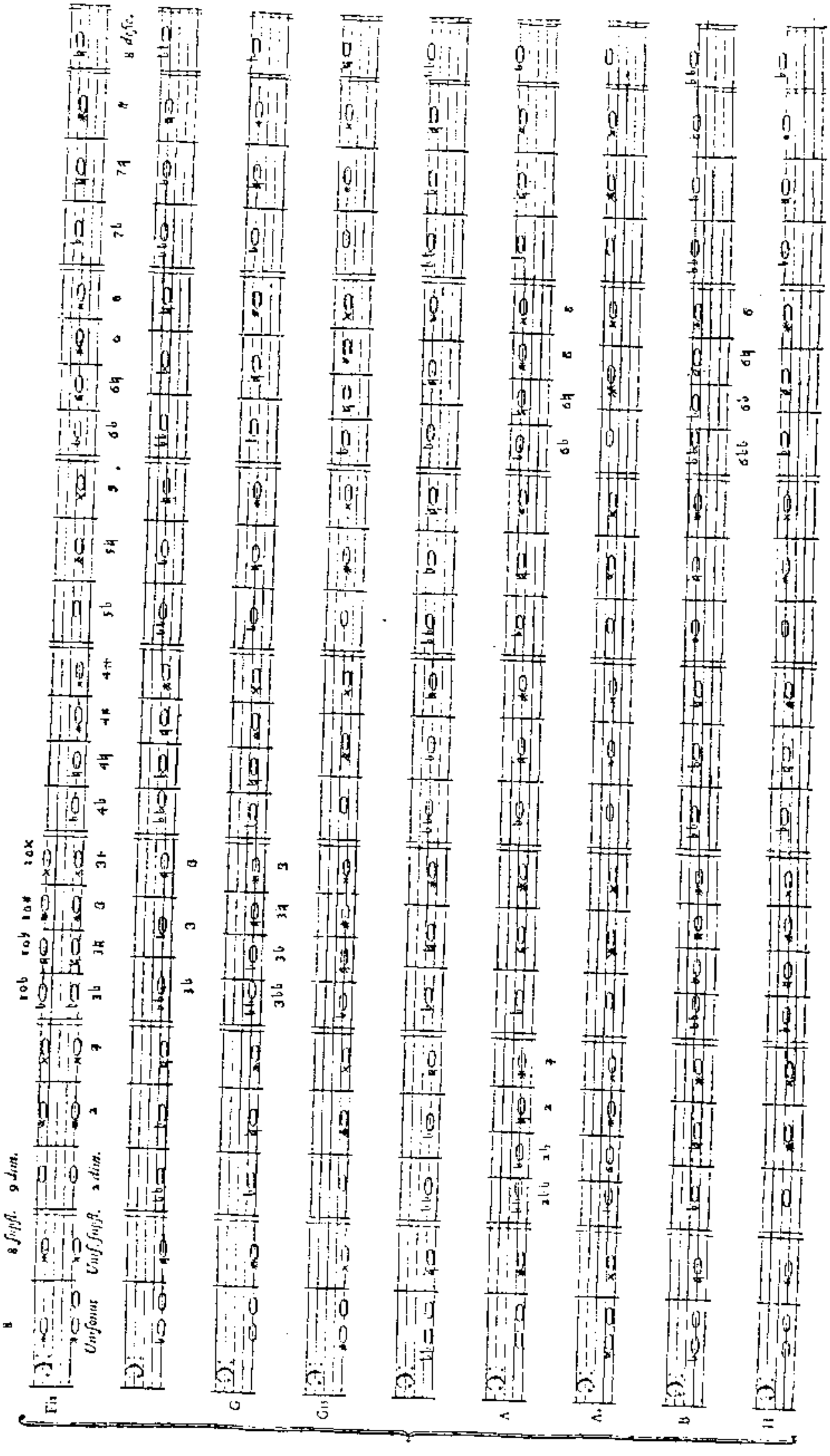
¶3.

It should be noted that when a chromatic note (such as F-sharp) is changed enharmonically (from sharps to flats), the intervals and figures also change, although the harmony remains the same, as this chart shows. I believe also that the numbers are not sufficiently clear, especially in flats. For example, if one takes that F-sharp and its third, A, and changes them both to flats, how can he express this minor third, A, in the figured bass? Should it be as follows?:



A flat written above this G-flat does not properly express the third, A; it could easily be taken for B-flat, according to the staff. The reason is that G-flat is on the same space as G-natural, and A is only one step higher; however, a third requires two steps, so according to the staff, it cannot be an A, but rather must be a B-flat. This reveals that the numbers do not express clearly what they should. Two flats would perhaps make this clearer, but how? When a diminished third (A-flat or G-sharp) is required above G-flat, how can one express this with a number? One would have to use three flats. I will leave this for the judgement of others. Here is the chart.


C
Cis
D
Dis
E
F
Unisonus
Unis. fuppl.
a dim.
8 defi.


Fis
G
Gis
A
B
H

¶4.

It is easy for anyone to see how to use this chart. For example, if one wants to know what an augmented fourth above C-sharp is, he finds first the column that shows the C-sharp and then moves his finger over to the fourth group of notes, which shows the augmented fourth as G [F× on the chart]. Again, if one wants to know what a diminished second above A-sharp is, he finds A-sharp in the interval column, then B-flat in the second group of notes. This B-flat to A-sharp is, to be sure, just an enharmonic interval--that is, the B-flat is the same as A-sharp on the keyboard. A-sharp is really heard and played somewhat higher on wind instruments as well as on the violin. How big the difference is has not yet been proven. On paper it maintains the position of a second. As I already mentioned, in this way one can learn all the intervals shown here in a short time. They are used not only in accompanying recitatives or church music, but in all categories [of music] as well. How often does one encounter figures which he cannot understand without careful examination of the score; but with the study [of the present work], they would become clear. Now I have shown everything that is, in my opinion, necessary to understand this chart. But I must add this: In order to show an equal number of intervals from an existing note expressed with both a sharp and a flat, three flats or sharps would have been necessary at times. However, since this notation is

not yet in fashion, I have left it out on purpose.

¶5.

It is well-known that there are only two basic keys [Urtonarten] in music, the difference between them being that one has a major third and the other a minor third. All other keys which are in use today are based on these two and are nothing other than simple transpositions. For example, one chooses a key which is comfortable for both singers and for the tuning of instruments, and if one wants to play this key a second or a third higher or lower, the composer must arrange the piece in such a way that the high or low register of the voice or of the instrument can be heard. After such a piece is moved out of the original key (with regard to the beginning and ending tone), it must use higher or lower tones.[a)]

a) This is the same as when a painter either copies a picture in its original size, when both sides are in proportion, or he copies it on a reduced scale so that the whole copy becomes much smaller, and its details must be in exact proportion with the original. If it is the latter, it can be called a copy which is different only in size. Should the copy be enlarged, [the same principle] must be observed carefully if it is to be an exact reproduction. It is the same situation in music [Tonkunst]. E major is a reduced copy

of C major; all intervals should have the same relationship as those in C major. It is this way in all major keys. E minor must agree exactly with the interval sizes of A minor. One encounters exactly this in all minor keys.

¶6.

The first basic key [Urtonart] contains the major third, major sixth, and major seventh in its natural scale. Of these three intervals the major third is the true mark of the major key. One can discover the key to which the melody belongs by the major seventh. The major third is characteristic only of major keys. But the major seventh is found in both major and minor keys; consequently, this interval will point out where the melody is going, but it is the third which must reveal whether it is major or minor.

If one wants to move a piece a fifth higher than the original key, this new key must preserve the major third, major sixth, and major seventh if it is to be similar to the original major key. For example, if one chooses C major as the original key and wants to move the melody a fifth higher to G major, three new major intervals must appear, while we retain the [size of the] three intervals of C major. The retained intervals only change their position. Since not all three new intervals are in the regular scale of the previous key of C major (the new major seventh is missing),

this seventh must be raised by the use of a sharp. The key signature of G major comes from this sharp.

If one then wants to move the piece another fifth higher, the third key, D major, is produced. To the previous scale, this key adds its own major seventh, which is its particular characteristic. Through this major seventh the key gets two sharps in the way that the previous key got one sharp. If one goes up by fifths, the seventh of each new key is raised, with all the previous sharped notes remaining. One cannot carry the [process of] adding sharps any further than the key of F-sharp major, which has six sharps. If one did go further through the sharps, double sharps would need to be used. This can be accomplished much more easily by the use of flats.

¶7.

The progression through flats happens when a melody is transposed down a fifth from the original key [Urton] of C major, which is F major. Here one notes that the major seventh of all keys marked with flats is a natural note and consequently need not be raised as in the sharp keys. Only the fourth tone changes; each time it must be lowered a half-step. The fourth of F major is lowered, as I said, and is a B-flat instead of a B-natural (which is the tone found in C major). When the melody is moved a fifth lower to B-flat, the new fourth, E, must be changed to D-sharp. Each

time the melody goes down a fifth, the new fourth must be lowered. This flat marking continues until F-sharp major. This key is the limit of flats and sharps, and for that reason it has the right to be expressed in either sharps or flats, except for its key of the sixth, D-sharp minor.

¶8.

I believe that according to my instructions everyone can grasp the key signatures of all twenty-four keys if he simply begins at C major and progresses six fifths upward, raising each seventh note. If he descends from C major six sixths [sic],[1] he must remember that each time the fourth must be flatted, and [that the process] must end with F-sharp major.[b)] The two different sharp and flat symbols produce the twelve major keys. The twelve minor keys have the same key signatures. Here one should note that every major key has a corresponding [minor] key with the same key signature; they are marked the same; that is, the major key and the key a third lower or a sixth higher are notated in the same manner. For example, the basic key of C major has no sharps or flats. The key of A [minor] lies a third lower and also has no sharps or flats; thus it is the second basic key. It is called minor. If one wants to go through all twelve minor keys without mixing them harshly, he could proceed just as he did in the major keys. The mixture is even better

[1]Six fifths.

when one begins preluding in a major key and goes through two major keys before a minor key is used. But if he wants to begin the piece in minor, then major and minor can alternate. I will have more to say about this later. The continuation or increase in sharps and flats may be more easily seen in the following chart:

There are two basic keys, namely:

C major goes up by fifths,	G	D	A	E	B	F♯ major
and all sevenths are	1♯	2♯	3♯	4♯	5♯	6♯
raised by sharps:						
A minor is under C major	E	B	F♯	C♯	G♯	D♯ minor
with the same key	1♯	2♯	3♯	4♯	5♯	6♯
signature:						
From C major, down by	F	B♭	D♯	G♯	C♯	F♯
fifths; all fourths are	1♭	2♭	3♭	4♭	5♭	6♭
lowered by flats[c]:						
A minor goes a fifth down	D	G	C	F	B♭	D♯
as C major:	1♭	2♭	3♭	4♭	5♭	6♭

b) This key (F-sharp) contains all previous major sevenths in it, namely, from C, the B-natural; from G, the F-sharp; from D, the C-sharp; from A, the G-sharp; from E, the D-sharp; from B, the A-sharp; and its own major seventh, E-sharp. But this notation does not extend any further, because by adding more sharps this number would become much too large and would eliminate

natural intervals or tones, since some intervals would show double sharps, not to speak of the many difficulties it would create for a beginner. If the enharmonic genus were to come into effect again, I believe that the keys with double sharps would be useful.

c) It is easy for those who play the violin to imagine these progressions upward and downward. It is known that the strings are tuned in fifths. If I want to know what a fifth above A is, it is necessary to tune the third string on A and the fourth string on E. If I depress two [adjacent] strings at the same time [with one finger], this always produces a fifth. For example, if I want to know what a fifth above C-sharp is, I would play C-sharp on the violin and simultaneously depress the next higher string [with the same finger], which would produce G-sharp. This is a fifth above C-sharp. To be sure, these remarks also help one learn the rest of the intervals quickly.

One observes that he plays a fourth when he places his second finger[2] on a string and his first finger on the [adjacent higher] string; he plays a sixth when his first finger is on one string and his second finger is on the [adjacent higher] string. A third will be produced when he places his third finger on one string

[2]Daube is referring to violin fingering.

> and his first finger on the [adjacent higher] string, and a seventh, when his first finger is on a string, and his third finger, the [adjacent higher] string. If the string remains open and one presses the [adjacent] string with the first finger, either a fourth or sixth is produced. With the second finger and an open [adjacent] string either a third or seventh results. With the third finger [and an open adjacent string] either a second or octave is heard. After one examines this on the violin, it is very easy to conceptualize all of this and to learn most of the intervals quickly.

¶9.

Concerning the relationship of keys: It is sufficient for a beginner to play in the initial key, its key of the fifth, and its key of the third below, as well as the next most closely-related keys, when playing a prelude. It is to be understood that if the beginning key is major, one should refer to the above rule. If one wants to begin in a minor key, the major key a third above and the minor key of the fifth will follow. It is arbitrary whether the key of the fifth is placed second or third. If one wants to modulate further, he can begin with a major key, go up to the second key, major or minor, and continue to the next suitable key to either the right or left [in the circle of keys]. To begin in a minor key, the major key of the seventh can follow the minor key of the fifth. Only from there

can one find the next keys either to the right or left [in the circle of keys], such as the fourth minor or the sixth major. Here is a rule for the beginner: Do not proceed quickly from a key with two or more sharps into a key with flats. "The more sharps the key has, the greater the care required to change to flats. But the fewer the sharps or flats in the new key[d)] and the closer the new key signature is to the beginning key, the more natural and flowing the song or melody will be."

d) The keys that have many sharps or flats are not excluded here, especially when used by the master composer. However, one must admit that in church, chamber, and opera, more pieces are encountered in simple keys than in chromatic keys. From the beginning nature has preferred the simple over the complex. But the instruments which are supposed to both lead and accompany the singing voice are imperfect. Here one may ask how a singer can sing in all keys. The answer is that when he sings without instruments, the upper or lower limits of the tones to be sung are not prescribed for him; thus, he can always sing in C major or in A minor (depending on whether the melody is major or minor) without the least regard for the sharps or flats in the key signature. Generally a singer needs no more than these two basic keys. His singing can also be transposed into any key.

> But the moment instruments are added, the key is fixed! Then the imperfection of performance is added to the imperfect instruments. If one hears a piece in C-sharp, G-sharp, or F-sharp (or D-sharp minor), as opposed to another one in D, E, A, G, F, etc., in major as well as minor keys, which is going to be more pleasing--assuming that it is well-performed? Another rule is added: "A new key that appears in a good melody should not exceed two sharps or two flats more than the beginning key had. The further the modulation goes, the more the natural melody suffers."

¶10.

I have already said at the beginning that to go from one key to another, one must establish the first key fully, i.e., stay in it a while, and if one wishes to make no formal cadence or closing phrase, the chord of the fifth or its inversion still must be followed by the key-note [chord] or its inversion. After this the key-note chord is changed by holding it over into a dissonant chord to become either the chord of the fourth or the chord of the fifth of the new key, which also may be seen in the following charts. But if one wants to modulate and [play a] prelude outside of the prescribed way, he should heed the following rule: <u>To make an imperfect chord from a perfect one, two intervals must remain and a new interval must be added, resulting</u>

in the dissonance. This new interval must be chosen so that it produces the chord of the fourth of the key to which one wants to go.

The following charts--by means of which one can go from any given key to all of the other twenty-three keys using few chords--were constructed according to these instructions. These charts contain most of the chords found in thorough-bass; all chords are derived from the three primary chords. In part they are the three chords themselves and their inversions. The enharmonic intervals contribute much here by both relating and shortening the distance between two remote key-note chords. For example, if one wants to go from C major to C-sharp major, the C in the C chord is changed to B-sharp, which is the third of the chord of the fifth of C-sharp. The ear detects no change because the difference between C and B-sharp is only on paper, as I have often mentioned. But if the enharmonic intervals had perceptible existence, a quick modulation into one of the most distant keys could not be done easily. In such a case, the ear would find even more to which to object. These different ways to modulate will appear familiar to one who knows the fifth and eighth chapters well, because much of this treatise is repeated here as an example.

¶11.

I have presented a few of the least familiar chords, both in figures and in notes, in these charts, so that it

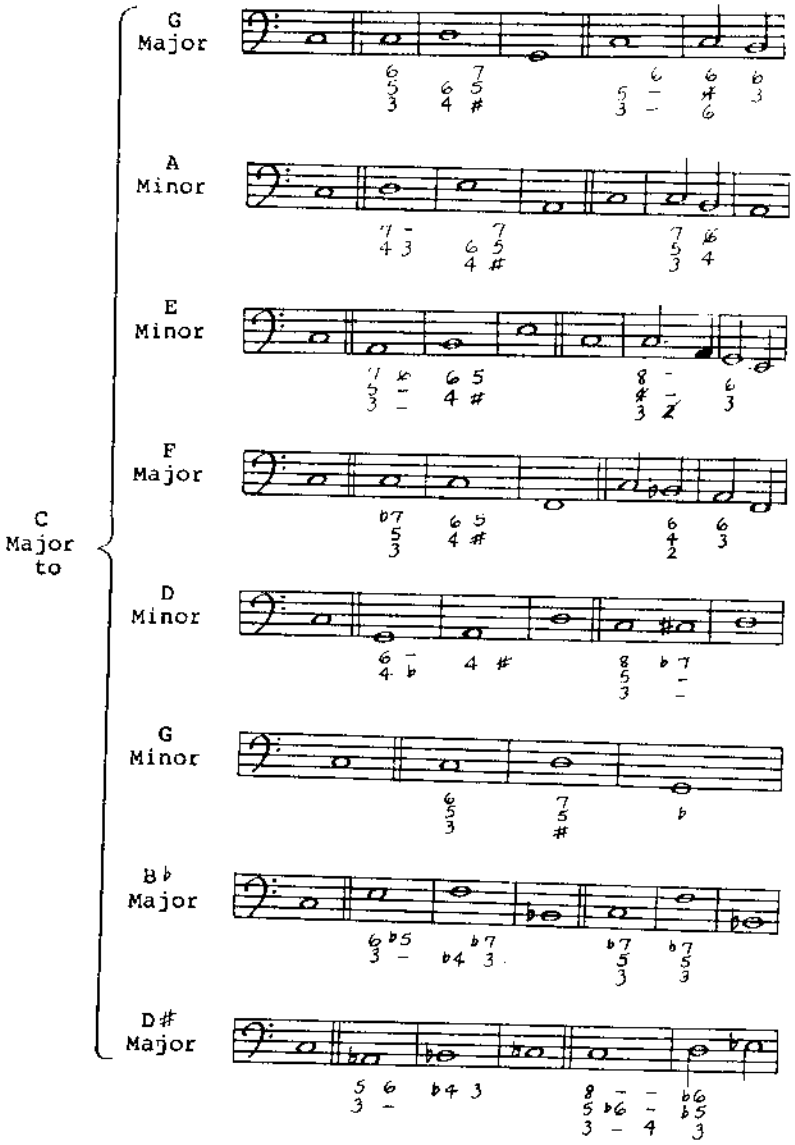
would not be necessary for a beginner to have to tax his brain looking up a few intervals which one cannot express clearly enough with numbers anyway, as I have already shown. One should not forget that the diminished, minor, and major thirds, etc., are expressed according to the key to which one wants to go; thus, not every [interval with a] sharp is the same size on the keyboard. Rather, the sharp is put there only as a caution so that the diminished third, fourth, etc., will not be played. For example, a sharp over a D-sharp (Dis) is only to prevent an F [from being played]; it does not indicate G (the major third above D-sharp--on the keyboard), since it is just F-sharp that is the minor third. "Generally all figures or numbers go by the first new key that appears and are measured according to the accidentals of that key."

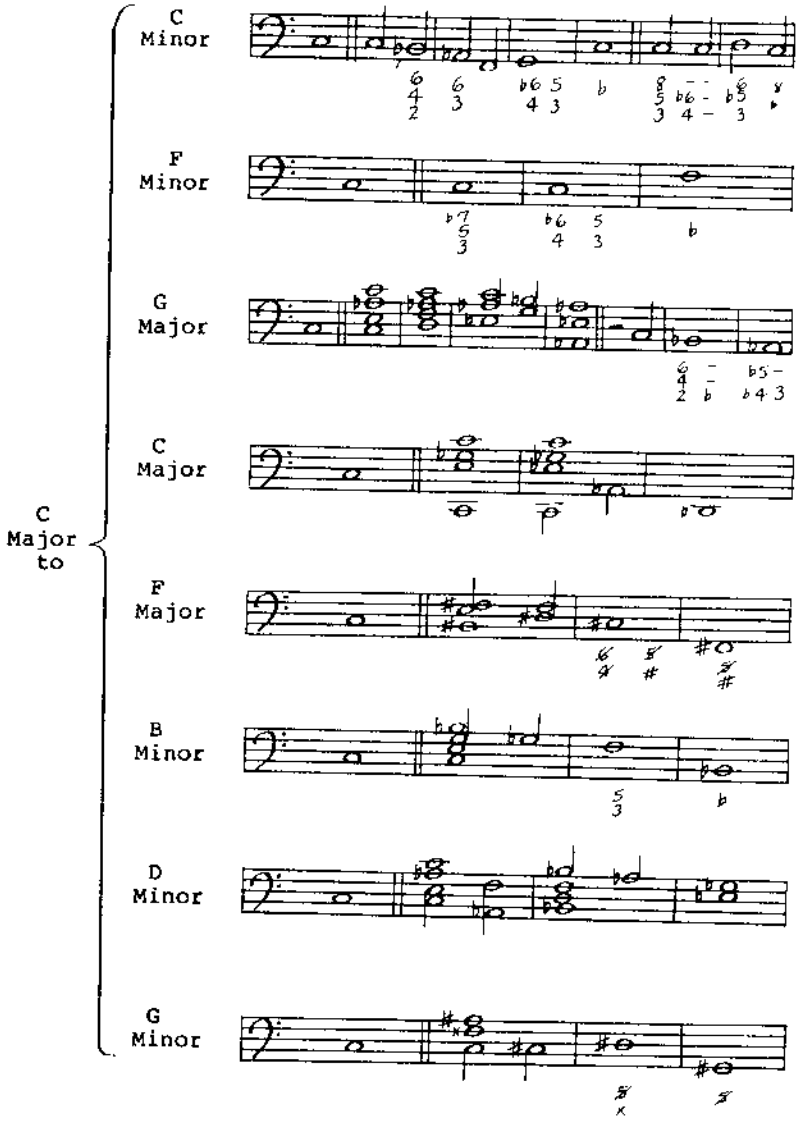
At times I have included also several ways to modulate back in these charts, especially where space permitted. Here all modulations occur with one or at the most two transitional chords, except for a very few cases. In all of this I have let my ear advise me rather than [the rules of the] art, because in that way it was easier to construct such modulations and progressions. To satisfy the ear, and even to deceive it, takes much attention and study. For this reason I have tried to avoid as much harshness as possible. Of course, several passages will seem somewhat harsh to some people, but [these passages] are few, and [harshness] could

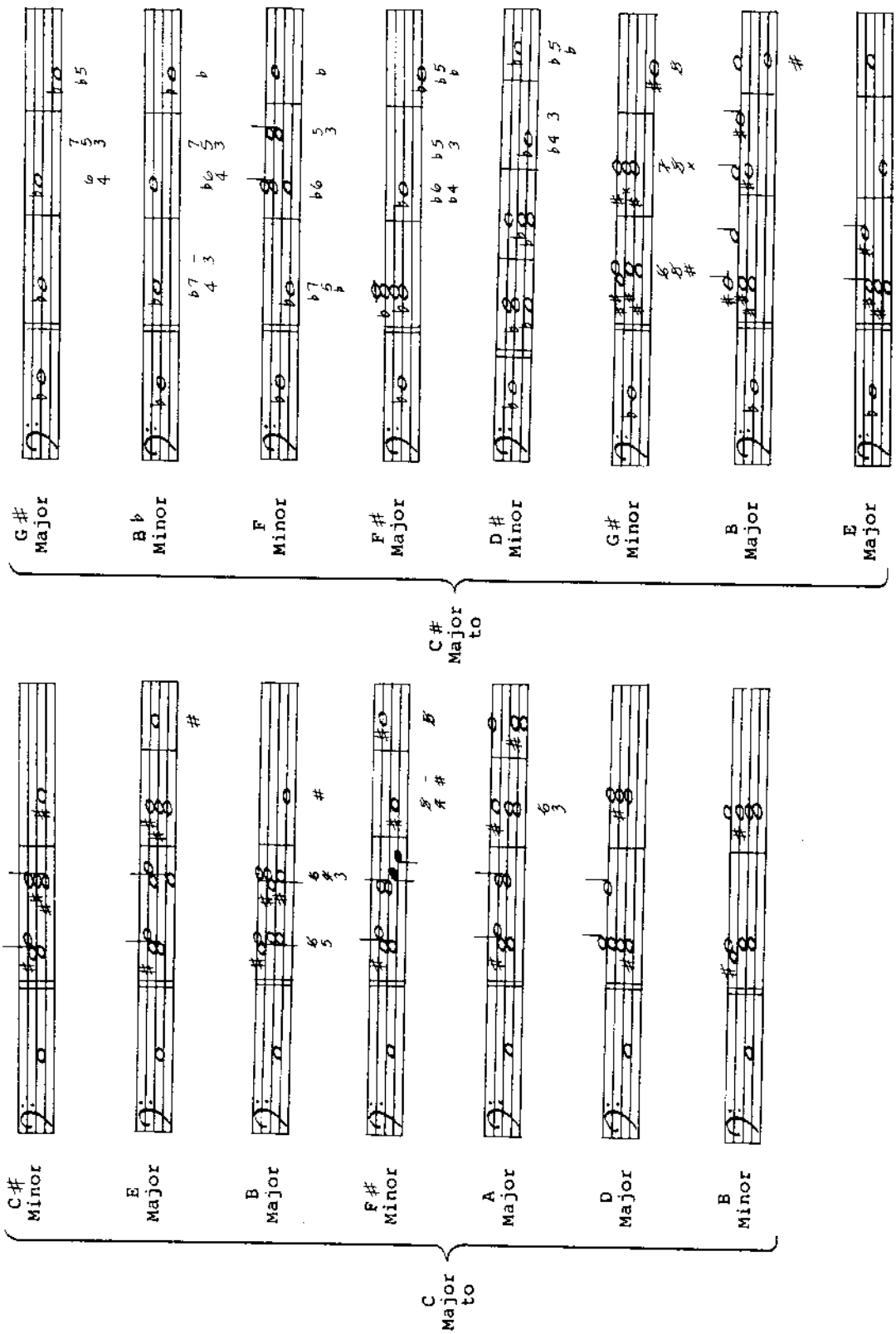
not be avoided in some of the modulations because of the great distances [between the two keys]. Consider how far C major is from F-sharp major, or C major from C minor. Here are the charts:[3]

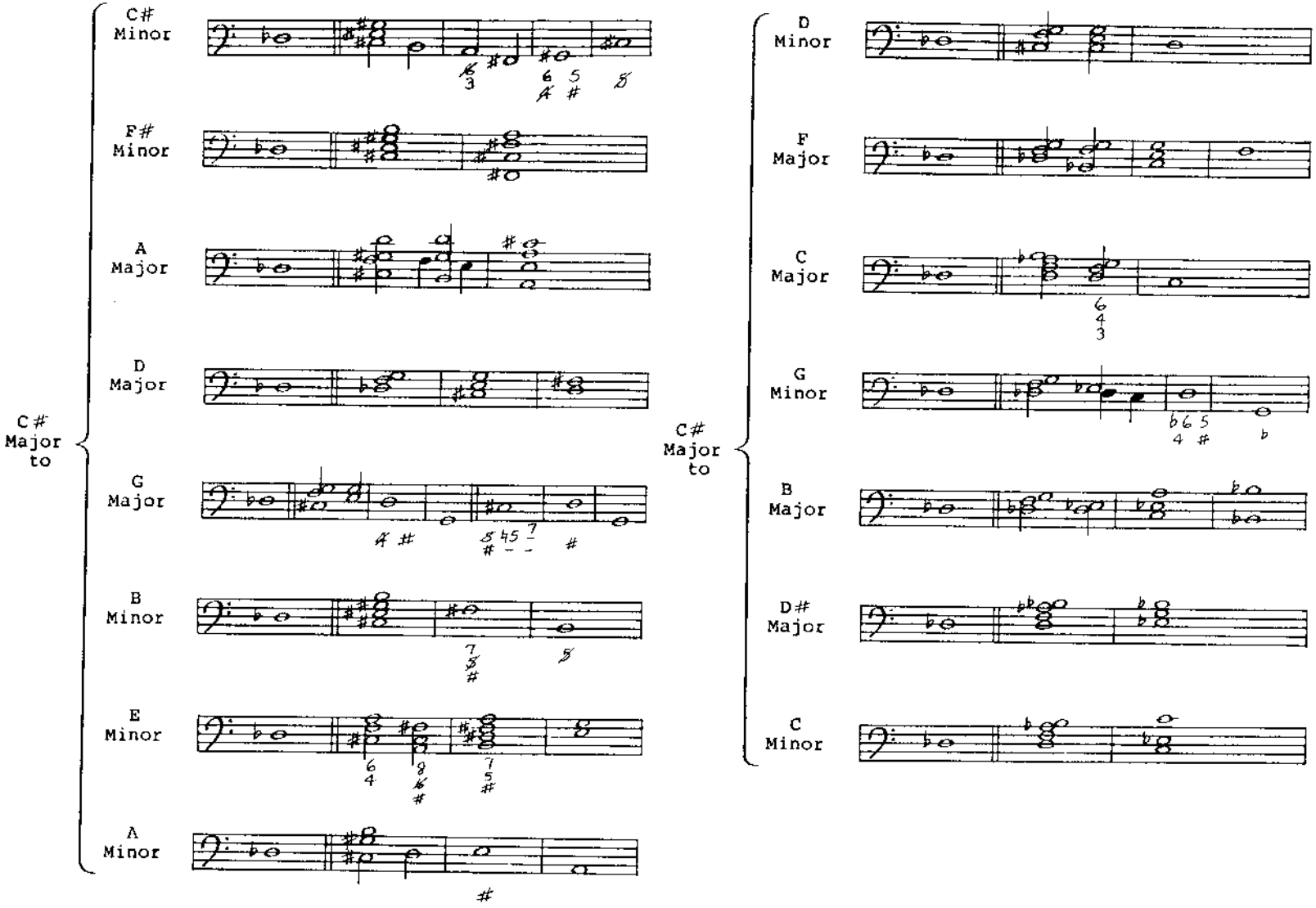
---

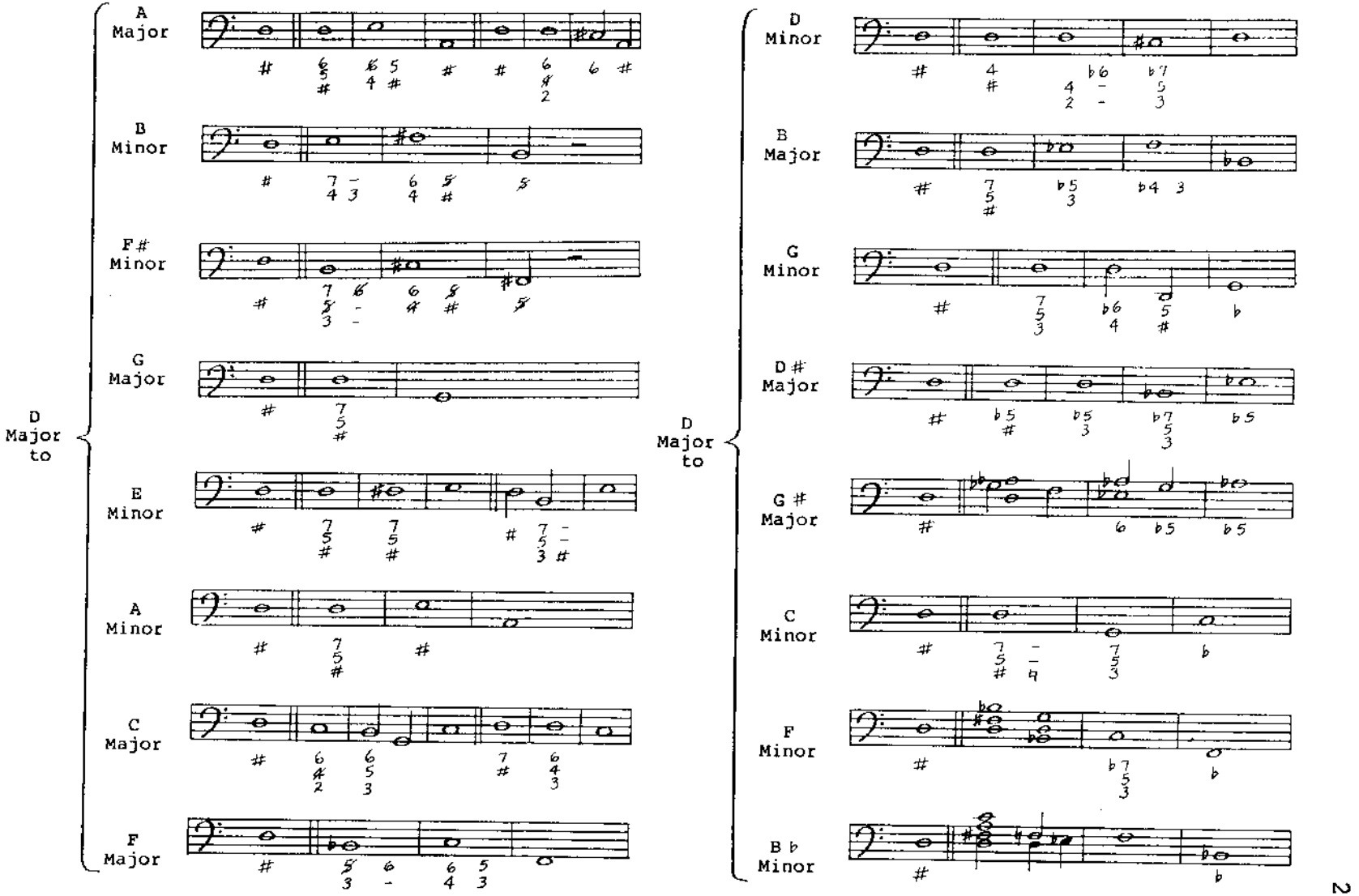
[3]In order to make the following modulation charts more readable, Daube's notation has been updated into a modern format. (1) Missing figured bass has been supplied. (2) The cancellation of accidentals has been accomplished with natural signs. (3) Rhythmic errors have been corrected.

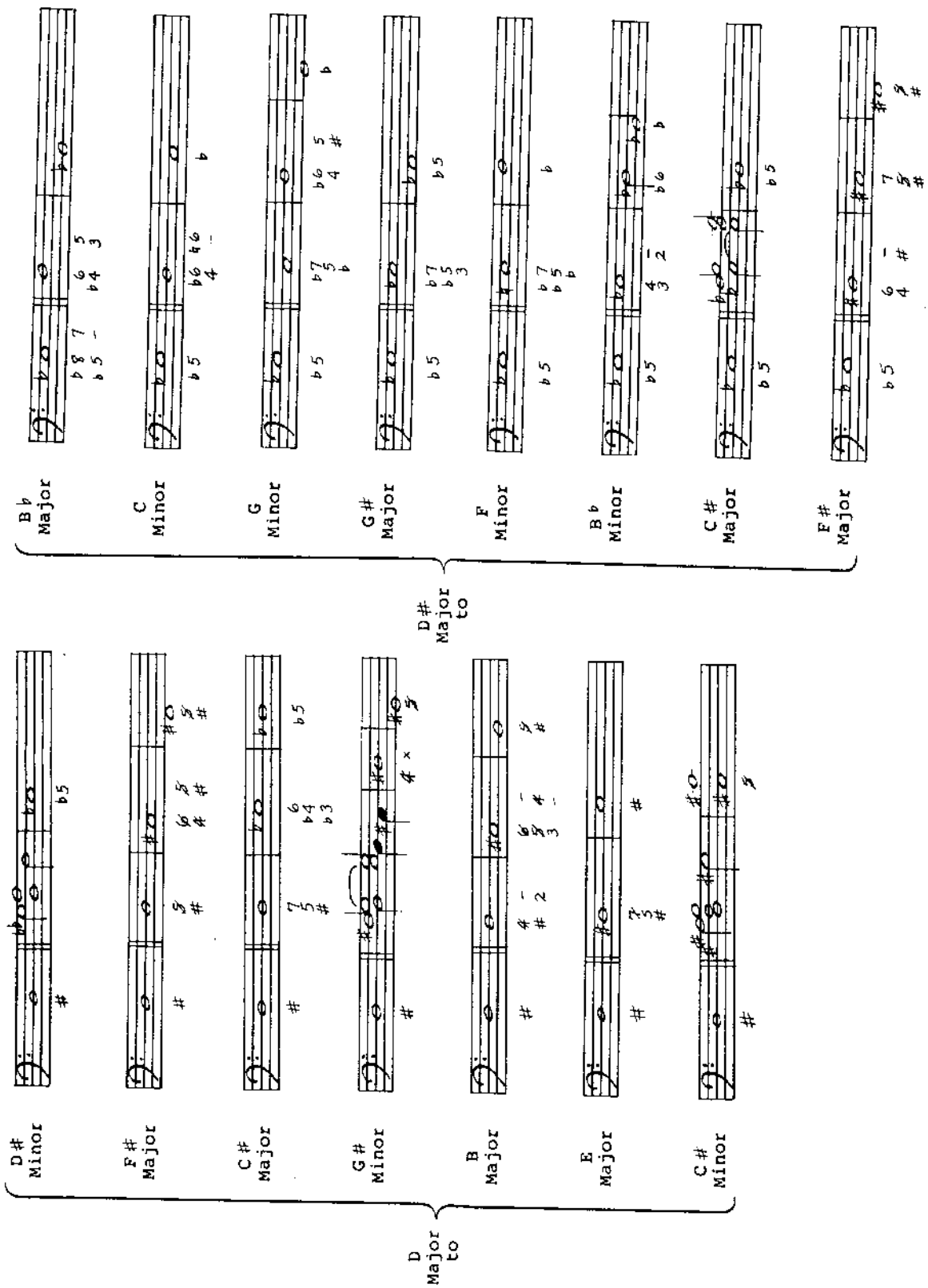

C
Major
to
G
Major
A
Minor
E
Minor
F
Major
D
Minor
G
Minor
B♭
Major
D#
Major

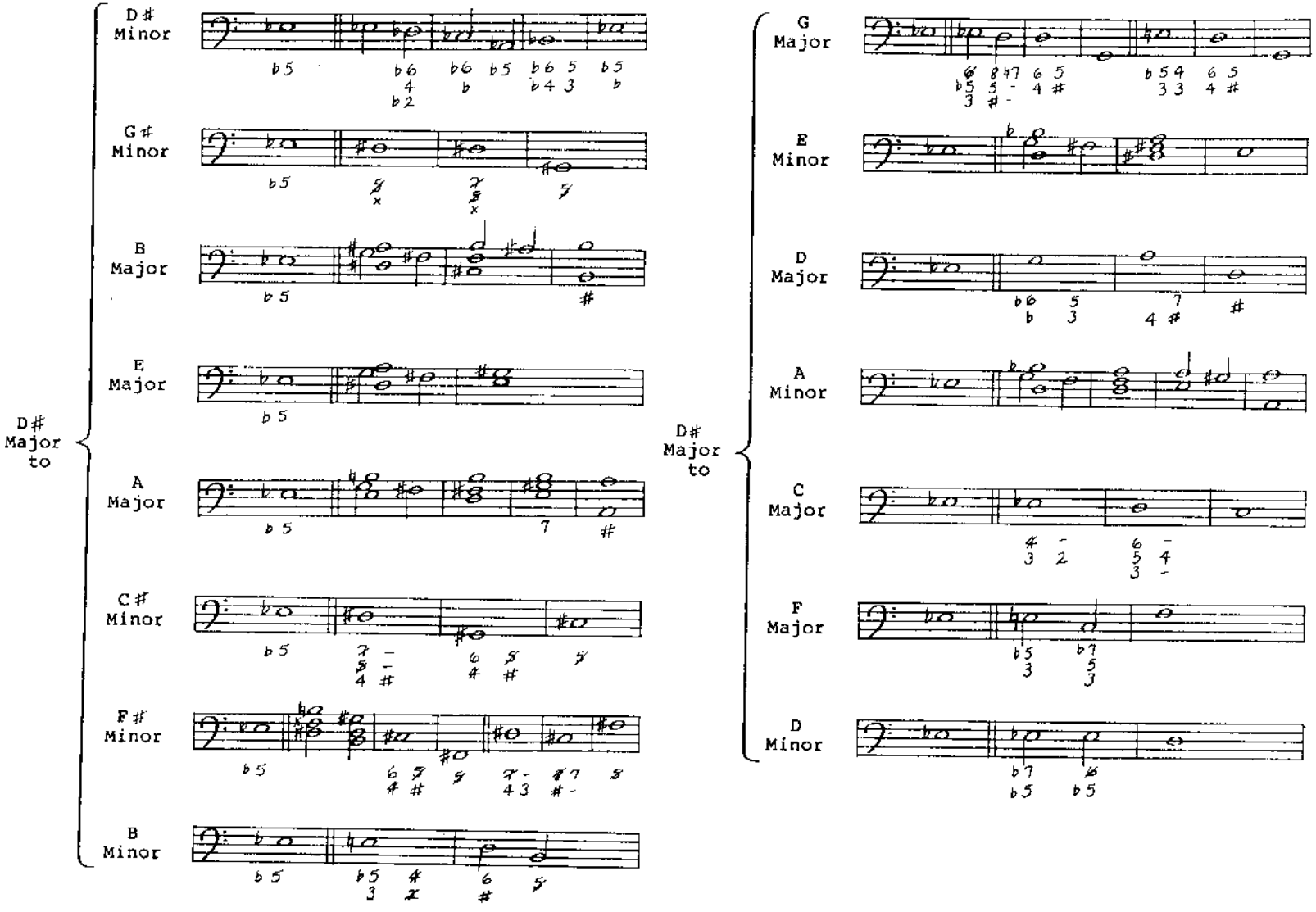

C
Major
to
C
Minor
F
Minor
G
Major
C
Major
F
Major
B
Minor
D
Minor
G
Minor

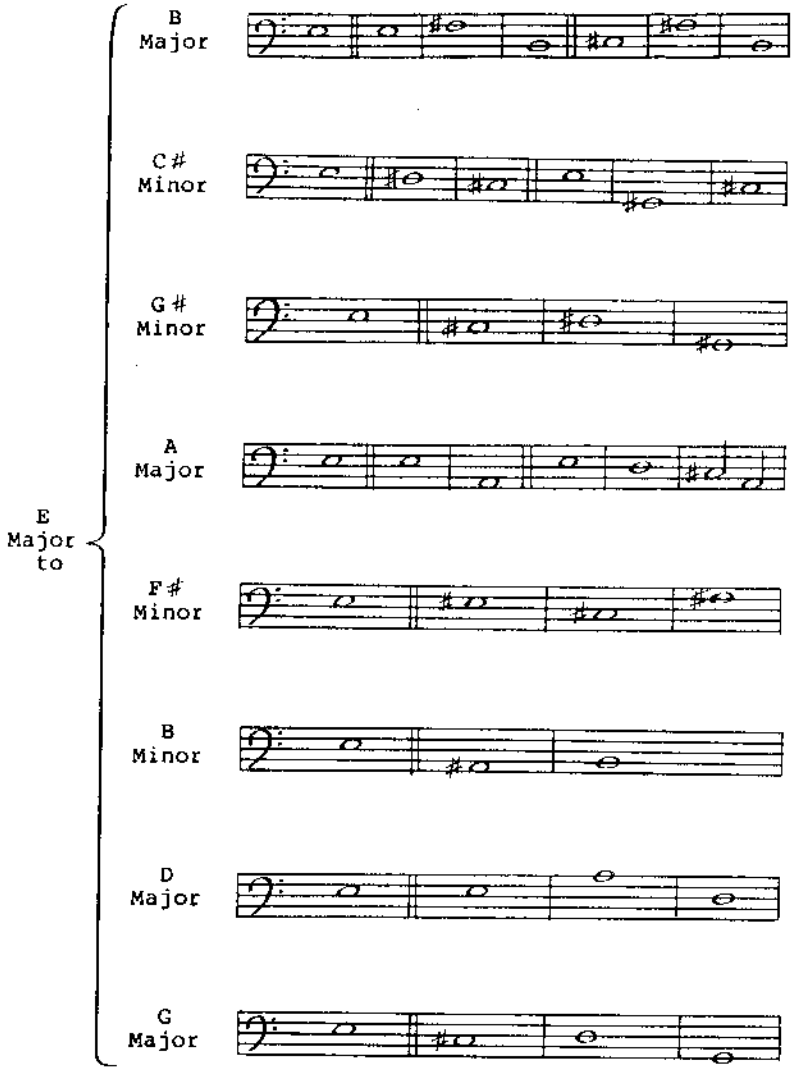

C♯ Major to
G♯ Major
B♭ Minor
F Minor
F♯ Major
D♯ Minor
G♯ Minor
B Major
E Major
C Major to
C♯ Minor
E Major
B Major
F♯ Minor
A Major
D Major
B Minor

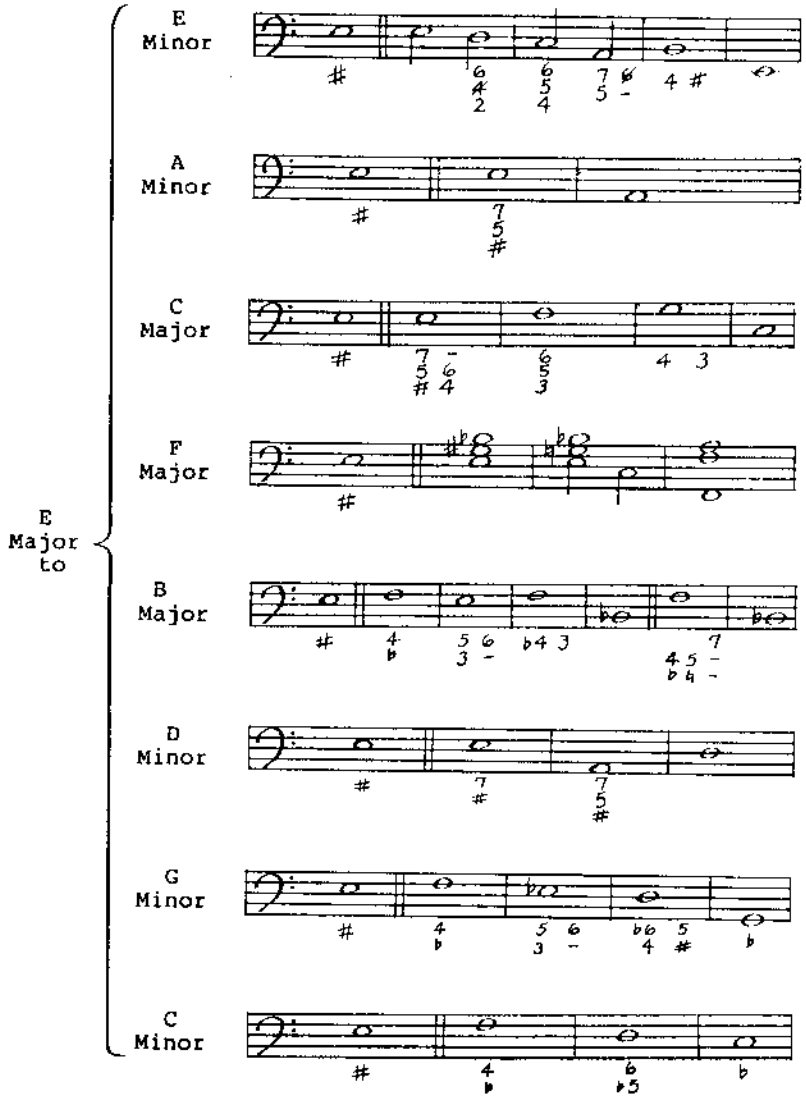

C# Major to
C# Minor
F# Minor
A Major
D Major
G Major
B Minor
E Minor
A Minor
C# Major to
D Minor
F Major
C Major
G Minor
B Major
D# Major
C Minor

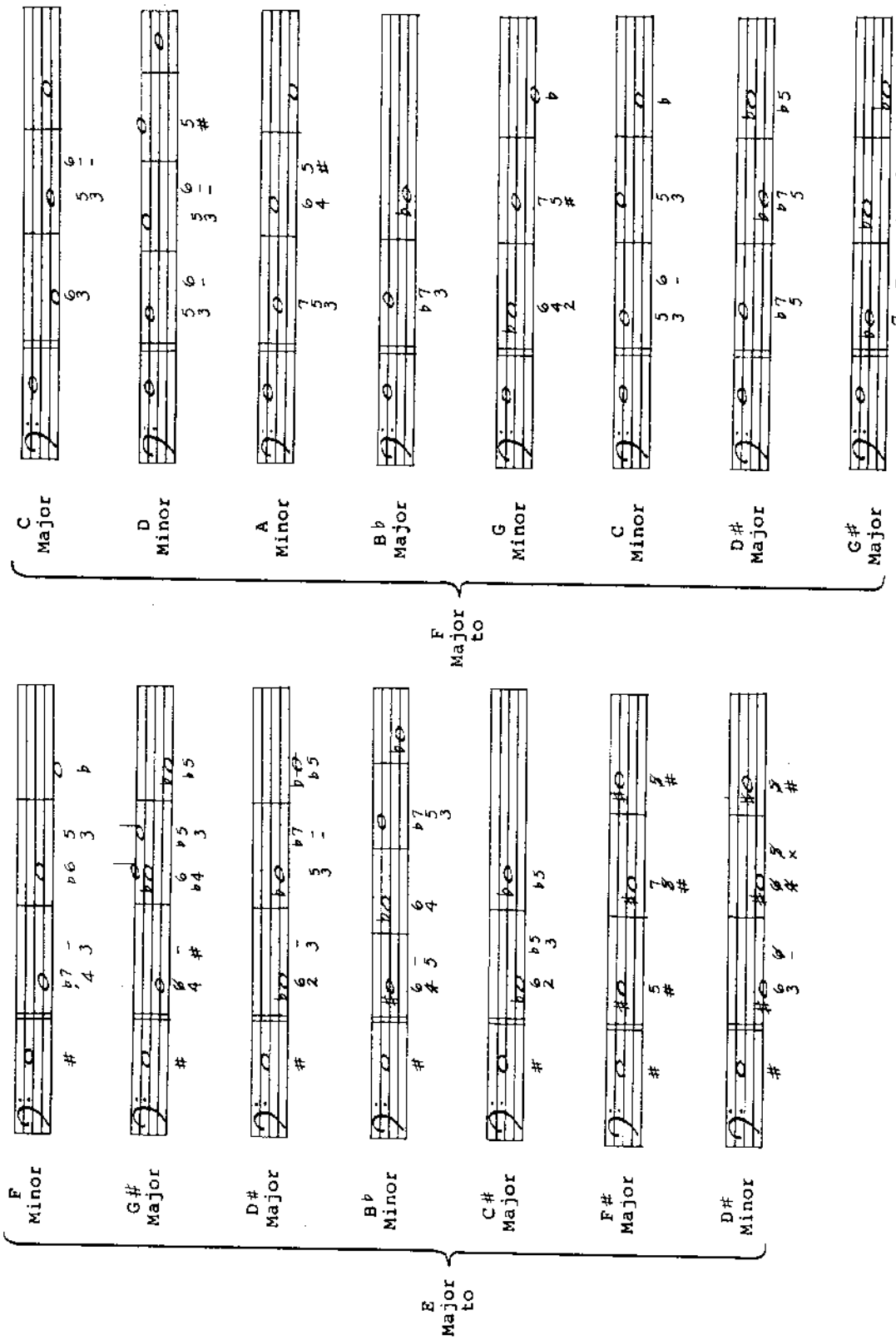

D Major to
A Major
B Minor
F# Minor
G Major
E Minor
A Minor
C Major
F Major
D Major to
D Minor
B Major
G Minor
D# Major
G# Major
C Minor
F Minor
B♭ Minor

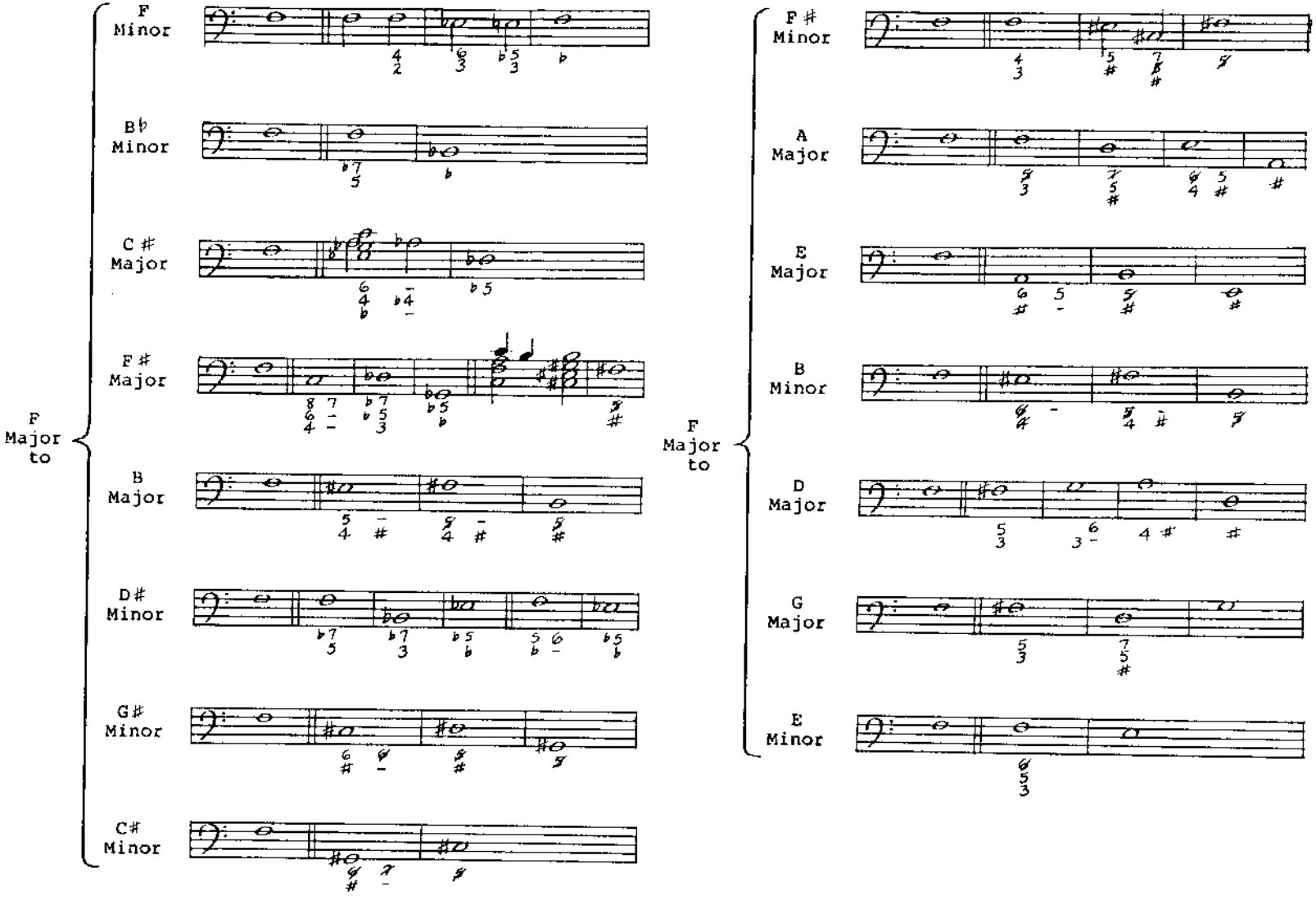

D# Major to
B♭ Major
C Minor
G Minor
G# Major
F Minor
B♭ Minor
C# Major
F# Major
D Major to
D# Minor
F# Major
C# Major
G# Minor
B Major
E Major
C# Minor

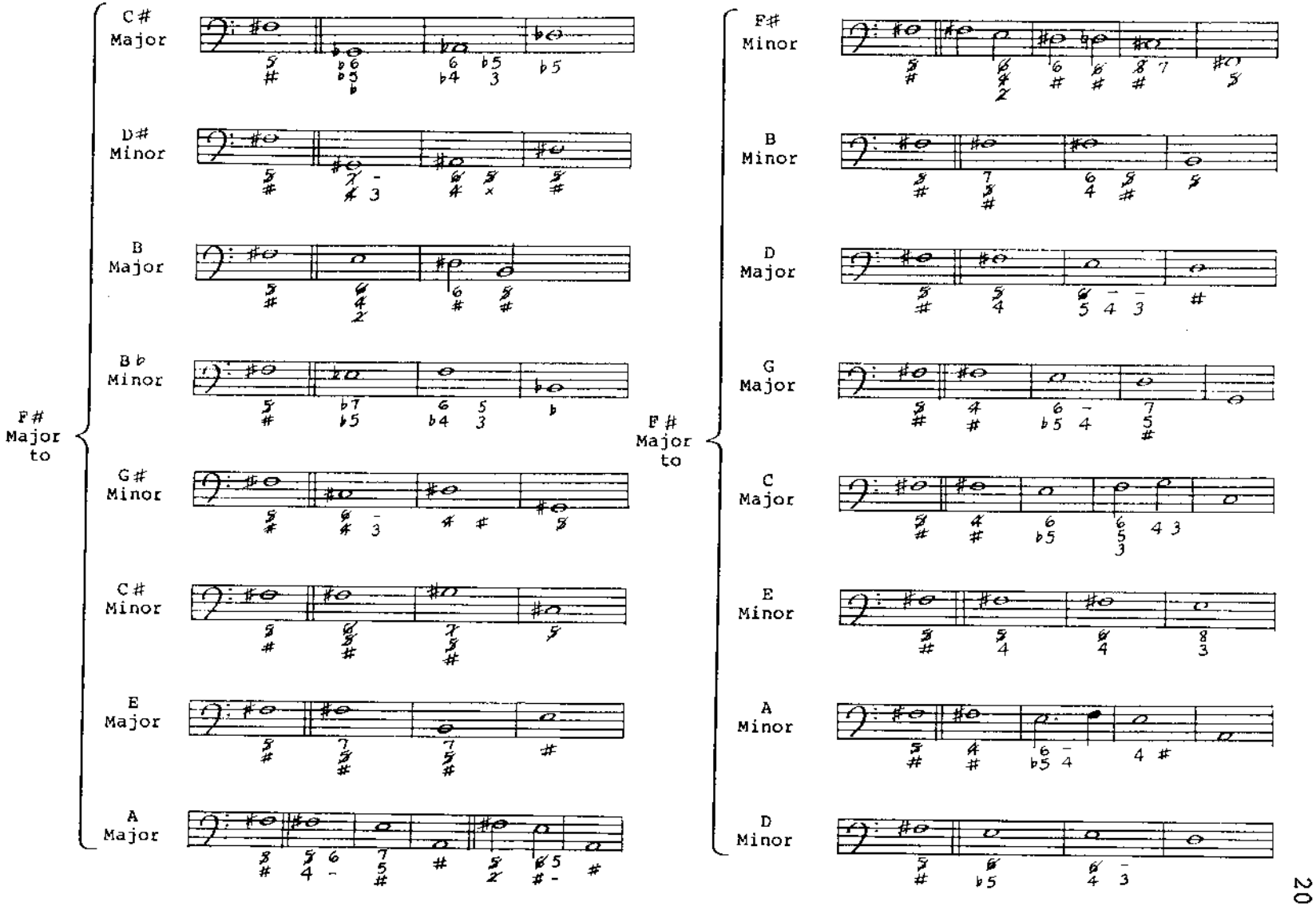

D# Major to
D# Minor
G# Minor
B Major
E Major
A Major
C# Minor
F# Minor
B Minor
D# Major to
G Major
E Minor
D Major
A Minor
C Major
F Major
D Minor

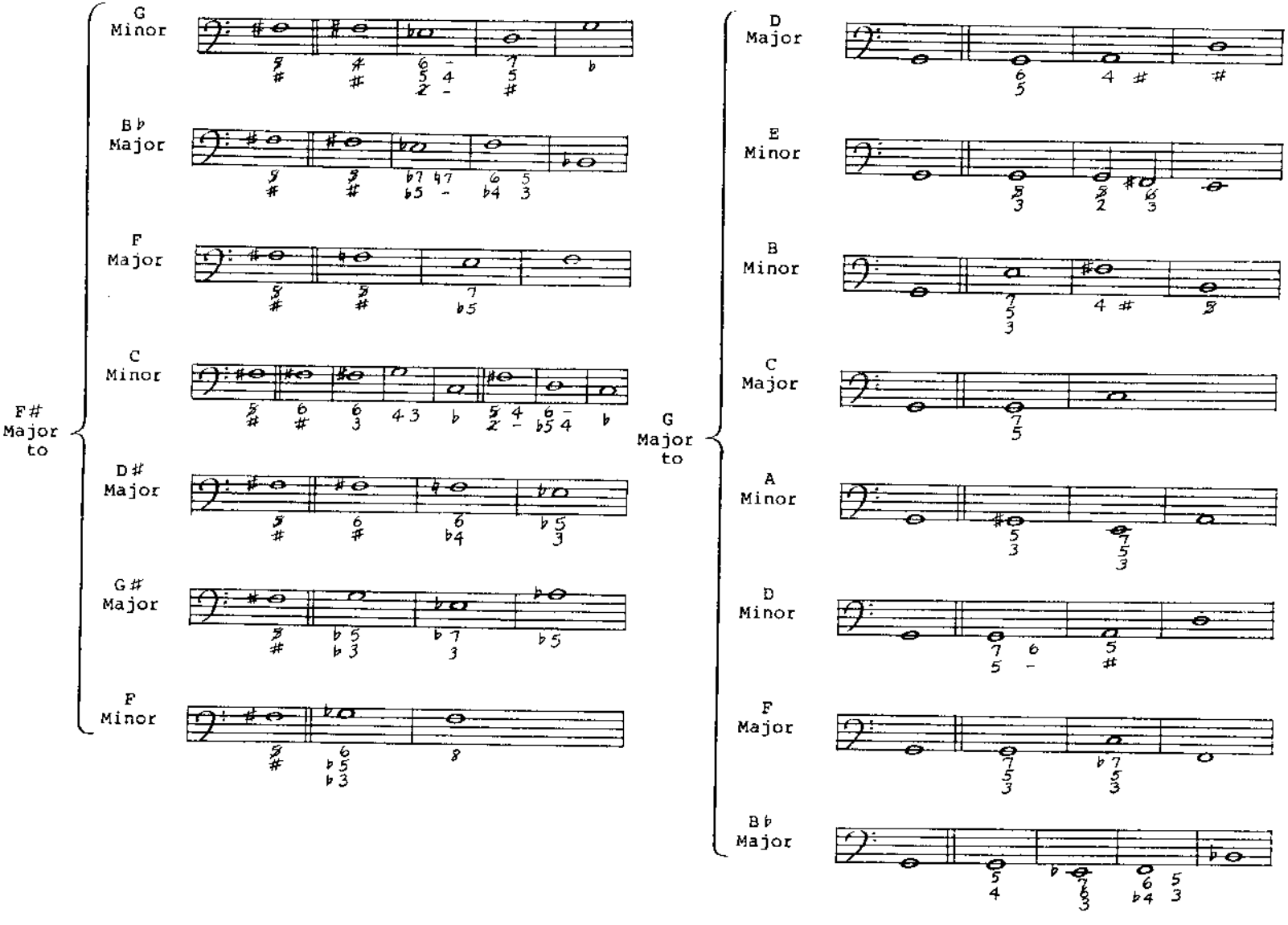

E
Major
to
B
Major
C#
Minor
G#
Minor
A
Major
F#
Minor
B
Minor
D
Major
G
Major

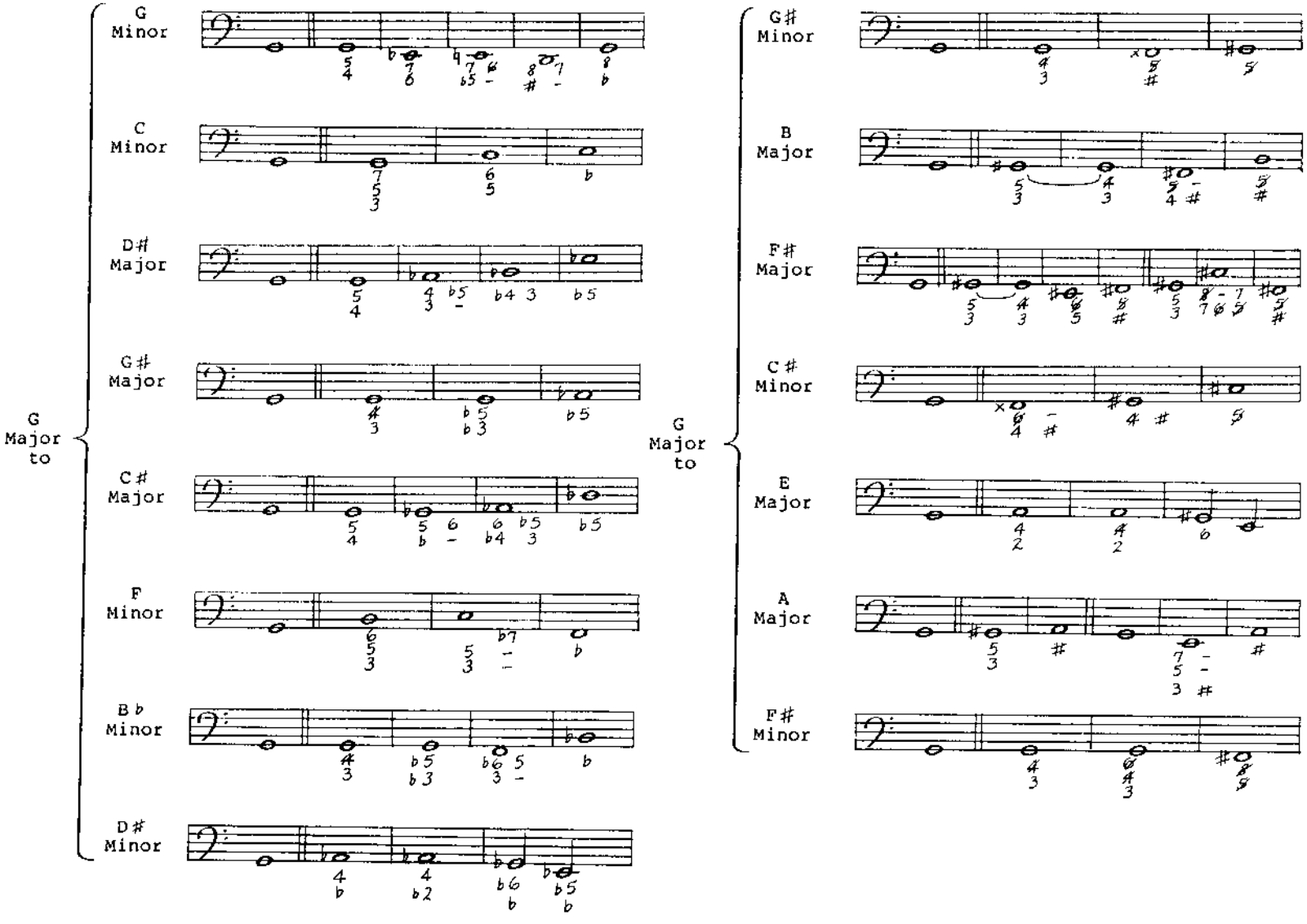

E
Major
to
E
Minor
A
Minor
C
Major
F
Major
B
Major
D
Minor
G
Minor
C
Minor

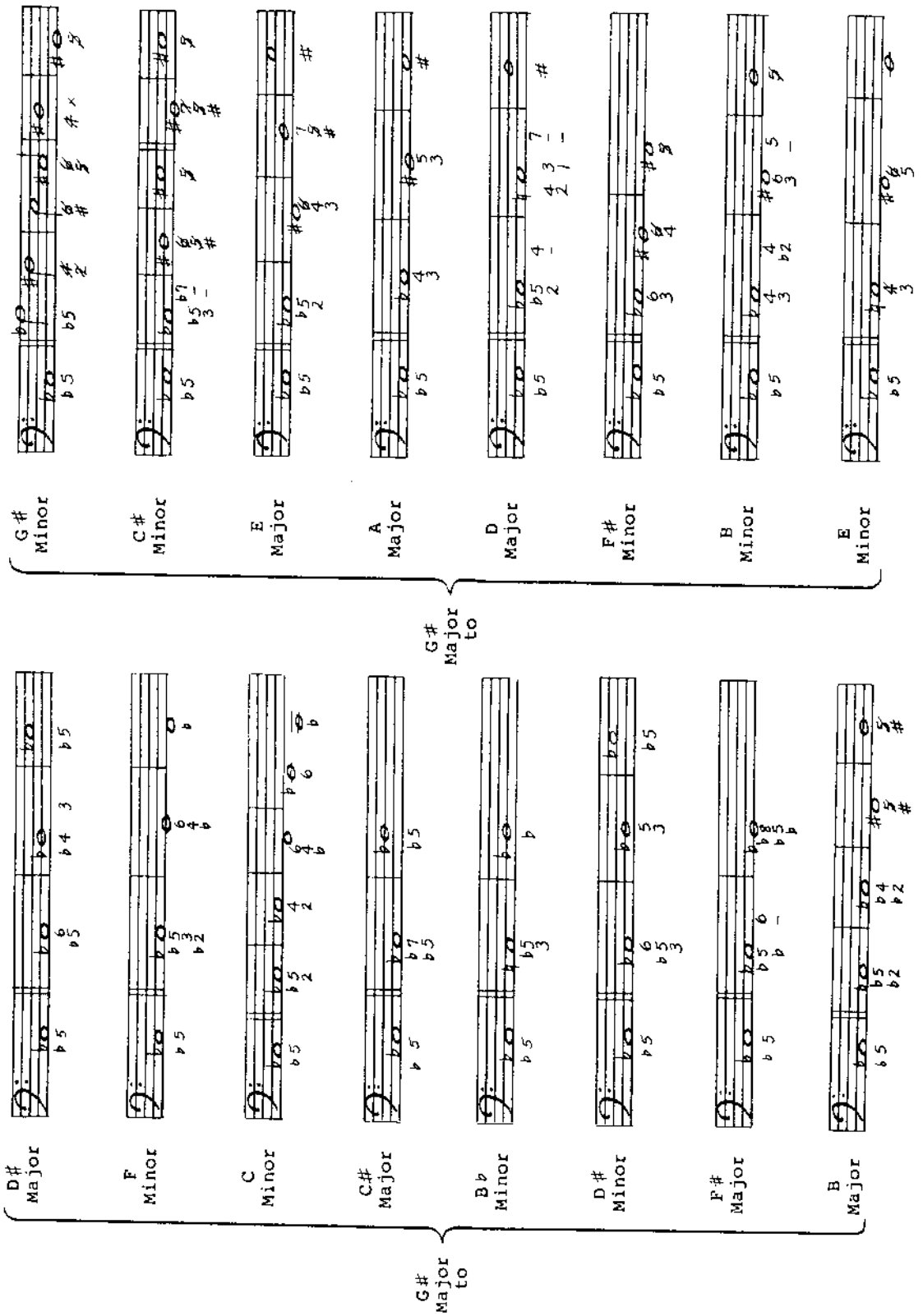

C Major
D Minor
A Minor
B♭ Major
G Minor
C Minor
D♯ Major
G♯ Major
F Major to
F Minor
G♯ Major
D♯ Major
B♭ Minor
C♯ Major
F♯ Major
D♯ Minor
E Major to

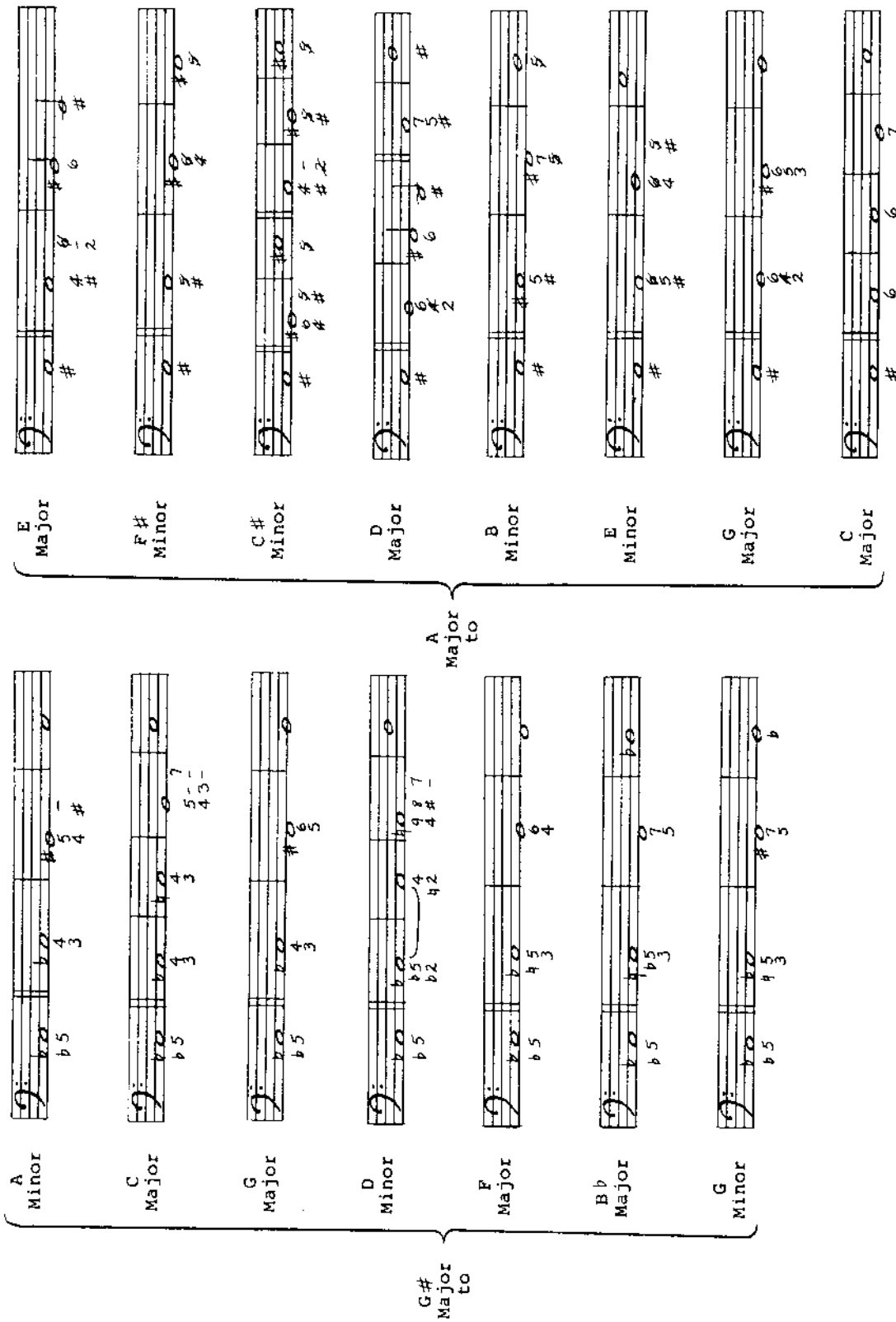

F Major to
F Minor
B♭ Minor
C♯ Major
F♯ Major
B Major
D♯ Minor
G♯ Minor
C♯ Minor
F Major to
F♯ Minor
A Major
E Major
B Minor
D Major
G Major
E Minor

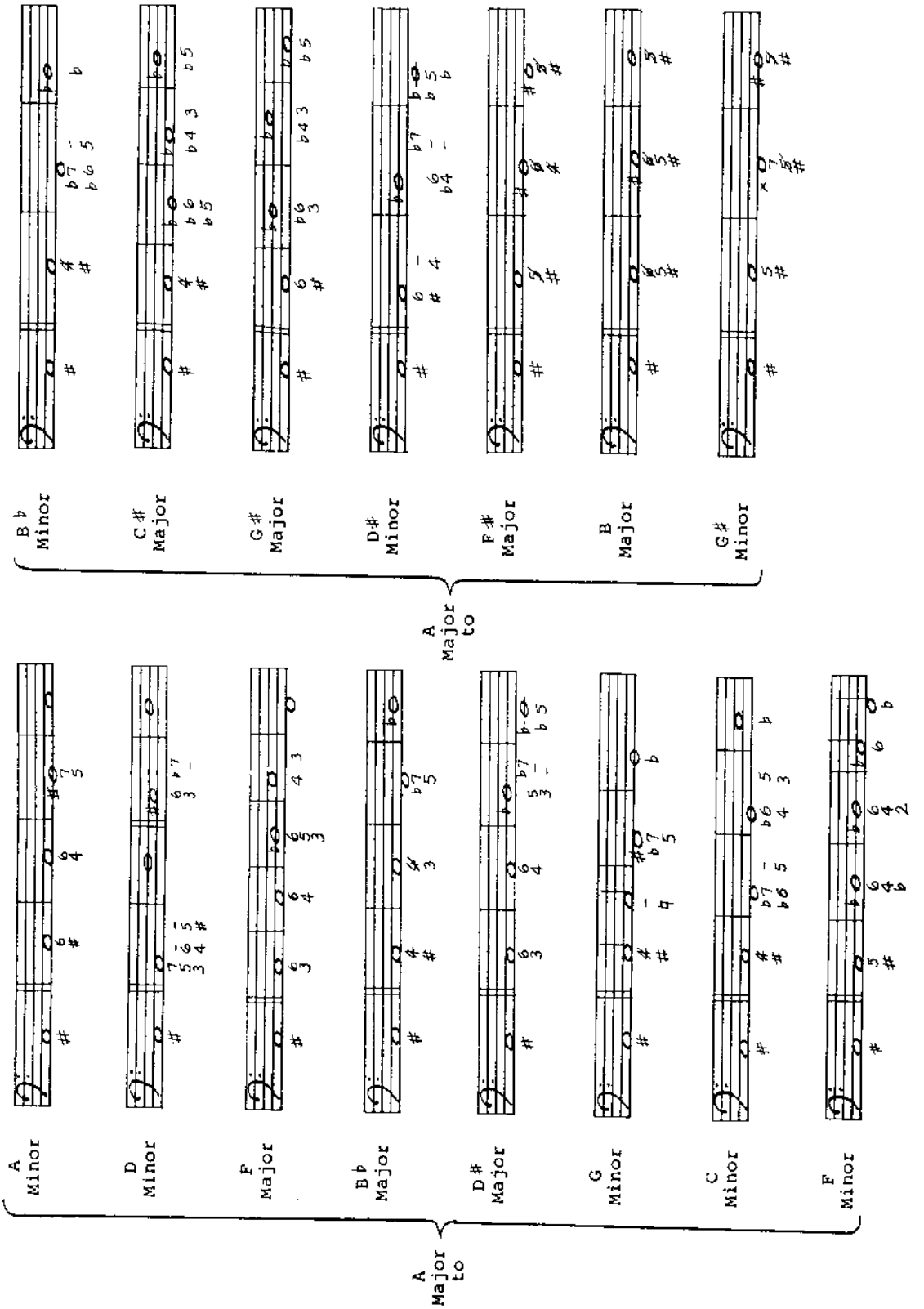

F# Major to
C# Major
D# Minor
B Major
B♭ Minor
G# Minor
C# Minor
E Major
A Major
F# Major to
F# Minor
B Minor
D Major
G Major
C Major
E Minor
A Minor
D Minor

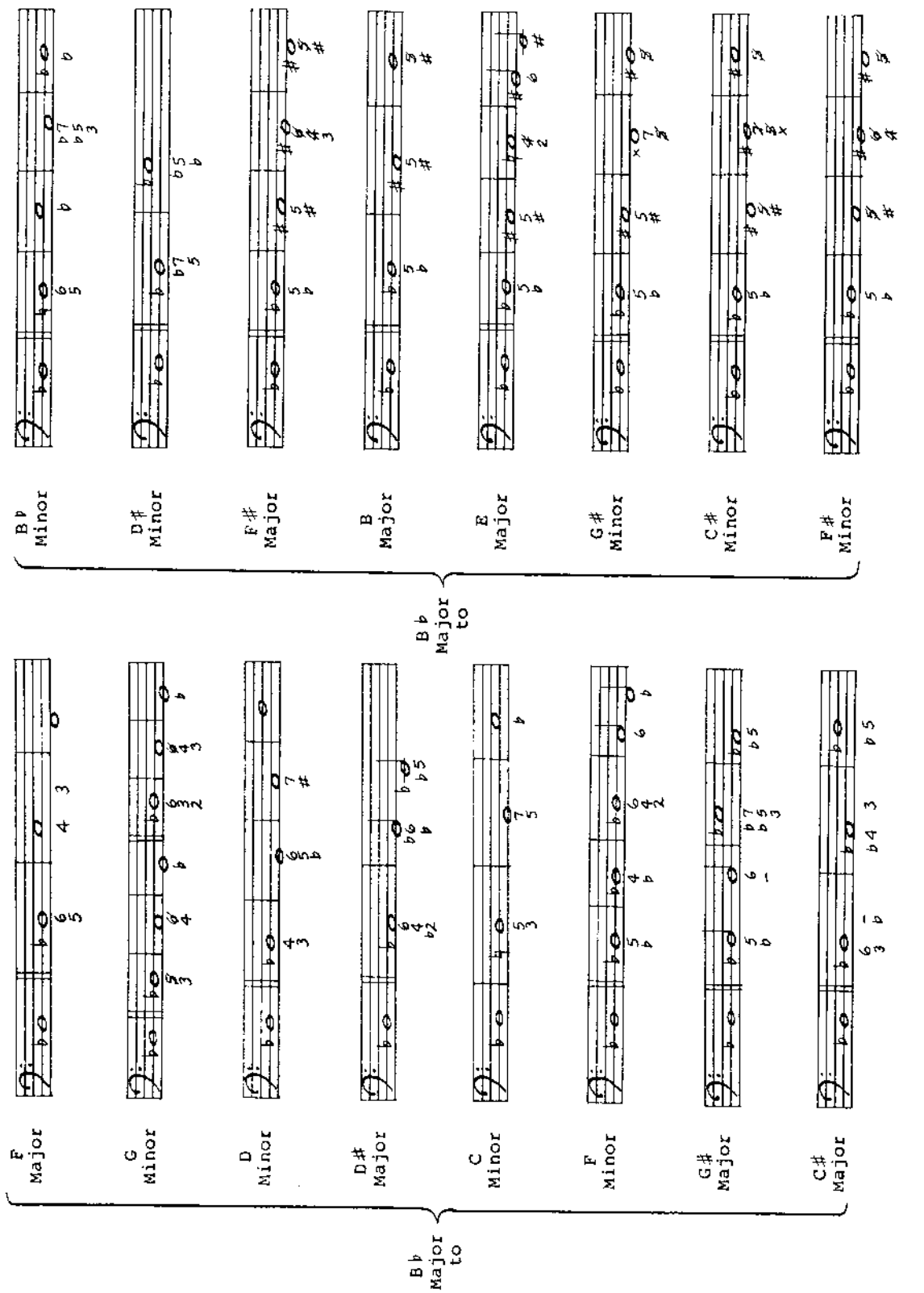

F# Major to
G Minor
B♭ Major
F Major
C Minor
D# Major
G# Major
F Minor
G Major to
D Major
E Minor
B Minor
C Major
A Minor
D Minor
F Major
B♭ Major

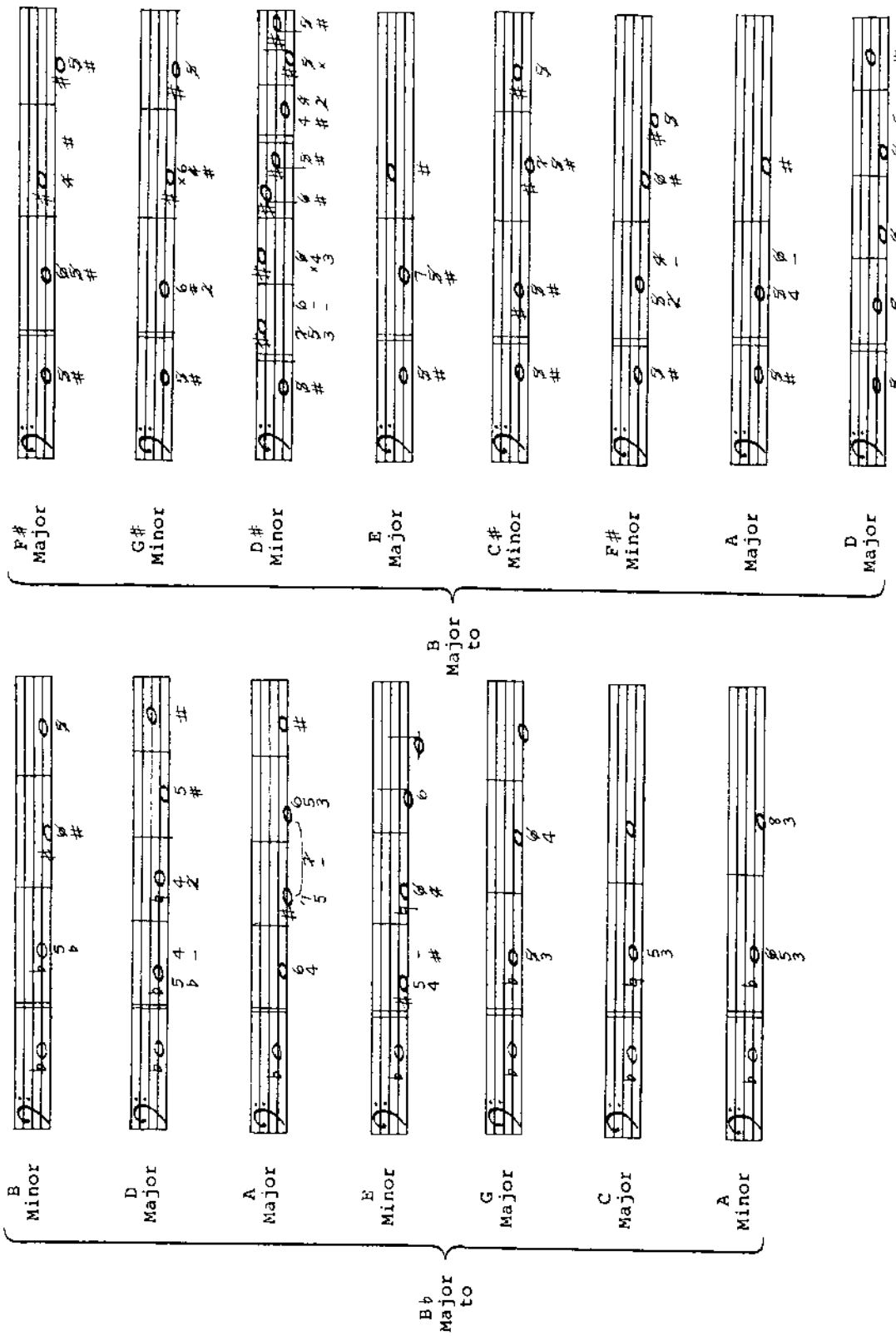

G Major to
G Minor
C Minor
D# Major
G# Major
C# Major
F Minor
B♭ Minor
D# Minor
G Major to
G# Minor
B Major
F# Major
C# Minor
E Major
A Major
F# Minor

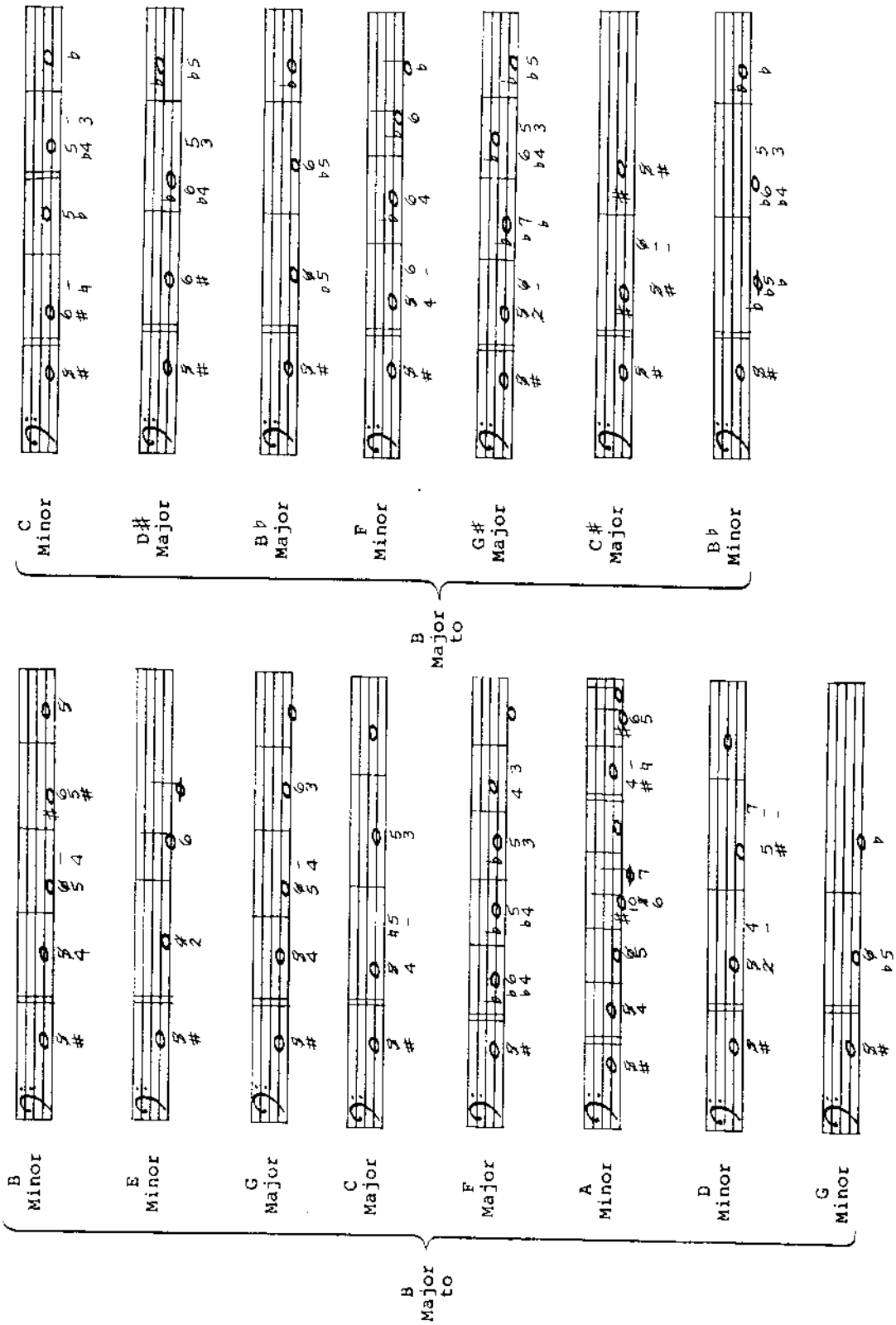

G# Major to
G# Minor
C# Minor
E Major
A Major
D Major
F# Minor
B Minor
E Minor
G# Major to
D# Major
F Minor
C Minor
C# Major
B♭ Minor
D# Minor
F# Major
B Major

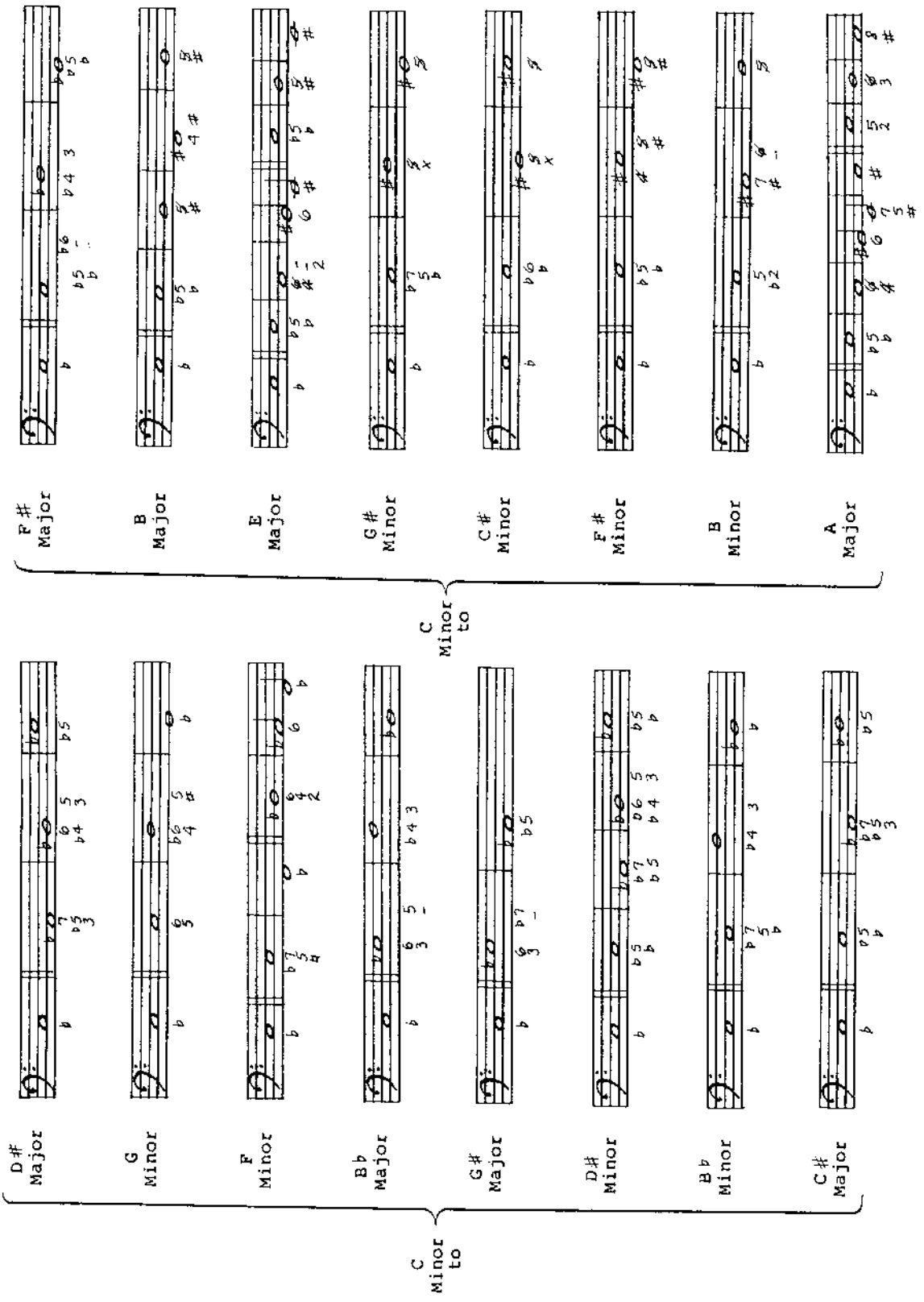

A Major to
E Major
F♯ Minor
C♯ Minor
D Major
B Minor
E Minor
G Major
C Major
G♯ Major to
A Minor
C Major
G Major
D Minor
F Major
B♭ Major
G Minor

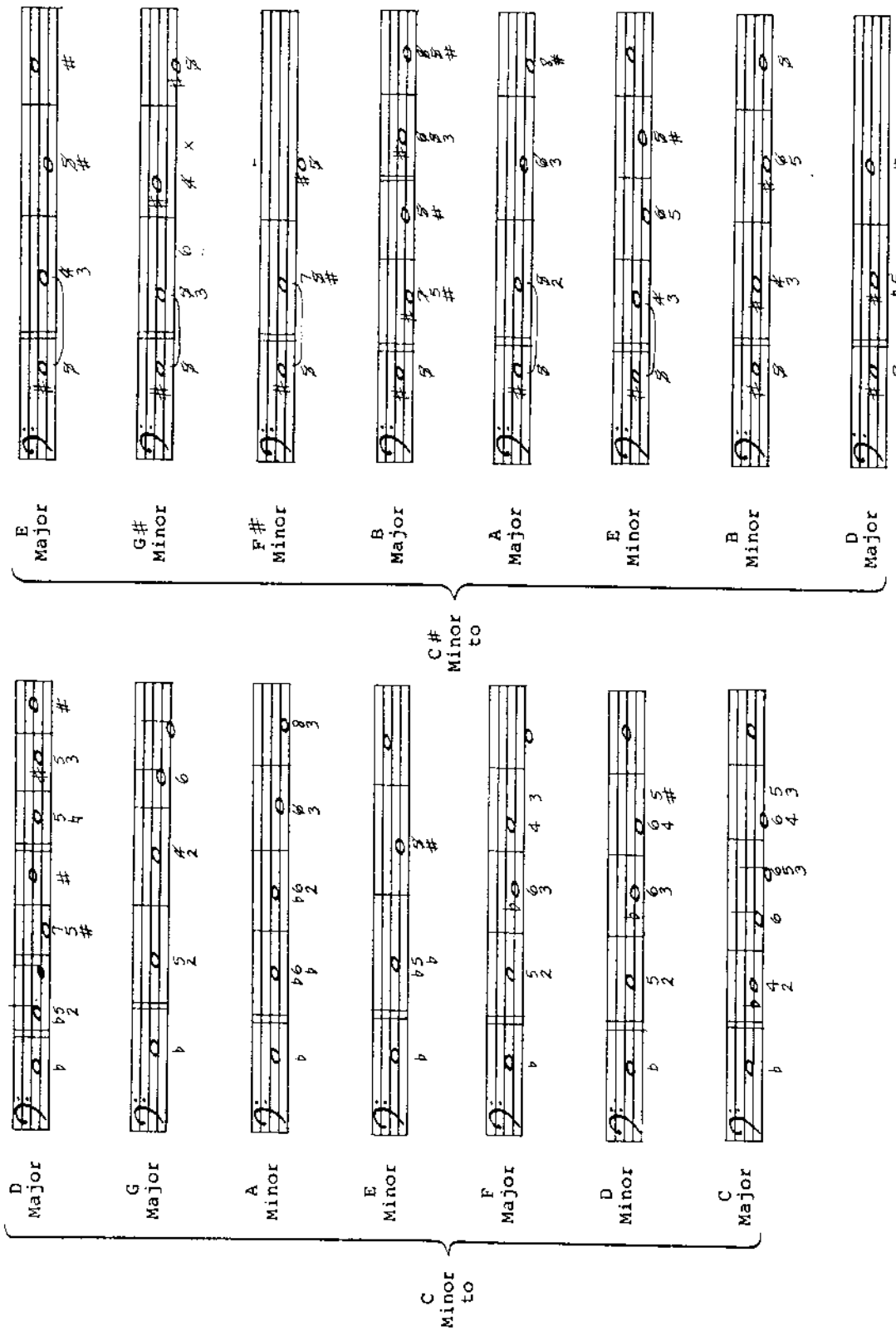

A Major to
B♭ Minor
C♯ Major
G♯ Major
D♯ Minor
F♯ Major
B Major
G♯ Minor
A Major to
A Minor
D Minor
F Major
B♭ Major
D♯ Major
G Minor
C Minor
F Minor

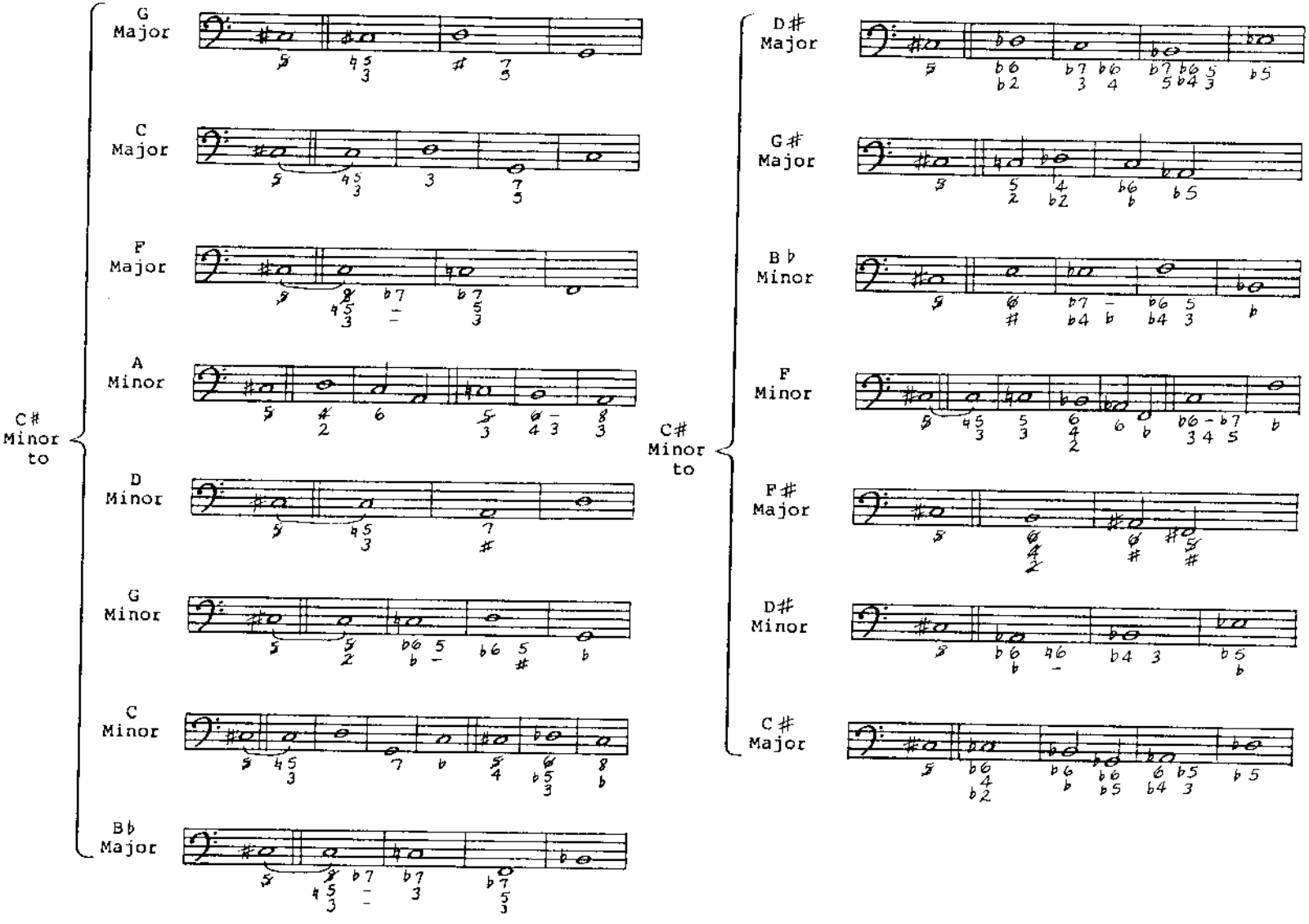

B♭ Major to
B♭ Minor
D♯ Minor
F♯ Major
B Major
E Major
G♯ Minor
C♯ Minor
F♯ Minor
B♭ Major to
F Major
G Minor
D Minor
D♯ Major
C Minor
F Minor
G♯ Major
C♯ Major

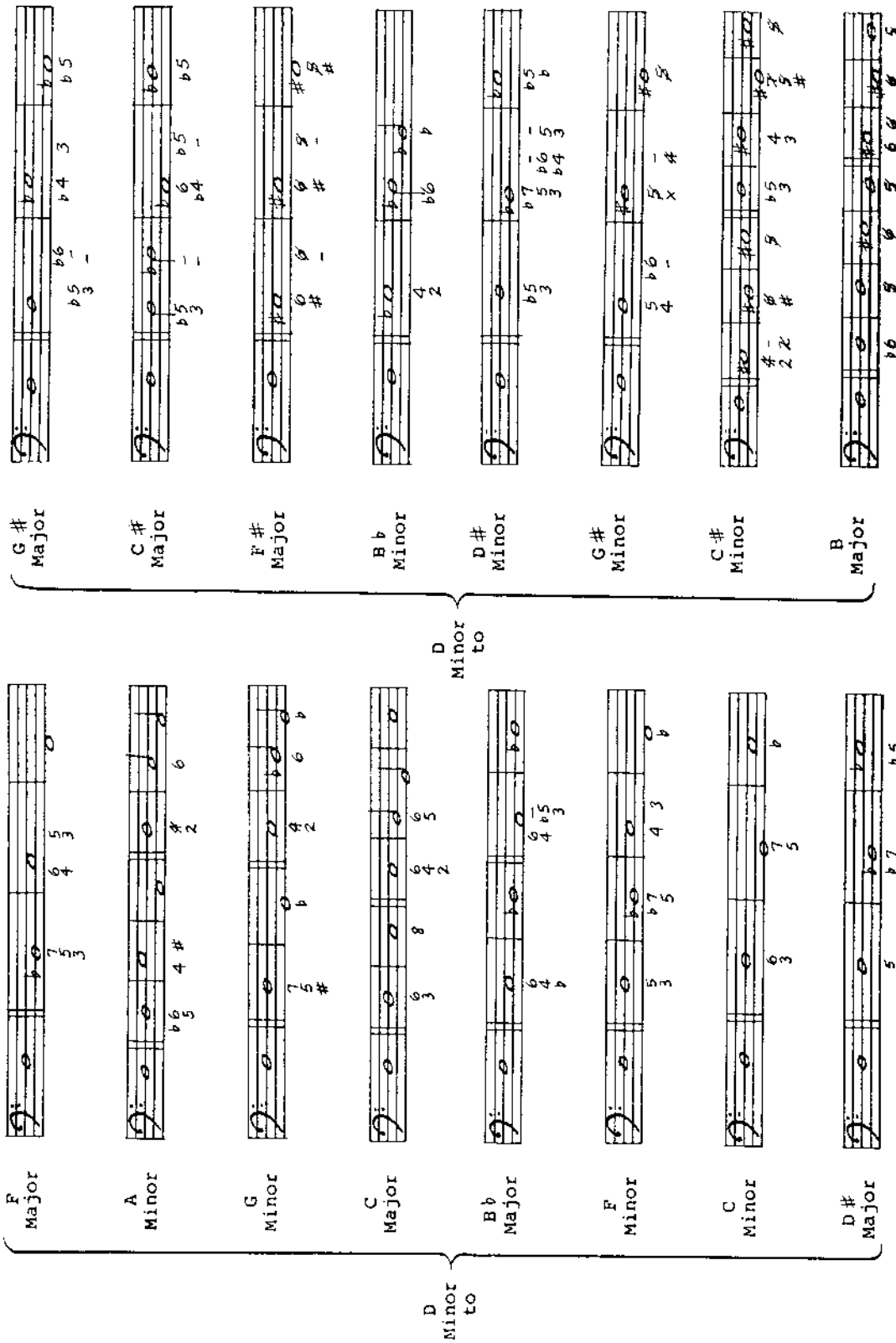

B♭ Major to
B Minor
D Major
A Major
E Minor
G Major
C Major
A Minor
B Major to
F# Major
G# Minor
D# Minor
E Major
C# Minor
F# Minor
A Major
D Major

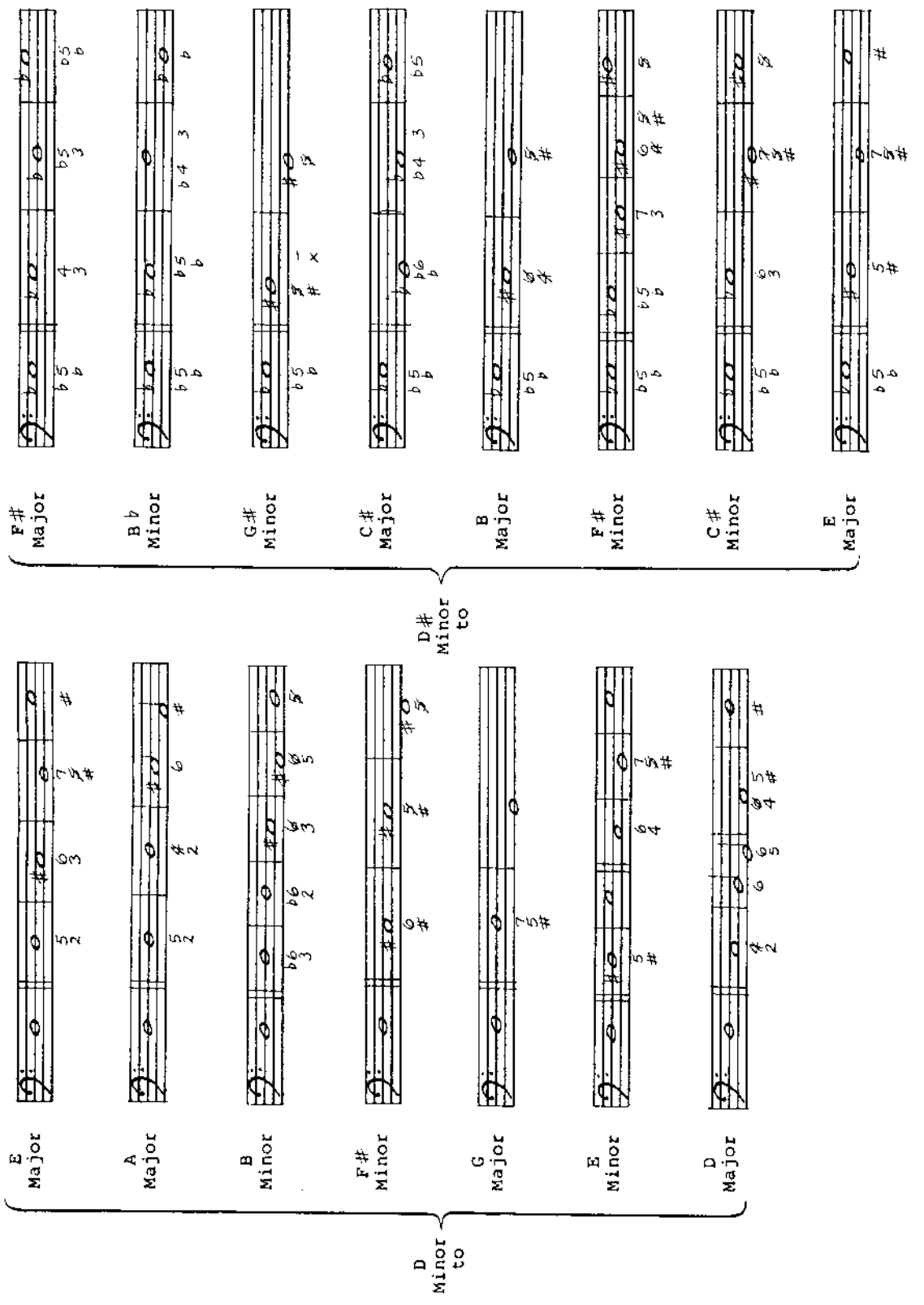

B Major to
C Minor
D♯ Major
B♭ Major
F Minor
G♯ Major
C♯ Major
B♭ Minor
B Major to
B Minor
E Minor
G Major
C Major
F Major
A Minor
D Minor
G Minor

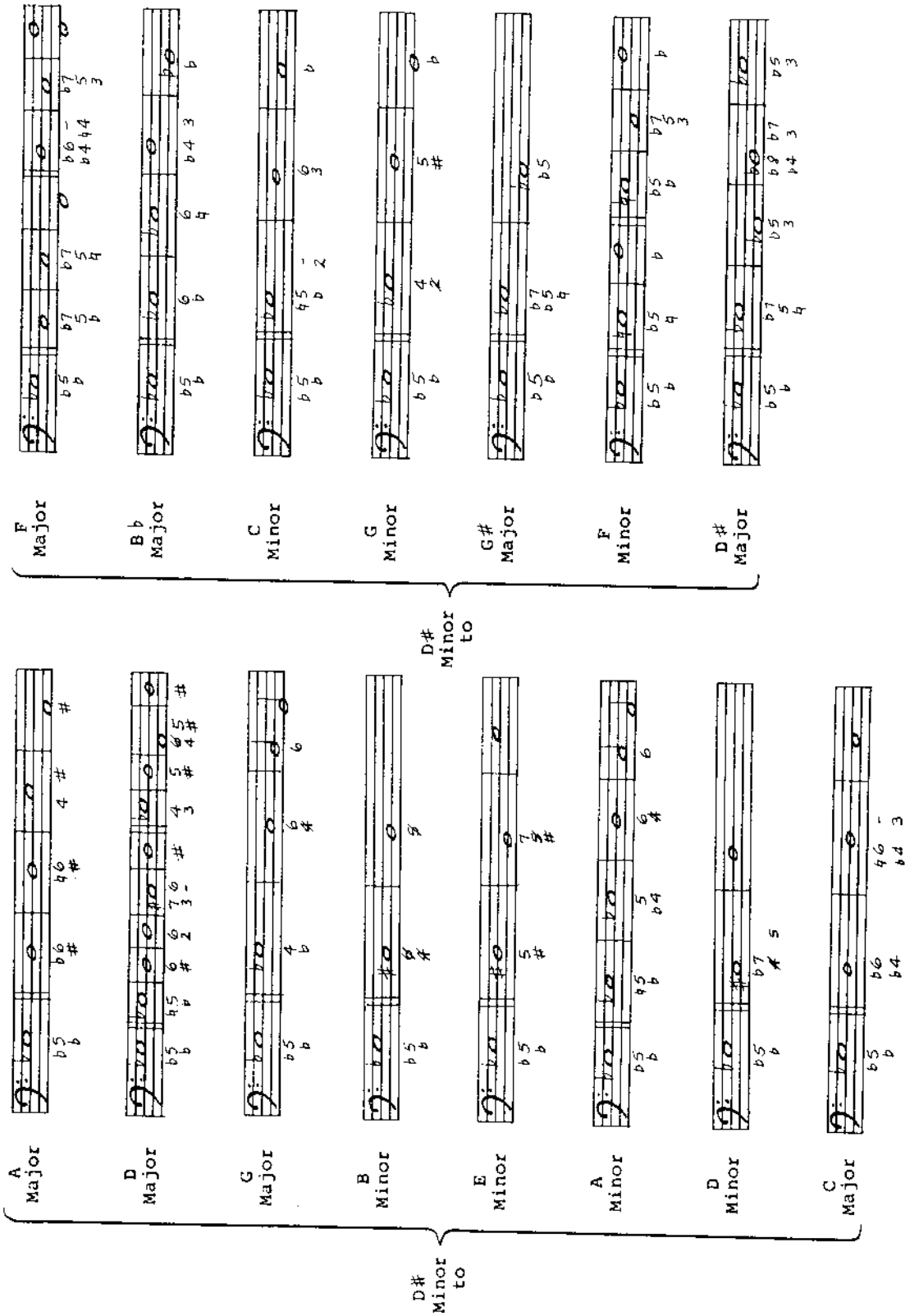

C Minor to
F# Major
B Major
E Major
G# Minor
C# Minor
F# Minor
B Minor
A Major
C Minor to
D# Major
G Minor
F Minor
Bb Major
G# Major
D# Minor
Bb Minor
C# Major

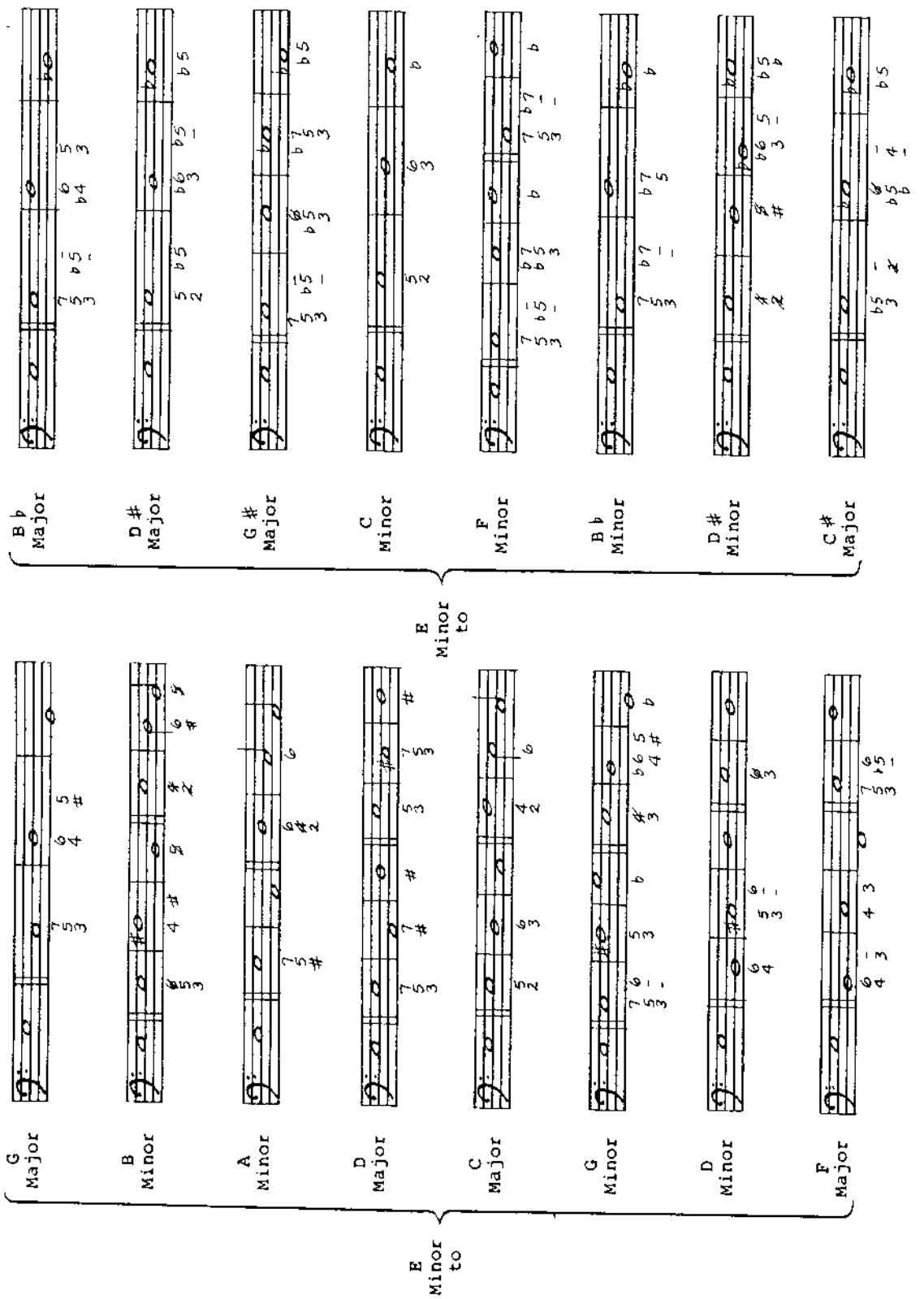

C Minor to
D Major
G Major
A Minor
E Minor
F Major
D Minor
C Major
C# Minor to
E Major
G# Minor
F# Minor
B Major
A Major
E Minor
B Minor
D Major

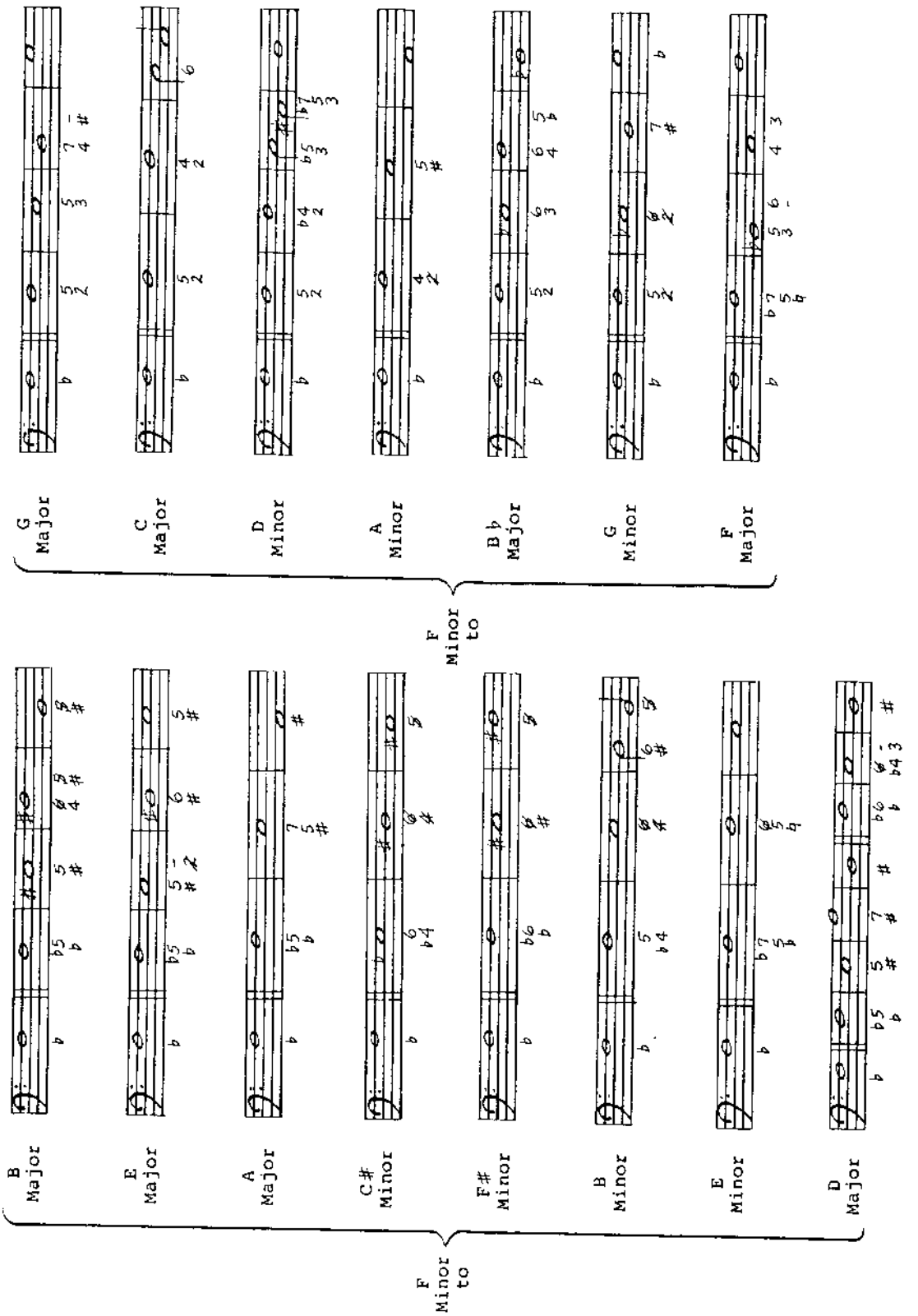

C# Minor to
G Major
C Major
F Major
A Minor
D Minor
G Minor
C Minor
B♭ Major
C# Minor to
D# Major
G# Major
B♭ Minor
F Minor
F# Major
D# Minor
C# Major

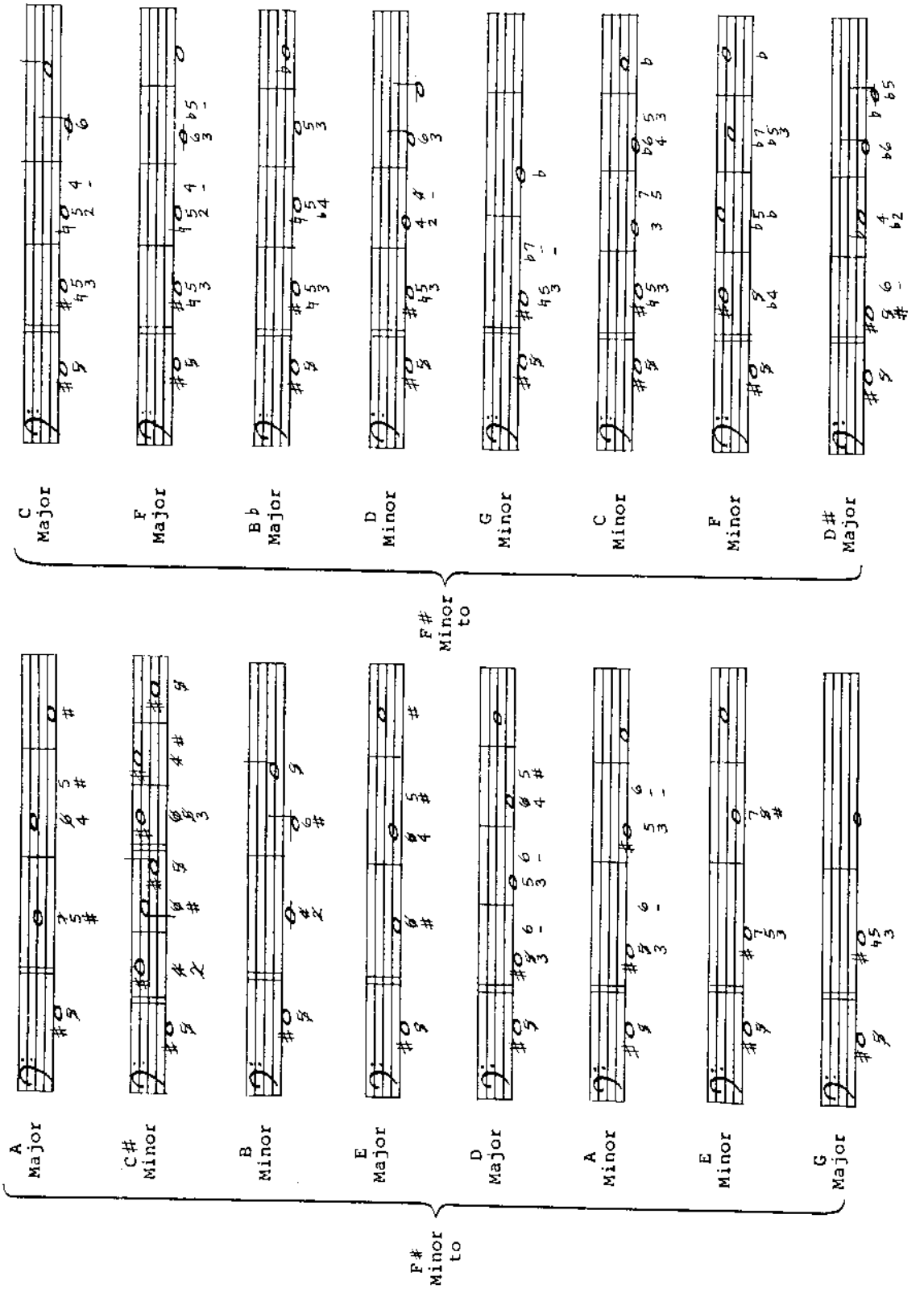

D Minor to
G # Major
C # Major
F # Major
B b Minor
D # Minor
G # Minor
C # Minor
B Major
D Minor to
F Major
A Minor
G Minor
C Major
B b Major
F Minor
C Minor
D # Major

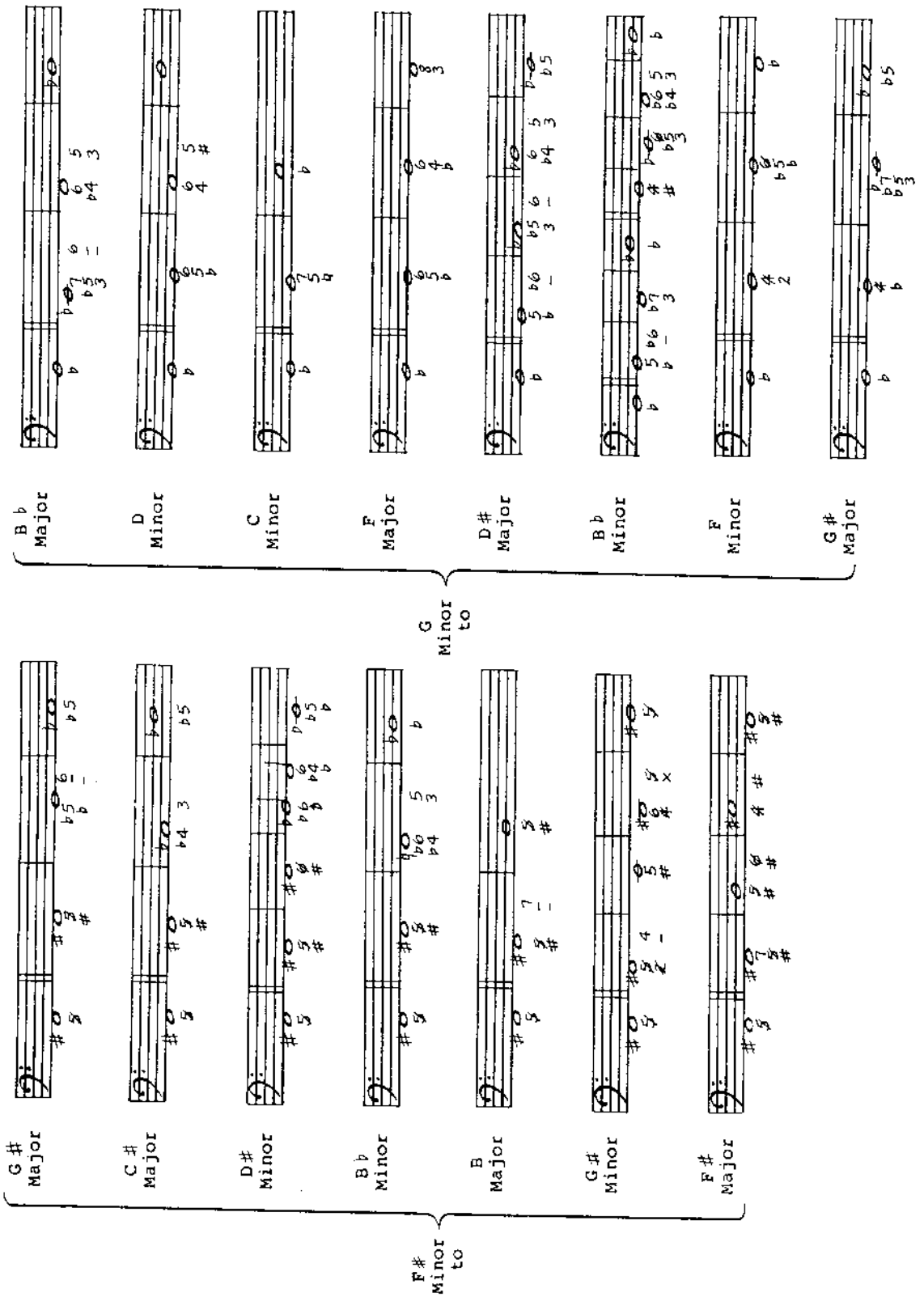

D Minor to
E Major
A Major
B Minor
F# Minor
G Major
E Minor
D Major
D# Minor to
F# Major
B♭ Minor
G# Minor
C# Major
B Major
F# Minor
C# Minor
E Major

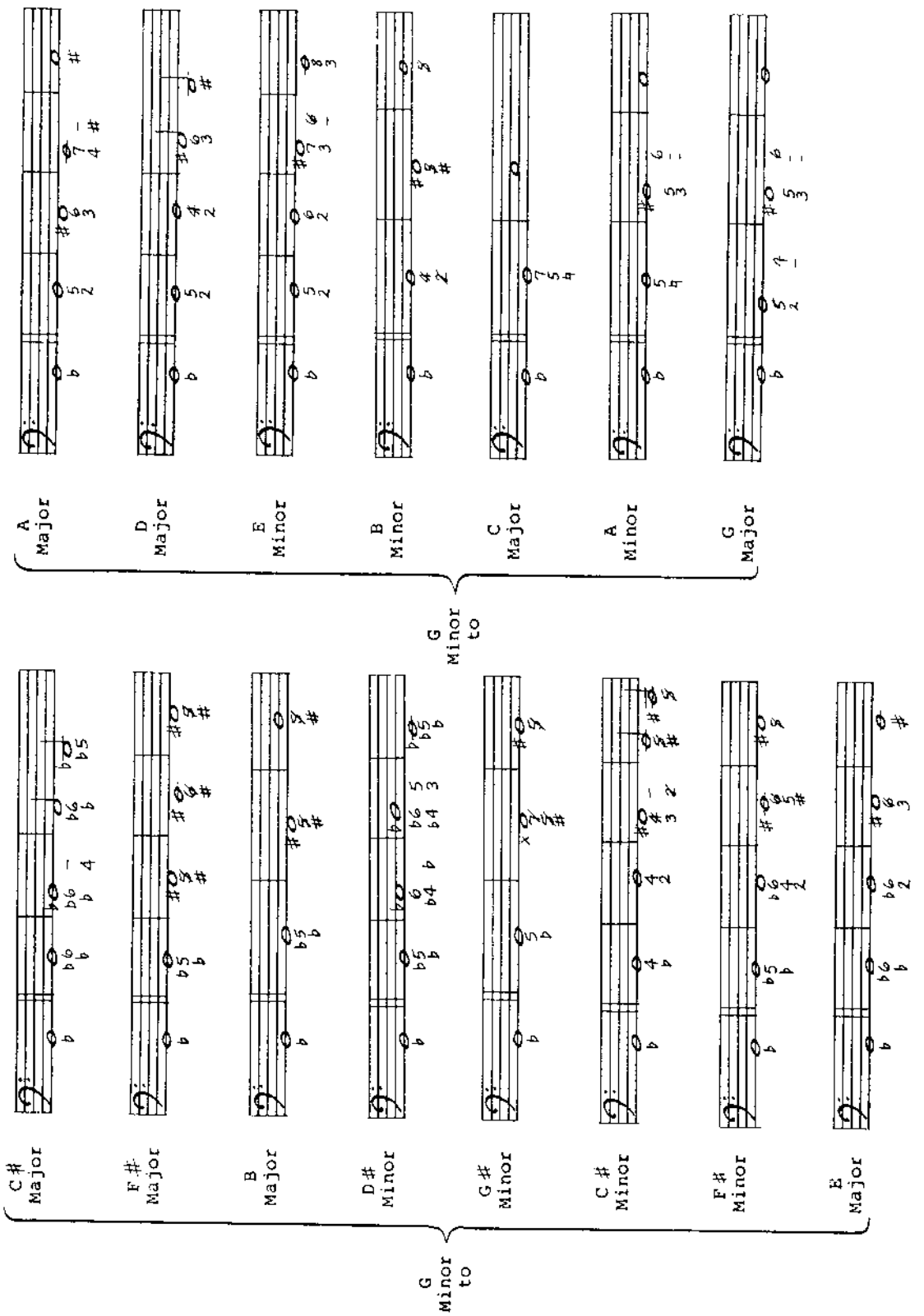

A Major
D Major
G Major
B Minor
E Minor
A Minor
D Minor
C Major
D# Minor to
D# Minor to
F Major
B♭ Major
C Minor
G Minor
G# Major
F Minor
D# Major

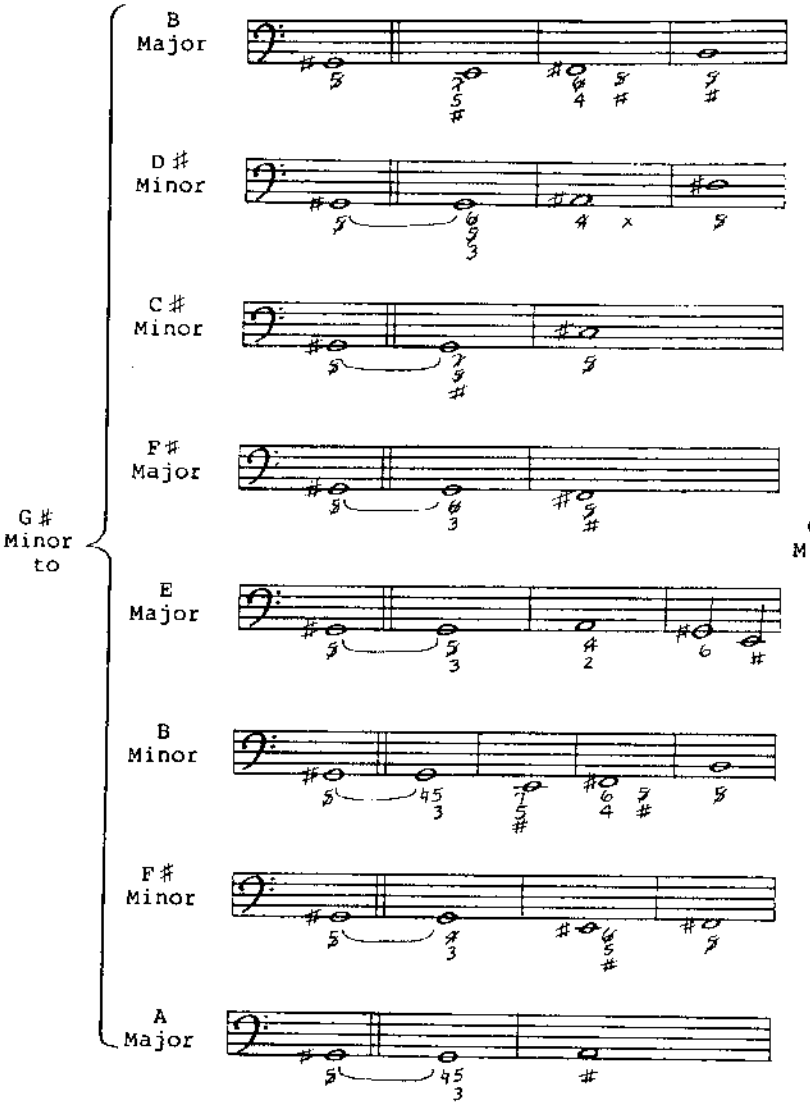

E Minor to
B♭ Major
D# Major
G# Major
C Minor
F Minor
B♭ Minor
D# Minor
C# Major
E Minor to
G Major
B Minor
A Minor
D Major
C Major
G Minor
D Minor
F Major

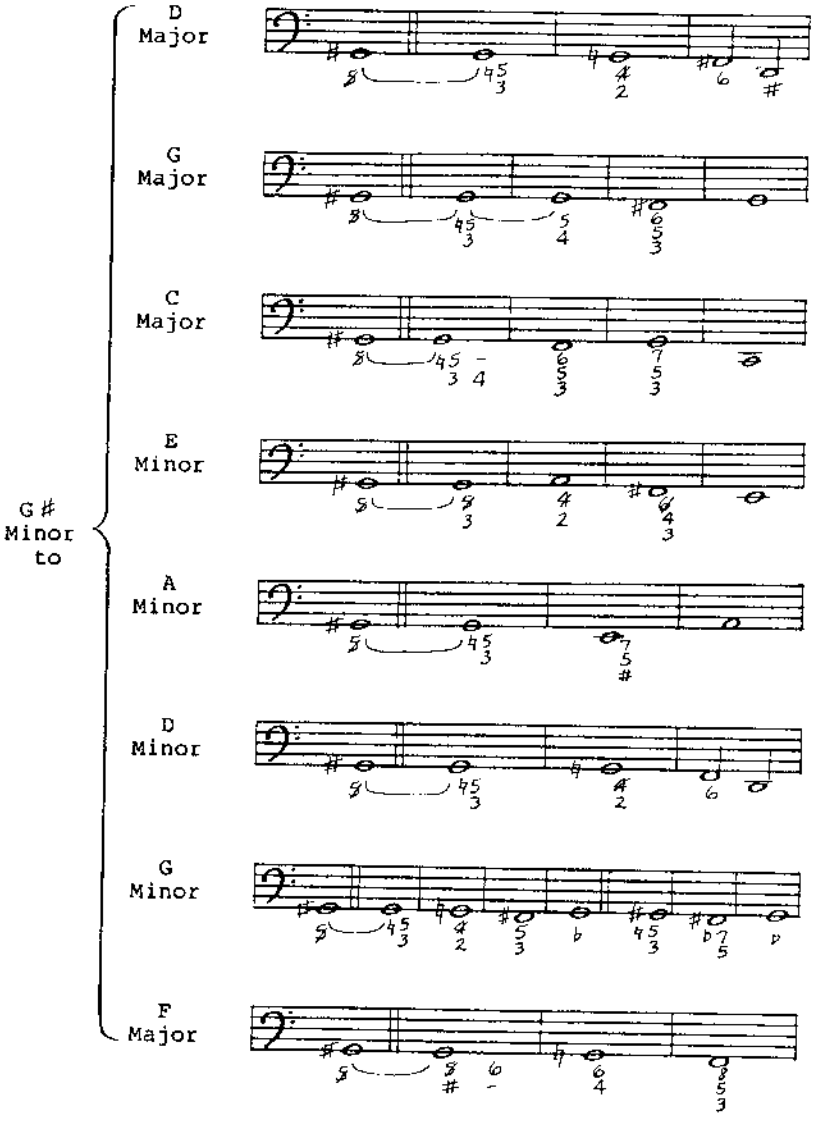

F Minor to
G Major
C Major
D Minor
A Minor
B♭ Major
G Minor
F Major
F Minor to
B Major
E Major
A Major
C# Minor
F# Minor
B Minor
E Minor
D Major

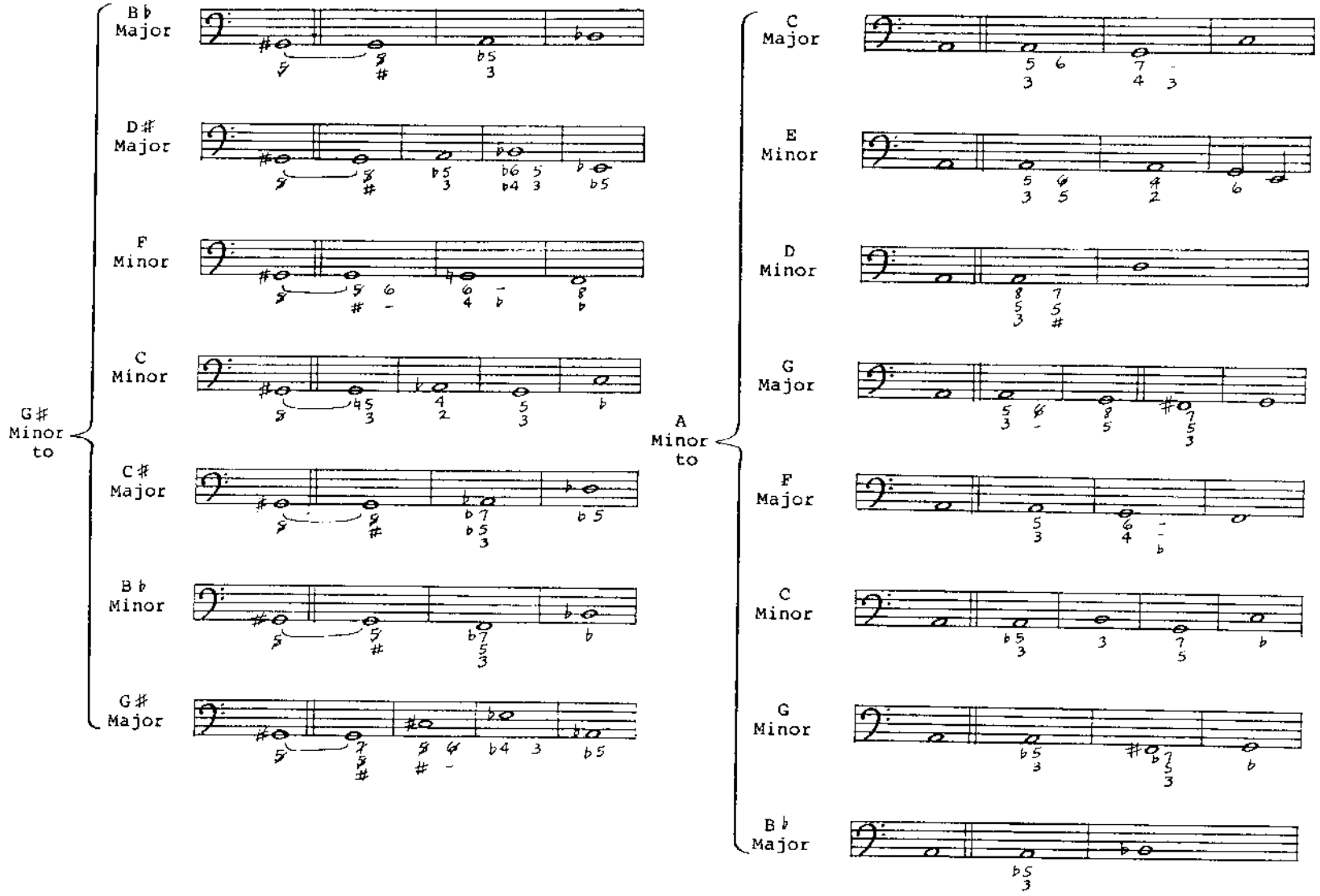

F# Minor to
C Major
F Major
B♭ Major
D Minor
G Minor
C Minor
F Minor
D# Major
F# Minor to
A Major
C# Minor
B Minor
E Major
D Major
A Minor
E Minor
G Major

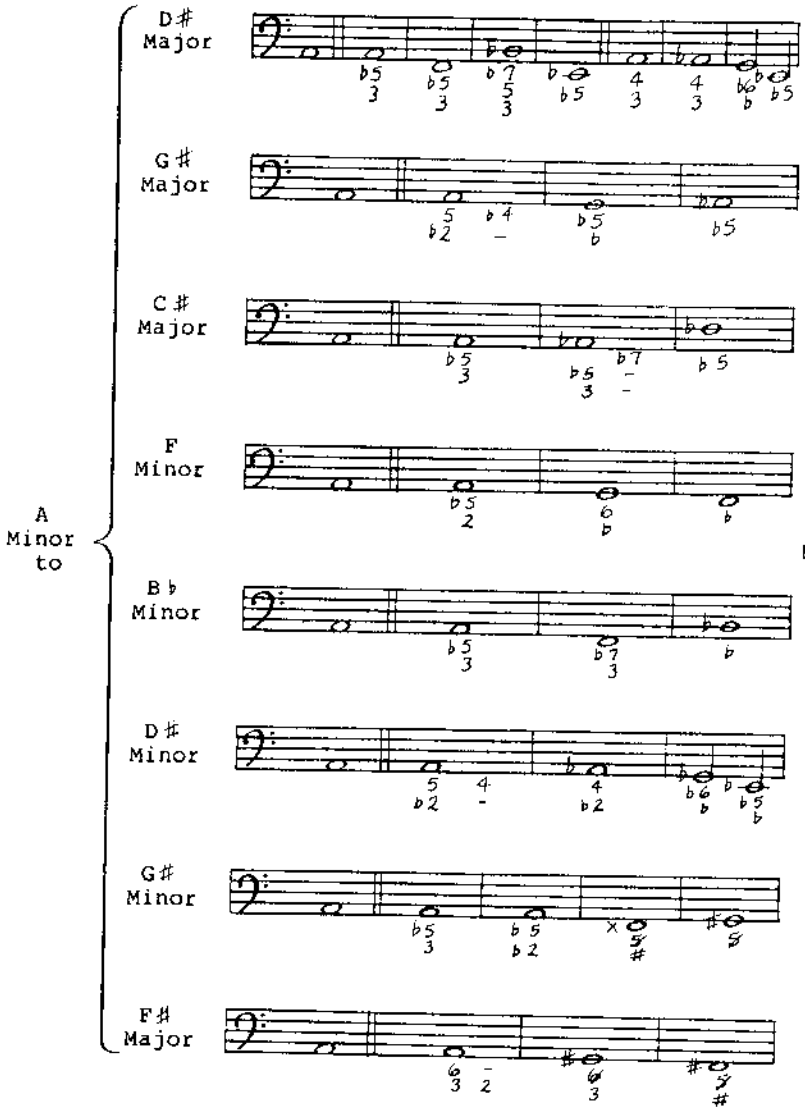

G Minor to
B♭ Major
D Minor
C Minor
F Major
D# Major
B♭ Minor
F Minor
G# Major
F# Minor to
G# Major
C# Major
D# Minor
B♭ Minor
B Major
G# Minor
F# Major

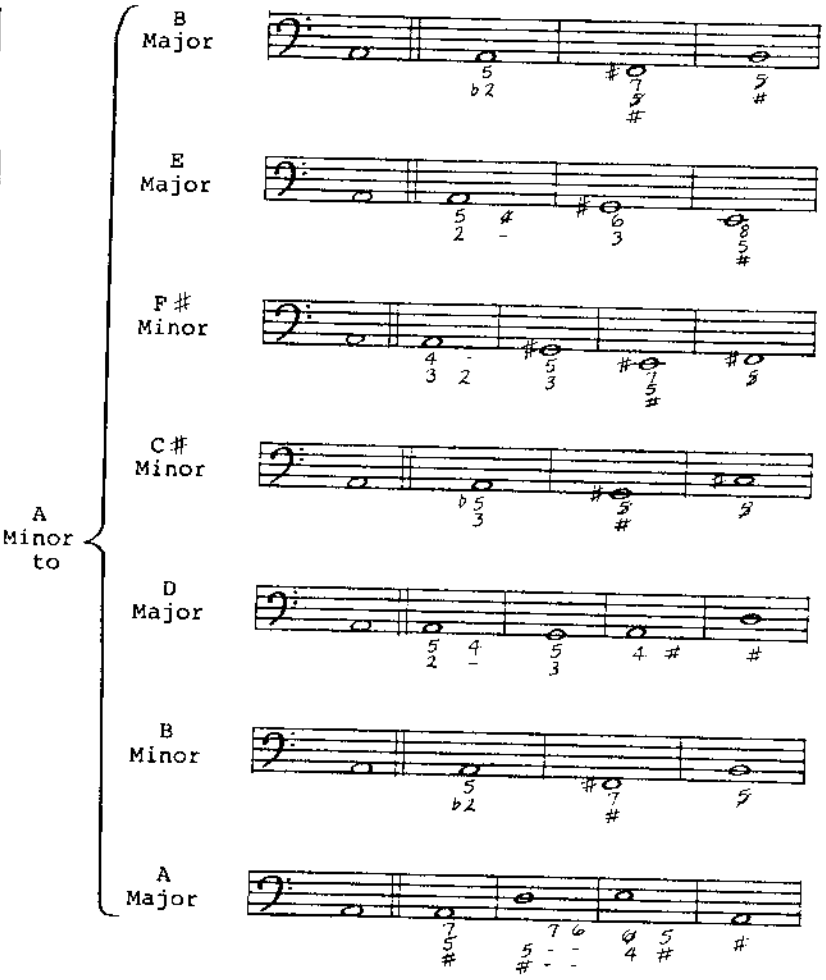

G Minor to
A Major
D Major
E Minor
B Minor
C Major
A Minor
G Major
G Minor to
C# Major
F# Major
B Major
D# Minor
G# Minor
C# Minor
F# Minor
E Major


G♯ Minor to
B Major
D♯ Minor
C♯ Minor
F♯ Major
E Major
B Minor
F♯ Minor
A Major


G♯ Minor to
D Major
G Major
C Major
E Minor
A Minor
D Minor
G Minor
F Major


G♯ Minor to
B♭ Major
D♯ Major
F Minor
C Minor
C♯ Major
B♭ Minor
G♯ Major
A Minor to
C Major
E Minor
D Minor
G Major
F Major
C Minor
G Minor
B♭ Major


A
Minor
to
D♯
Major
G♯
Major
C♯
Major
F
Minor
B♭
Minor
D♯
Minor
G♯
Minor
F♯
Major


A
Minor
to
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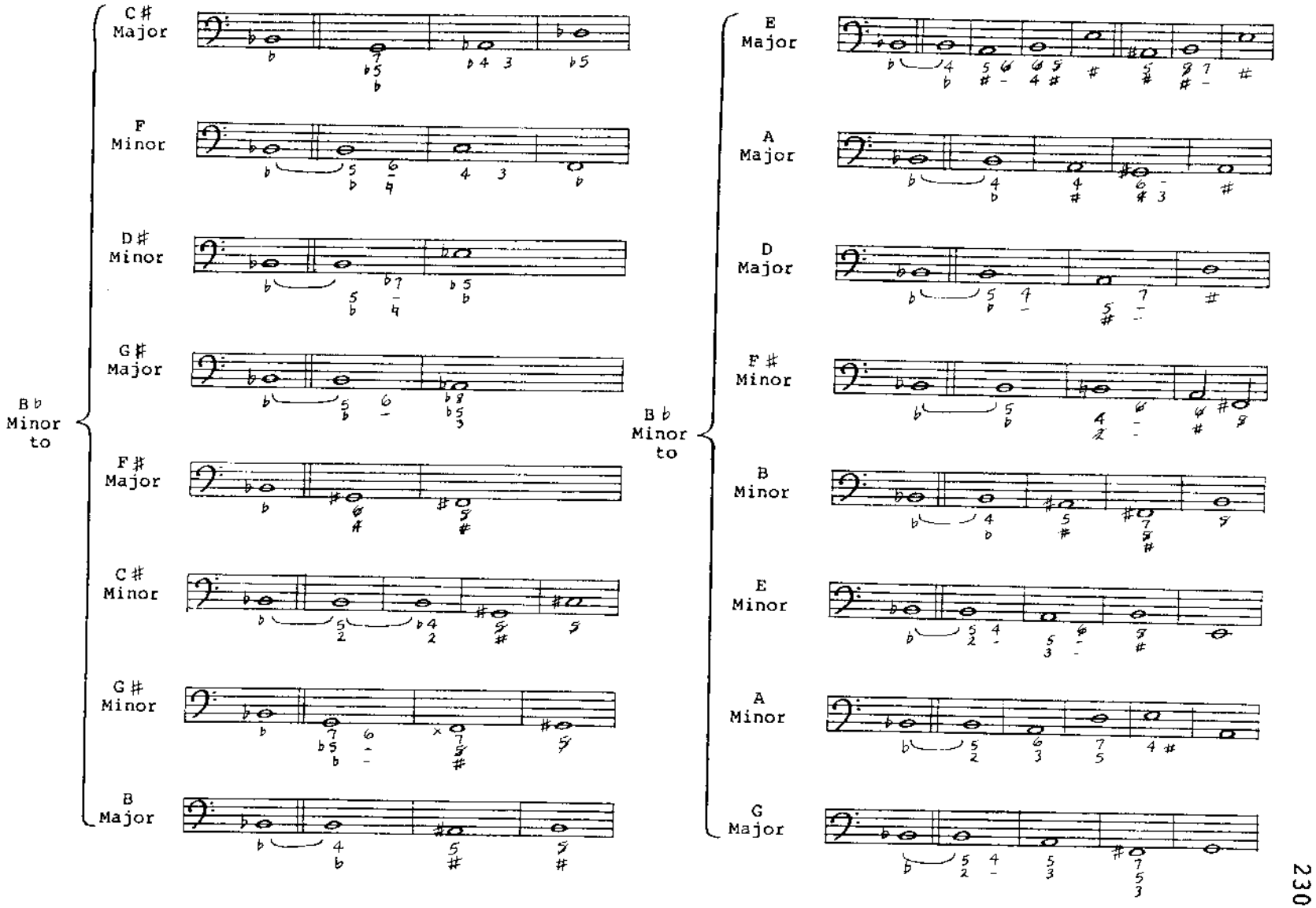
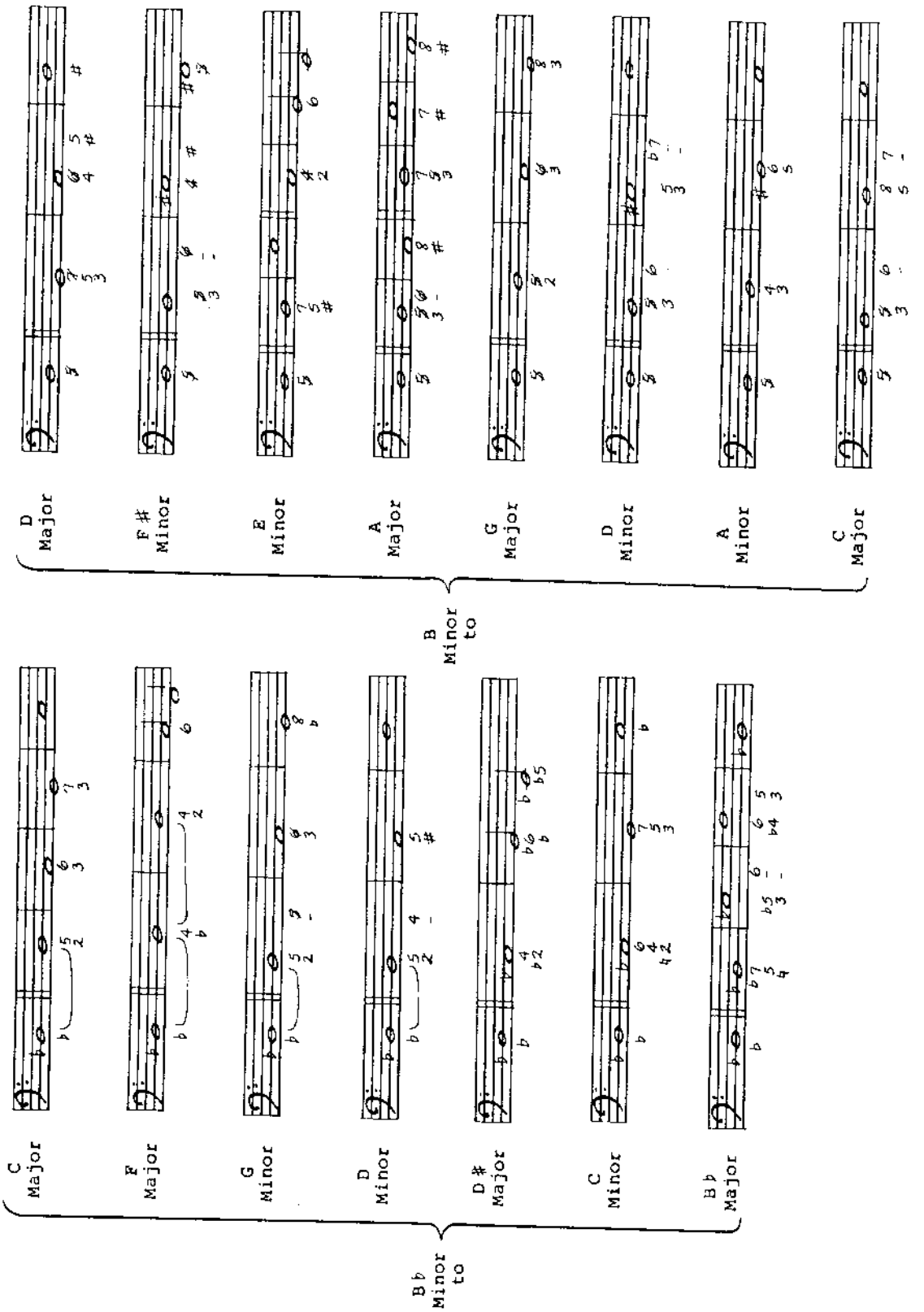
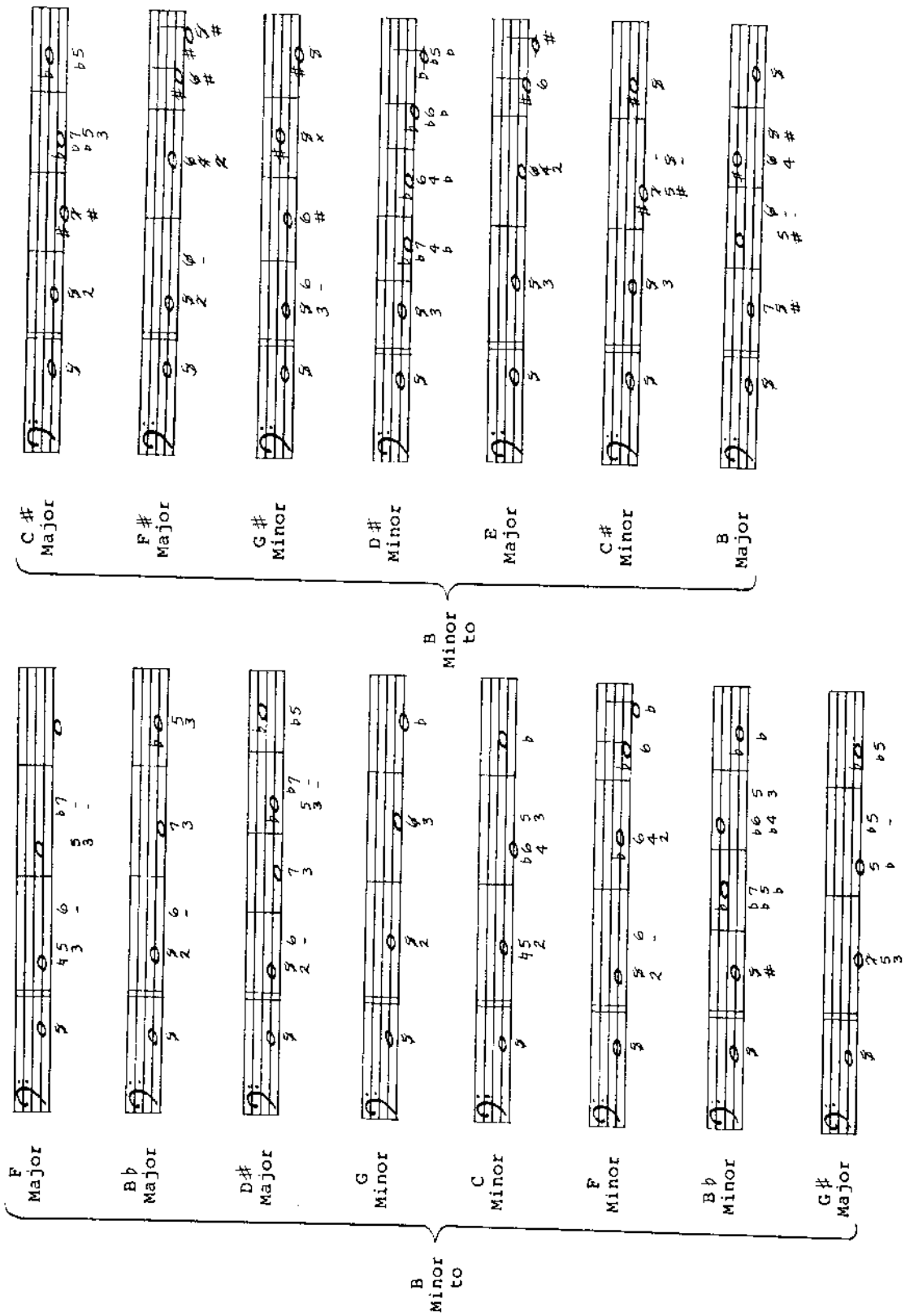
E
Major
F♯
Minor
C♯
Minor
D
Major
B
Minor
A
Major


B♭ Minor to
C♯ Major
F Minor
D♯ Minor
G♯ Major
F♯ Major
C♯ Minor
G♯ Minor
B Major
B♭ Minor to
E Major
A Major
D Major
F♯ Minor
B Minor
E Minor
A Minor
G Major


B Minor to
D Major
F# Minor
E Minor
A Major
G Major
D Minor
A Minor
C Major
Bb Minor to
C Major
E Major
G Minor
D Minor
D# Major
C Minor
Bb Major


B Minor to
C # Major
F # Major
G # Minor
D # Minor
E Major
C # Minor
B Major
B Minor to
F Major
B♭ Major
D# Major
G Minor
C Minor
F Minor
B♭ Minor
G♯ Major

¶12.

As I have already mentioned, these twenty-four keys come from the two basic keys, one of them major, and one minor. Each basic key governs eleven transposed keys, which differ only in register. Each chart contains twenty-three modulations, some of which are shown in two ways. Intervals which cannot be expressed clearly enough with figures are written out in notes; these should be played in the upper voice.[e)] If one is not satisfied with one kind of modulation, he can find another way in the same chart or the remaining [charts]. If one has recourse to transposition, major as well as minor keys can be used. "Here it should be noted that transposition calls for either a major or a minor third according to the character of the new key." For example, the modulation from C major to D-sharp minor seems to be somewhat harsh; but [the examples going from] C-sharp [major] to E minor or B major to D minor offer other ways to modulate, since the former is only a half tone higher and the latter, a half tone lower. Consequently, one may find another way to modulate merely through transposition, and thus one can work with given keys and transpositions. Minor keys can also be changed, if one wants to, in the way I have described, if one or another manner [of modulation] is not agreeable. In such a way, one can continue transposing these, always paying attention to change the third or the sixth in the cadence.

e) This includes all those notes with a double sharp. If the third or fifth is set above, the true size--especially if it is not an ordinary triad--cannot be defined either through sharps or flats. For example, if there were a double sharp before F, indicating that the tone would be played a whole step higher, and there were a 3 above it, this figure could mean either A or B-flat. Again, a simple 3 could indicate B-flat as well as B-natural, and a 3 could mean A-sharp, B, or B-sharp. It is the same with the figure indicating the fifth: with an unusual chord, the actual size of the fifth is difficult to define. When such intervals appear in today's recitative style they are clarified by the upper voice. When a flatted note is transformed enharmonically to a sharped note, the size of the chord to which it belongs cannot be expressed clearly enough with numbers.

¶13.

To avoid all possible harshness I have used key-note chords here and there to join remote chords, as may be seen in particular with the modulation from C major to C minor. Setting up a number of chords in this way, while nevertheless avoiding frequent transposition, requires much study and effort. Consequently, it is certainly possible that one or another resolution may not turn out well. But if one looks for its explanation, it will always be correct,

according to the rule of harmonic resolution. This is because: the chord of resolution should have one less interval than the previous chord; the remaining intervals should be used in the new chord and should be resolved one after the other. Application of this rule enables the ear to perceive a change only little by little, because consonant intervals are gradually changed to dissonant ones, so that they can prepare better for their separation [from the first chord] and subsequent resolution to a new key-note chord. But if anyone is not comfortable with this, I would refer him to the previous comments on transposition into one or another key. The beginner, however, should judge first of all by his ear, and then by the main rules already given to him. These can always serve as the foundation of his preluding, and indeed, as a most important lesson in composition.

The Tenth Chapter

ON HOW TO USE THE CHARTS

¶1.

Upon examination of these charts, even the newest citizen of the musical republic will be able to understand the advantage of using them. But since my attention has been directed only to beginners in thorough-bass, all simplifications possible must be made in order to please them. That is the purpose of the present chapter.

¶2.

[For example,] one might want to know how to go from C major to A major with few chords and without the least digression. The first chart shows how to do this. One only needs to find where C major may be found in A major: [that is,] where the C major chord is found, followed by $\frac{4}{3}$ and $\frac{4}{2}$ above the C, and then the inversion of the chord of the fifth of A major.[1] The latter resolves normally to the new key-note chord of A major.[a)] If one wants to modulate from C-sharp major to C major, this is shown in the C-sharp major chart (the second one). Under the heading of C-sharp major to C major[2] one will find first C-sharp major, followed by

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[1] Page 199, column A, line 5.

[2] Page 200, column B, line 3.

D in the bass with the figures $\begin{smallmatrix}6\\5\\3\end{smallmatrix}$ 3 $\begin{smallmatrix}6\\4\\3\end{smallmatrix}$, and then the key-note chord of C major. Likewise, the first chart of the minor keys[4] shows the modulation from C minor to F-sharp major. Here the two lowest intervals of the C minor chord are in sharps, i.e., B-sharp and D-sharp;[5] the fifth [of C minor] moves down a half step to F-sharp,[6] resulting in the irregular chord of the fourth of F-sharp major, followed by the correct chord of the fifth of the new key, and then the new key-note chord. One more example: If one wants to modulate from D minor to D-sharp minor, this may be seen in the third chart of the minor keys.[7] Here, as in the previous modulation, one first plays the key-note chord of D minor, then $\begin{smallmatrix}5\\3\end{smallmatrix}$, then the chord of the fifth of D-sharp minor, and finally the key-note chord itself.

a) The normal chord of the fourth of A major does not appear here, in that only two tones from this chord (D and F-sharp) are present. The reason is the distance between C major and A major. In these transitional chords it is important to look at the intervals of the previous as well as of the subsequent chord, especially

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[3]These figures do not appear above the D.

[4]Page 216, column B, line 6.

[5]They are C and E-flat.

[6]G-flat.

[7]Page 219, column B, line 5.

if those of the former should be changed or displaced by the latter. If the new key is simply too far from the first key, then only a portion of the harmony of the chord of the fourth can appear. At times the new chord of the fifth or its inversion must replace the chord of the fourth, just to satisfy the distance and the ear.

¶3.

From these four examples which I have shown, one can understand sufficiently how these charts are to be used.[b] The use is obvious when one sees all the possible harmonies together; in going through them he will find a path to the complete understanding of harmony, so that afterwards the tones or notes do not rule over him, but he has command over them. One will learn all unusual passages; indeed, the most artful passages, known to few, are exposed here. Many such passages are to be found in the famous works of Bach, where one sees the change of a sharped chord to flats and then back to sharps, and where the unsuspected entrance of a foreign key-note chord is first revealed to the ear deceptively. Such passages are justified by the rules of the ear rather than those of composition.

b) Here it should be noted that the return happens in precisely this way: i.e., the first example goes from C to A major, and to go back, one finds the A major

chart, where he sees the passage from A major to C major, etc.

¶4.

Furthermore, in the beginning the relationship of the first six keys is noted in such a way that a beginner finds a repetition of previous [material]. Also in this modulation one finds how similar the key-note chord is to the new chord of the fourth or chord of the fifth, and one sees that this happens only because of the close relationship, such as between the C major chord and the chord of the fourth of G major. Likewise, does the chord of the fifth of F major not seem similar to the key-note chord of C major? Again, the inversion of the chord of the fifth of D major or D minor possesses a likeness [to the keynote chord of C major], because C is changed to C-sharp and E and G are retained. The chord of the fourth of E minor has two tones which are found in the C major chord, C and E. Likewise, the key-note chord of A minor possesses two tones of the C major chord. All of this makes it very clear that nature has arranged it so that these modulations should be closest to C major in order to fill it out. Indeed, these modulations should accompany C always.

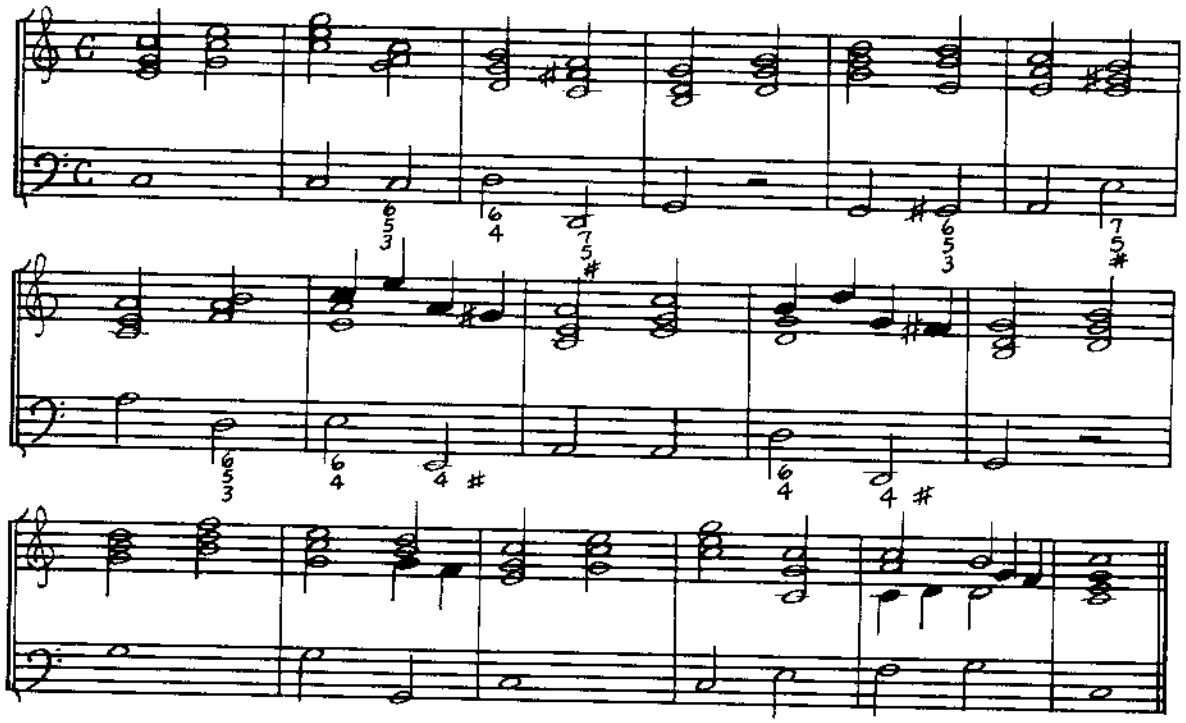
¶5.

The main use is the following: "When playing preludes, a beginning organist can modulate to diverse keys and never-

theless return quickly to the beginning key of the music or chorale." The kind of advantage this offers is known best by those who are unable to rehearse before beginning such a service, since several chorales are often given to play one after the other, one of which is supposed to be transposed a half step. Besides being essential in church music, this art is a primary part of composition, since a clever and unexpected modulation to close as well as to distant keys has no small part in musical beauty. I believe that modulations to all keys are shown clearly enough in these charts, and that in doing this, nothing has been forgotten. I have even shown the rare modulation from a major key to the parallel minor key, or vice versa.[c)]

Finally if the beginner wants to compose preludes, he will be able to draw more from these charts than he will be able to play in a lifetime. A few more instructions are in order: If one chooses a key at the beginning, looks for it in the chart, writes down this beginning key-note chord on paper, writes its first modulation with all the chords belonging to it, looks up the chart of the new key-note, and again writes out the modulation to the second key, adding it to the first modulation, then a small prelude is the result. If he wants to return to the original key, the chart of the last key provides a modulation back to the first related key (second key of the prelude). Then he finds in the chart of this key how to reach the original key again.

To extend the progression and yet not go further, one plays the three chords of the original key in each of the soprano positions of the third, fifth, or octave. This can always be done. The following example is clearer:



c) This situation rarely happens. In those melodies which are sometimes major and sometimes minor--which one encounters today in the threefold style[8]--a normal cadence or resolution seldom precedes the change of mode; rather, when the melody with a major third in its key-note chord is used up to the first cadence or pause, then this melody is repeated in a minor key without having had a gradual dissolution [Auflösung] in

[8]See footnote 2, Chapter 2.

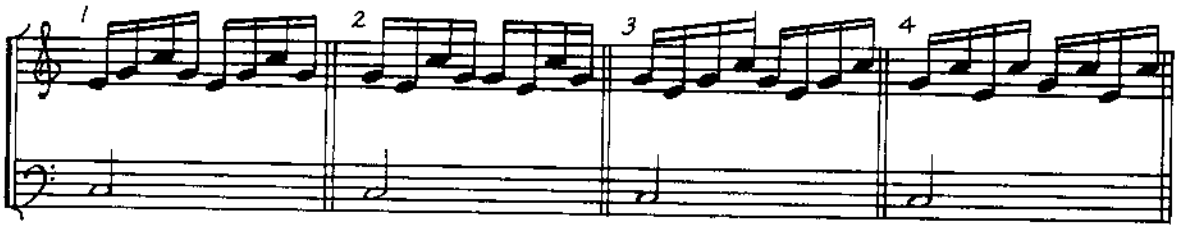
between. This is still seen in fugues, masses, etc. This proceedure can also be used in preluding.

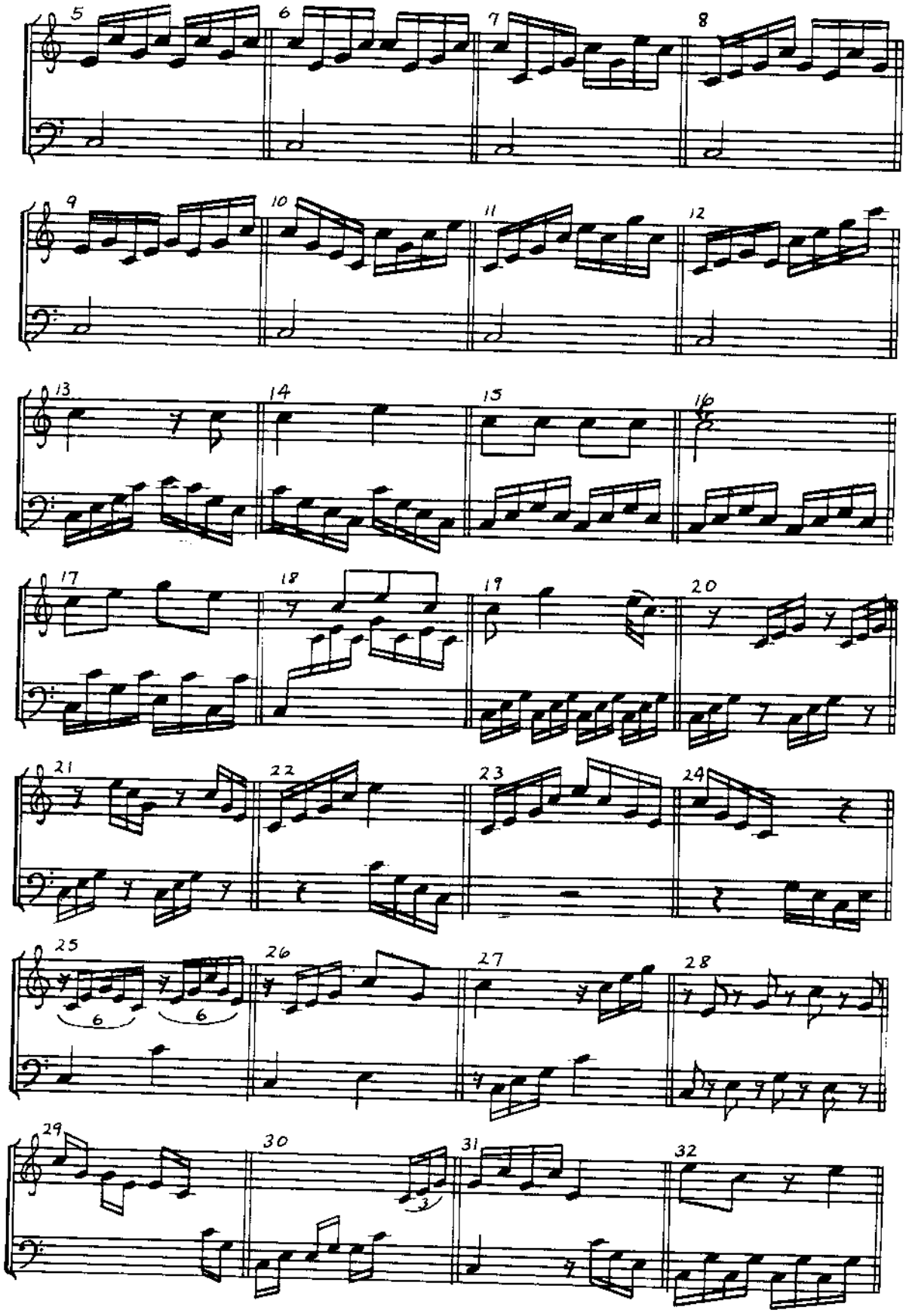
¶6.

All of the chords in this example are borrowed from the charts of C major, G major, and A minor. In this way one can derive preludes as he pleases. If he wants to change his prelude, it is done simply, (1) if each of the three upper voices is put in the bass, retaining the bass line in the last cadence, (2) if the lowest voice is played in broken octaves, (3) if the bass always begins before or after the upper voices, and (4) if each of the three upper voices is heard before or after the whole chord is played.

¶7.

If one uses these variations, he can gradually proceed to better ones which offer sufficient material to extend [the progression], even if no other interval is added [to each chord]. These [variations] are broken chords which are sometimes in the upper voice and sometimes in the bass. For those who are inexperienced, I will give an example of the best-known variations, each of which lasts for half a measure:

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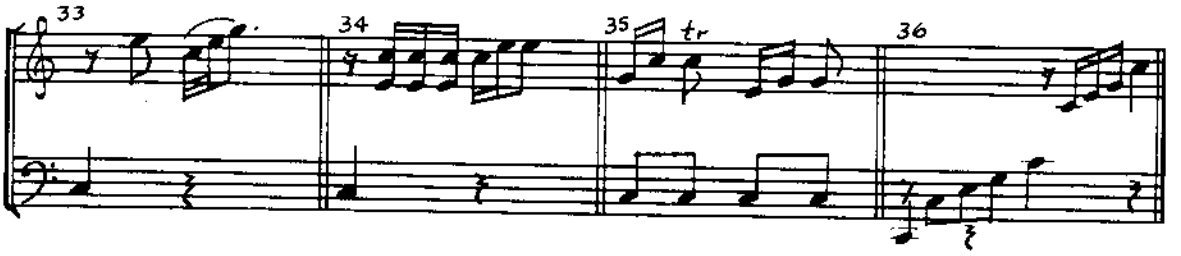

¶8.

Here are thirty-six half-measures which show just as many variations made of the previous examples. One can choose as he wishes and apply them to the preceding chords with little effort. Also, one is permitted to use only the tones found in each chord. In whatever way the first half-measure, either in the upper voice or in the bass, was arpeggiated or [set] in some other way, the next half-measure is to be continued in the same way, as I have already described, except that it is written a third higher in the upper voice (as is shown by the change in register of the chord in the [first] given example);[9] but the bass remains unchanged and unmoved. Although these variations have arisen without using new intervals, a great number of such variations may be added. However, all should consist only of tones found in each chord.

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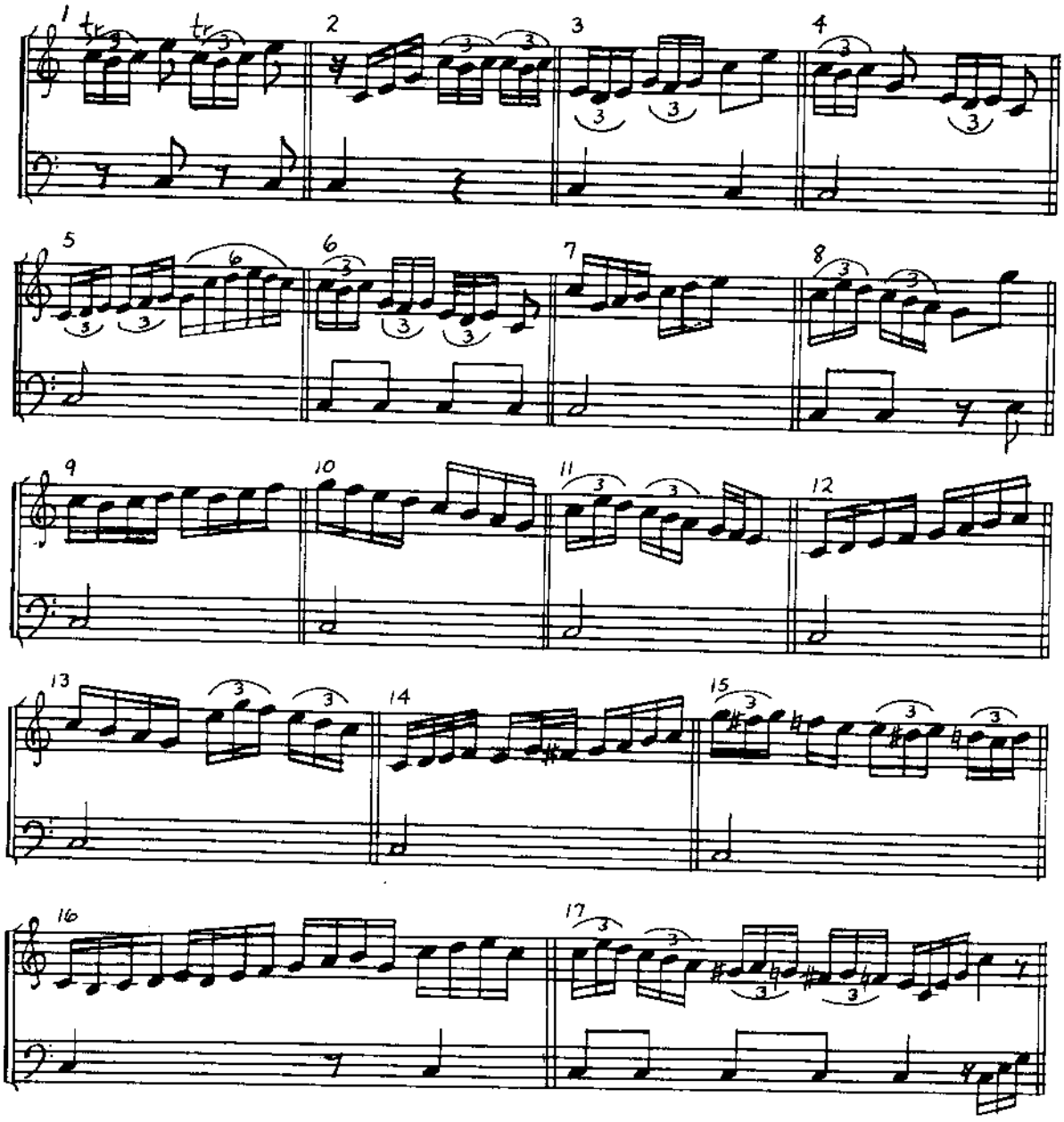
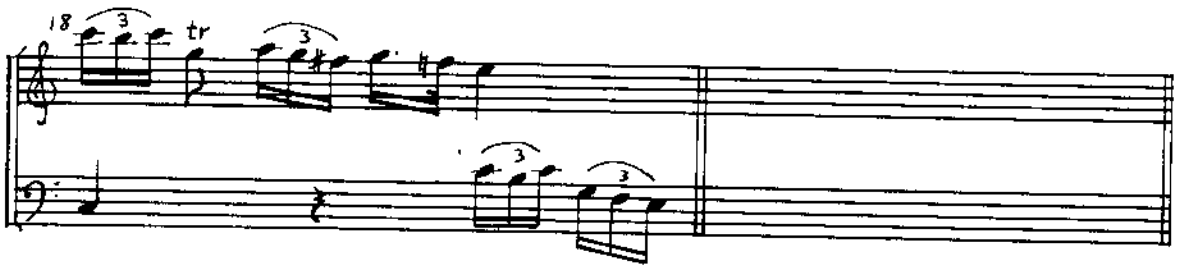
[9]A number of variants employs changes of soprano position in the second half of the measure.

¶9.

If one wants to use foreign tones and embellishments [durchgehende Intervallen], many more beautiful variations are produced, as is shown in the following example. I have arranged it so that the first one uses only one embellishment, and the following ones have more:





¶10.

Even more variations can be drawn from these and those shown previously (1) if half of each variation is moved an octave higher or lower while the other half remains unchanged, which gives a new variation in the register [Umkehrung]; (2) if two variations are made in a given example (there could also be three, four, or more); or (3) if one or more of the first variations is used with these variations; by doing this, a very large number would be produced. In general, he who knows the richness and abundance of harmony, and how it has yielded so many variations since the beginning of music, will agree with me that the multiplicity of variations of a single passage cannot be determined; it extends infinitely.

¶11.

These instructions should be sufficient for a beginner to learn how to begin, continue, and end a prelude. He will know that the basis is to be found in these charts. However, to extract an example without the slightest variation would hardly necessitate a whole treatise; therefore, I will not dwell on it any longer.

¶12.

If a beginner becomes familiar with these charts, extracts different preludes, and then tries to vary the upper and lower voices, he has already made a start at composition, and the rest of composition itself will no longer seem strange to him. This use is also great.

The Eleventh Chapter

ON ACCOMPANIMENT

¶1.

In order to practice thorough-bass completely, one needs to know three methods [of accompaniment]: (1) the simple, or common, (2) the natural, or that which comes closest to the character of a melody or piece, and (3) the artificial, or complex.

¶2.

The first of these three is the easiest. It is used in solos, trios, concertos, arias, etc. The [second] is used in recitatives and also when the solo voice has long notes with little motion.[a)] The third category is only for a skilled master and composer. In essence, it supports the upper voice either through imitation or through a second voice which joins it. This method is to be used in all lightly accompanied pieces, or in pieces with only a few voices. A good playing and imitation of the melody, together with the appropriate ornamentation, adds much to the full-voiced sound and to correcting the mistakes which may occur in this or that voice. Generally this method of playing is appropriate to maintain a good balance; however, its competent execution is a rarity.

a) The realization of the chords in the upper voice as well as in the inner voices is also important here, as may be seen in the variations of the previous chapter.

¶3.

The simple or common [method of] playing thorough-bass is accomplished when one strives to let the triad be heard at all times; there are very few exceptions to this [rule].[b] To avoid the undesirable parallel fifths and octaves, the right hand should stay within an octave and not move out of it unless both hands come so close together that the position of the right hand must be moved up one or at the most two tones. In this case it is allowed. Likewise, the following main rule should be heeded: <u>When playing thorough-bass one should always try to have from one to two common tones between chords</u>. This rule can be observed in all simply and naturally composed pieces. This rule may tolerate exception, although rare, in other pieces. In the use of this rule one should play the fifth and octave in the right hand, especially in full-voiced pieces. Only here, careful attention must be given that the outer voices remain pure, i.e., "that two fifths or octaves never appear in the fifth fingers of both hands, or in the highest and lowest voices. It is especially necessary to have contrary motion in accompaniment, as when the bass ascends and the highest voice moves in contrary motion to it, or when the bass descends

and the highest voice moves upward. Throughout consecutive sixths or thirds, both hands can go up or down [together]." But the three primary chords and their inversions are still determinent in these matters.

b) When both hands get that close together, one interval must be omitted, or the composer may want the bass to be heard alone, without accompaniment of the upper voices. At times only the third may accompany the bass, particularly in church music.

¶4.

Accompaniment is especially beautiful when the chord is played very clearly, without ornamentation or arpeggiation. A short pause may follow, during which the right hand plays the harmony of the next bass note. Lifting the hands quickly is recommended, so that the tones do not continue to sound. To strengthen the bass, one can play it in octaves, but this should not be done throughout, especially when it has leaps or running passages.

¶5.

The strong full-voiced sound--i.e., when both hands play the whole chord--seldom appears, unless it is used for a special effect or at a musical exclamation point![c)] This occurs when all voices are quiet at the same time, both in the middle of the piece and in other places as well. In

both instances one can play as much as both hands can reach, and then pause. If the upper voice has a trill or a running passage above the held note, then the accompanist will play the chord in quick arpeggiation, that is, he will attack all the intervals of the chord one after the other. But one must observe whether the singer or instrumentalist continues the melody immediately after the running passage so that this attack or arpeggiation does not happen prematurely.

c) Both cases should be noted well. The first case is when the composer uses a special dissonance: for example, when the upper voice and the bass sustain a fourth, forte or even fortissimo. One will encounter this in the works of famous masters. Often the singer or instrumentalist has the same dynamic marking of forte above a note, which the accompanist should be mindful of enhancing. A keen discernment is necessary here. The last case is seen when the sign  appears. Here also the full-voiced sound can be used. I have shown the other cases above.

¶6.

"Much depends on close attention to forte and piano paid by the accompanist, for which the best opportunity is given by the singer or instrumentalist, if he is clever. Indeed, there are passages where thorough-bass can add much to the beauty of the upper voice by the changes in dynamic

level. Only sloppy arpeggiation [Nachschlagen] of the chord, inaccurate imitation of the upper voice, unnecessary trills, mordents, and other made-up ornaments are unpleasant, and are to be avoided as much as possible. A pure, clear playing of the chord, a quick release of it, not too much sliding or jumping of the right hand, and finally, precise attention to the dynamics" are, so to speak, the most essential elements of accompaniment, and are loved and praised by all intelligent [musicians], as much as [the above-mentioned distasteful playing] is disliked.

¶7.

Complete chords are preferred over empty or defective ones. But it is also true that, for example, the upper voice, when delicate and singing but yet weak, can give the accompanist opportunity to put aside the full-voiced sound while the dynamic level is delicate and soft. But thinning [the texture of the accompaniment] is the province of a master who knows which intervals to omit. Yet it should be said that the tones of the melody in the upper voice can be left out in the above case. Good discernment will be best here. There are many who observe these rules too strictly. They use only one finger of the right hand to represent the harmony. For full-voiced accompaniment they use two fingers, but never three, even on the last chord of a piece. One should be careful of such harsh blunders. Many times they originate

from lessons and from overly strict instructions never to play two consecutive fifths or octaves in the middle voices. Consequently, all full-voiced playing is abhorred, and out of ignorance we see the following: so that such a person can realize a highly figured bass line with full-voiced accompaniment quickly, he leaves out the most important figures and chooses whichever ones he wants; this choice is between a third, sixth, or fifth, or even a second. I say that without sufficient theory it is not possible to learn thorough-bass completely. If, after many years of practice, one is able to accompany correctly--which happens rarely--, new situations may arise nevertheless which, because their origin is unknown, cannot be accounted for. But if one has a fair knowledge of theory, even an average ability can take him far in practice. One's judgement will be sharpened through theory, which does not happen through practice alone.

¶8.

What I said earlier about playing two fifths and octaves together is to be observed only in the strongest full-voiced playing. Yet if such intervals have occurred previously, they can also be added to the simplest chords. Most of the time they appear in conjunction with my three primary chords. But if a fifth is left out because of the previous [interval], then one may double another interval. Those intervals that lend themselves well to doubling are as follows:[d)]

The fifth is doubled most often.

In the absence of a fifth, the sixth is doubled the most.

The minor third can also be doubled.

After this, the octave.

Because of its intensity, the major third cannot be doubled very frequently. This is the order of doubling for all complete chords. It is not necessary to show the dissonant intervals here, because most of the time it is inelegant to double them, except in extremely full-voiced playing. It is necessary that the right hand always lie within one octave; no matter how the key changes, all changes of chords are already contained in that octave.[e)]

d) Most of the time it depends on the previous interval. For example, the key-note chord of D major is played full-voiced with the right hand, i.e., $\begin{matrix} D \\ A \\ F\# \\ D \end{matrix}$, in conformity with its character, the bass has a D. Thus this three-fold D sounds quite good if the left hand adds the octave in the bass. If the bass moves from D to F-sharp, the previous harmony can be retained with the F-sharp. In solos one must be especially careful never to leave out that tone which is not in the upper voice and yet belongs to the harmony. However, of necessity one may want to leave out those tones which the upper voice has. Dissonant intervals are doubled only in

a very strong full-voiced chord. But as I already mentioned, one has to use those intervals which were in the previous chord. If one or the other can be held into the next chord with a comfortable doubling, this causes no further dissonance. This doubling often is taken so that the following interval falls under the fingers even more comfortably.

e) It is without doubt far easier to learn accompanying according to this method than to change hand positions with every chord. Most incorrect passages occur because of frequent moving of the right hand. Besides, all whole and half steps which appear in a thorough-bass voice lie in one single octave; thus I do not understand why so many people recommend many hand movements. Perhaps it comes from the rule, ["]always consider [the use of] contrary motion; that is, the hands should go either away from each other or toward one another,["] as I have mentioned elsewhere. The reason why this rule was given was so that two fifths or octaves should not occur one after the other. [However,] avoidance of them is much surer by application of the above explanation.[1]

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[1]Daube refers to his own explanation of the three chords.

¶9.

It is advisable to learn thorough-bass in four voices from the beginning; then one would be able: (1) to differentiate between those intervals which belong to the actual harmony and the others which only fill out for a fuller sound, and (2) to arrive at a knowledge of all parts of harmony which are necessary to composition, and thereby to pave the way to that art. Besides, all dissonant chords, except for a very few, come from four intervals: those which arise through my three primary chords, as well as the uncommon and compound. The unique, and completely perfect key-note chord possesses only three intervals. In the beginning and also at the end it is heard in four voices with the octave added. When it appears in the middle of a piece, usually one of its intervals has already appeared previously, making it four-voiced, or an interval precedes it which must resolve to the octave above the fundamental. So much for the first type [of accompaniment].

¶10.

The second way to accompany is to play according to the characater of the piece. It must be remembered that this and the last way derive from the first way and are only slightly different from it. This method is used in accompanying a recitative as well as church and theater music.[f] It requires such full-voiced playing that both hands are

used to the extent that one is able. Sometimes one can play the intervals from bottom to top, one after the other; this must be done quickly and clearly. In this arpeggiation the right hand should bring out the melody of the measure that is sung, that is, as long as the upper voice continues above the bass voice. This requires a precise tempo, great care, and a keen discernment, since this arpeggiation should not be continuous. Here, the duration, the [degree of] difficulty of the upper voice, and the strength of the singer must be taken into account. When a chord is repeated, which sometimes happens, this arpeggiation can be left out, and the simple but completely full-voiced chord can be used with the lowest previous intervals omitted.[g] When the vocal line has very difficult passages or intervals, one can double [mitspielen] the line softly, according to the singer's ability; but the full-voiced chord must always precede it.

f) This concerns stringed [keyboard] instruments only. An abundance of low intervals on an organ would be disgusting. However, a clever organist should know what to add and to take away when the sacred recitative calls for a strong accompaniment of instruments, as is often done on high feast days when many strophes are sung with full choirs. In this case the organist can play what he likes.

g) In operettas and the usual chamber cantatas the arpeggiation of chords is often varied. Here they are appropriate in certain arias that have long applause, but the fundamental of the bass must always be prominent.

¶11.

This method of playing sometimes appears in arias, where the accompanist must use a full-voiced chord either all at once (block chord) or arpeggiated, especially when the dynamic marking is forte. After this the bass rests, and the vocal line continues. When a note has a fermata,  , full-voiced chords and their arpeggiation can precede and follow, as I have already noted in the first method. On occasion, one also encounters this in solos, when the composer has imitated the same aria passages mentioned previously, and also when both voices rest at the same time. It is also advantageous to use it when both voices move in equal but long notes, in which case the harmony of the right hand either can play after the bass, arpeggiate, or else create a melody. Generally [this method] can be used in all slow melodies, in which the singer or instrumentalist is either not able or not permitted to add other ornaments, in which case it can be arpeggiated in many kinds of ways. This [accompaniment] is like that of a theorbe or a lute.

¶12.

The third method comes about [(1)] when, by a clever change of the first type, one sometimes uses ties which have not been written in by the composer or have not been implied by the figured bass; (2) when the upper voice pauses, in which case one can sometimes use a few melodic figures; (3) by proceeding in thirds or sixths with the upper voice; (4) by imitating the theme of the upper voice in the right hand, or if suitable, by playing a counter melody; (5) when the bass, which is badly written despite an otherwise good upper voice, could imitate [the upper voice], but does not, because of faulty reasoning or because of ignorance; or, when the bass could proceed in fast or slow notes, but the exact opposite occurs. In this case the accompanist should use freedom in attempting to improve this accompaniment. But one must consider the person whom he accompanies. To do this he needs great insight [and] a basic knowledge of composition, and he must exercise extreme caution.[h)]

h) The most excellent Bach[2] had perfected this third method to the highest degree. Through him the upper voice came to life. Through his extraordinary accompaniment, he gave it life when otherwise it did not possess it. He knew how to imitate it with either the

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[2]Daube probably is referring to C. P. E. Bach.

right or left hand, or how to use a counter theme unexpectedly so that the listener would have sworn that it had been written that way. In this the ordinary accompaniment was abbreviated only slightly. Generally his accompaniment was always like a concertante voice, which had been worked out with the greatest diligence, and which displaced the upper voice [in interest]. This right was then extended to the bass without taking away from the upper voice. Enough! He who has not heard [Bach] has missed much.

¶13.

This last method of accompaniment is to some extent like the method mentioned at the beginning which was to be avoided. This was to be avoided because of its demand of the imitation of the upper voice throughout, its unnecessary and continuous late entry and arpeggiation of the chord, its annoying trills stolen from the upper voice, its detestable running passages, and other odds and ends. This [latter] method has none of that. Its imitation must be limited and used at suitable times. Ties must not damage the upper voice and must not last forever. The running passages must be singable and must not be unruly. The line [Gesang] [of the accompaniment] must arise from the melody of the piece and occur only when the upper voice has long notes. From this one gains an understanding of the essential parts of

the third method and how it differs from the aforesaid detested method, which is to be avoided.

¶14.

This would be the end of this part if I had not remembered several more things, which, for the sake of beginners, I will say in the next chapter. They regard how to begin and to continue learning thorough-bass, and how to do this methodically.

The Twelfth Chapter
A FEW NECESSARY REMINDERS FOR THE STUDY OF THOROUGH-BASS

¶1.

The following suggestions are addressed to those who are attempting to learn thorough-bass.[a] They will facilitate the quickest understanding of this body of knowledge. (1) It is necessary that one has practiced a few exercises in technique before he proceeds to thorough-bass, although it is not necessary to waste very much time practicing exercises if he has progressed to the point that the left hand can play [scales] up and down from one octave to another. However, he must be able to play skillfully and in all keys.[b] (2) One must be clever and inventive when he encounters a simple but poor bass [line]. (3) This is enough to begin the study of thorough-bass.

a) There is little point in discussing the reason why this chapter, which could have been put at the beginning, has been placed here. It matters little to a beginner where this discussion is placed. If he has profited from reading the whole treatise, he will find that the end is a repetition of things that are important. It is not necessary for one who already knows and practices

thorough-bass to read this treatise anyway. It was not written for him.

b) It is advisable to teach a beginner a [particular] major scale and its parallel minor, both ascending and descending, [to the extent] that he is obliged to practice them with his left hand until he has achieved moderate skill. Then one could move this key a half step up or down and again proceed through the whole octave stepwise. This must be transposed and practiced until he has gone through all twelve major and twelve minor keys and has learned to play well. I know for sure that this practice would be better and more useful than the memorization of many scores. Many [people] have a great facility in technique, yet still do not know the ascending and descending [scales] of every key, much less how to play them; yet the sizes of intervals or the distances between the steps in an octave on the keyboard are the same in all keys. For example, D major is one step lower than E major; yet the scale degrees [Stufen] in E major are the same as those in D major, as I have already stated elsewhere. There are half steps at the fourth and seventh degrees of D major, i.e., at G and C-sharp, just as they are in E major, except one tone higher (at A and D-sharp).

¶2.

After this one should take the trouble to learn the intervals, for which the two interval charts give sufficient instructions. I have already shown how they are to be used. One should know the most important intervals completely. I assume that a beginner knows that a complete chord consists of three complete intervals, that is, $\begin{smallmatrix}8\\5\\3\end{smallmatrix}$. If he knows this, he can also figure easily that the second is found immediately under the third but the fourth is immediately above it, that the sixth lies above the fifth, and [that] the seventh is found under the octave. Most of the time it is not as important to know the rest of the intervals at the beginning; instead, one can learn them completely by a brief study of the afore-mentioned charts.

¶3.

A beginner should have a knowledge of intervals before he begins to practice thorough-bass. At the beginning he should know how to distinguish intervals in at least eight [sharp] keys: C major, A minor, G major, E minor, D major, B minor, A major, and F-sharp minor, and likewise, in six [flat] keys: F major, D minor, B-flat major, G minor, D-sharp major, and C minor. Out of these, which are the most common keys, one can choose a related key and examine all the common intervals in it.[c] By so doing he will familiarize himself with all the other intervals named here, and

with whether they belong to the major or minor keys--which is always determined by the third. The major third will have a sharp or a natural, and the minor third, a flat or a natural. The former is made up of two whole tones, but the latter, of a whole and a half tone. The signature of every key should also be noted, etc.

c) At the beginning one should know the intervals of one key correctly, and he should know which intervals in this key are major or minor. For example, C major has the common major third, the perfect fourth, and the major seventh. The others--the second, fifth, and sixth--are major or perfect [vollkommene]. For the most part, C minor is different only in its minor third. The minor sixth and minor seventh which also belong here are seldom encountered. Although the minor sixth is favored more by today's taste and, along with the minor third, [it] tries to be different from C major, the minor seventh never reaches this status. It is lowered only in the key signature. In a piece [of music] however, [the lowered form] is never to be seen, except in passing motion [Durchgänge], and even there it is eliminated quite often. The first chapter on intervals gives further explanation.

¶4.

If a beginner had learned these lessons well, he would know my three primary chords (which were shown and explained in the third chapter) in a given key and in its related keys. [He would] try to retain them and their inversions in his memory,[d] [and] likewise, he would become familiar with the numbers that result from the inversions. This lesson is all the easier to learn because it consists of only three chords which remain unchanged in the right hand; their inversions occur as a result of a bass note change in the left hand. If one had learned this as well, he would already have attained a rather good understanding of thorough-bass, especially when the knowledge of the remaining keys is added thereto.

d) This is without doubt the easiest way to learn thorough-bass. Think! How much time is spent merely on learning so many chords? How much practice is involved? According to this system only three chords in each key need to be observed. The bass leaps to various notes, but it must always leap to an inversion of the three primary chords, while the right hand holds one of these three chords in its original position.

¶5.

After this one should take a figured bass line in a particular key and be observant upon looking through it.

He will find that unless it is too complex, the line will have no chords except the above-mentioned three primary chords and their inversions. After the bass modulates to other keys, the analysis must be altered accordingly: as soon as the beginning key changes to its most closely-related key, one must analyze it in this new key. For example, the first modulation from C major is up a fifth to G major. Now one must analyze the three primary chords according to the key of G major, where the chord of the fourth becomes C, the chord of the fifth, D, and the new key-note, G. I have shown in the previous chapters how to recognize each modulation; that is, that one should always look for the major seventh. Whether [the key is] major or minor can be seen from the key relations of the opening key. At one place I have said that the most closely-related key is no farther away than one sharp or one flat. If a new sharp or natural appears, a modulation has taken place. This new sharp or natural is always the major third of the new chord of the fifth.

¶6.

After this analysis one plays the figured bass, playing the three chords with the right hand and repeating them until the key changes. The three primary chords usually follow their hierarchical order: the key-note chord or its inversions, the chord of the fourth or its inversions, [then]

the chord of the fifth or its inversions. But the chord of the fourth can also be left out in one to two measures, leaving only the key-note and the chord of the fifth. The reason for this is that the upper voice sometimes has no tone found in the chord of the fourth, and thus that chord must be omitted. But because tones are present in the chord of the fourth which are the same as those in the chord of the fifth, a beginner cannot tell whether he should play the chord of the fourth or the chord of the fifth. The following [observations] should serve [to resolve this dilemma]: When the key-note chord or its inversions follow such an interval, it belongs to the chord of the fifth; but if the key-note chord does not follow, then it belongs to the chord of the fourth. This bass must be played often enough so that practical ability follows immediately upon theoretical understanding.

¶7.

When one has played these three primary chords well and has practiced them often, he should turn to the fourth chapter, which shows the origin of the rest of the symbols, or dissonant chords. Through careful examination of this chapter, one will learn to recognize all of the remaining unusual chords found in thorough-bass. But because one could encounter bass lines with very strange resolutions (for example, when a chord other than the key-note chord follows

the chord of the fifth), one should read the seventh chapter on uncommon, or strange, resolutions, and he should familiarize himself with the rules, footnotes, and examples in it. After this, such unusual progressions will become quite clear and easy.

¶8.

When these lessons have been studied and practiced thoroughly, I would advise that one try the three primary chords in all twenty-four keys; this is very easy because there is such a small number of chords. I know for sure that this practice would be of great use. One certainly meets people who are knowledgable and skillful in accompanying in the keys which are in everyday usage, but if a modulation to an uncommon key comes up by chance,--such as [a modulation] to C-sharp major and minor, to F-sharp major, to D-sharp minor, or to G-sharp major and minor--they are at their wit's end and think only of maintaining good harmony. Through this small amount of practice one can learn to accompany in all possible keys. These become familiar as do the most essential chords. One also attains a great ease and skill in preluding, which is a considerable part of the art of playing the organ.

¶9.

The last lesson would consist of the study of the remaining chapters of this treatise. This would make preluding

easier, and it would open the way to improvising [Fantasiren], since the frequent alterations of the upper voice and of the bass would give the opportunity to invent melodies of all types. Whoever is willing to go to the trouble to work through all the charts, that is, through all chords and resolutions, would not regret this use of time.

¶10.

Finally, the following, which one may hope to achieve through this course of study, is of no small use: One becomes capable of figuring a bass voice with ease and of playing an unfigured bass voice when he has learned only a few chords and their inversion, as well as the unusual chords. However, one will not understand all bass lines; without a precise study of the upper voices it would be impossible to figure them. As I have mentioned, one encounters a few pieces (for example, in masses and other church music, and in a few so-called chamber trios, etc.) which are filled with ties from beginning to end, producing one dissonance after another, and which often go beyond the normal usage of ties. Similarly, [these pieces] do not adhere to a particular key except at the beginning and at some necessary cadences; the melody flutters around constantly, and one does not know from whence it is coming or where it is going.[e] These pieces are impossible to figure without the aid of the upper voices, since they deviate so far from the natural, most

beautiful, and simple manner.

e) This method of composition is considered by some to be quite beautiful, because it steps out of the natural into the artificial [verkünstelte] [style]. For example, if one begins a melody in C major and uses all the semitones within the octave, would this be order, to which nature and the ear are to become accustomed? To mix extraordinarily strange musical thoughts with a naturally flowing melody--and to know how to unite the two--surely requires a great skill and a high level of compositional ability; only those who possess the talent, experience, and good judgement which make an experienced composer are capable of it. One must use semitones sparingly so that they make that which is good better. A continual chain of ties is also not to be rejected when their purpose originates in particular passion.

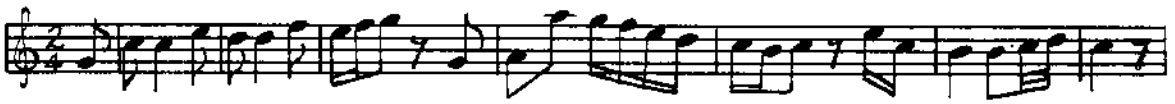
¶11.

In accompanying an unfigured bass line, one need not attend to frequently used ties throughout. One observes only the three primary chords, and after their introduction, one plays their inversions clearly and purely. The ties are nothing but delays or retardations [Verweil oder Verzögerung] of an interval. The tied note, which remains when its true [harmony] disappears, is drawn into the new chord

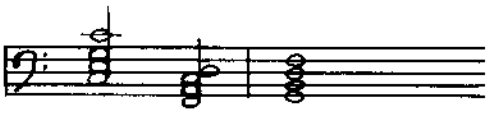
and then disappears (I have already given a rule about its origin in the Foreword). How could both an accompanist and a singer or instrumentalist manage if the accompanist always were to follow the soloist, or hold back [the tempo] within the measure when the soloist used nothing but slides [Schleifungen], appogiaturas [Vorschläge], etc., as frequently happens? It is up to the performer, according to his individual taste, but with this distinction: the accompanist has to deal with the ties shown on paper, and the soloist brings this about at will, without being governed by the written music.

¶12.

This was to be the end of this treatise, but because I have added a few notes here and there which really apply to composition, I want to show clearly the best way for beginners to use the three primary chords in composition, and to prove that one could compose a correct bass for a given melody or upper voice just through a knowledge of these chords. One cannot call this bass artful, but it would be correct. It is enough that a beginner know just these three primary chords in the most common keys. If he does not know this and just possesses a chart of these three chords in the most common keys, he can profit from its council and, as a result, write a bass to an upper voice. For example, one may want a bass for this melody:



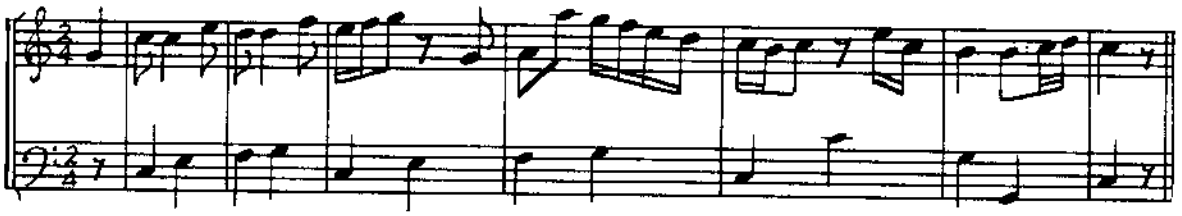
Since he knows that the melody begins and ends in C major and that there is no modulation because of the absence of sharps and flats, he writes the three chords on the side:



It is advisable always to consider the two lowest notes to be the normal bass or fundamental tones, and to use them as such; thus they may be interchanged.[1] Now one sees that the first measure contains no tones except those found in the first chord. (Although C is in the second chord, E is not). In the second measure D and F appear, both of which are found in the second and third chords. Thus the proper progression of these chords can be observed so that the chord of the fourth is used before the chord of the fifth. (The chord of the fifth must follow the chord of the fourth since the key-note [chord] follows it immediately). The third measure has three tones from the first chord; the fourth tone [F] is passing because of its speed. Here the two lowest tones of the key-note [chord] can be interchanged. The first half of the fourth measure has an A which belongs to

[1]That is, root position and first inversion are acceptable.

the chord of the fourth, and the second half, three notes out of the chord of the fifth. The fifth measure returns once again to the first chord. The sixth measure shows how cases may arise in which the chord of the fourth is left out. Thus the whole bass would be as follows:



So much for that. The second part will teach more.[2] If one follows the instructions given in this treatise, it will soon be apparent whether this teaching is sincere and true. The simple use of this part will be doubly apparent in the instructions on composition in the second part.

Leipzig, printed by Johann
Gottlob Immanuel Breitkopf.
1756.

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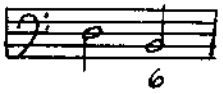
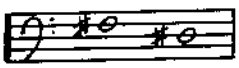
[2]See footnote 1, Chapter 2.

CRITICAL NOTES

The notes below show the original readings for passages which have been altered in the transcriptions. The abbreviated form employed gives the page (and column), the line number, the measure number, and the original version.

1. 126, 1, 1: G - B - C - C-natural.
2. 145, 3, 3: $\flat\frac{6}{5}\#$.
3. 148, 1, 1: $\frac{6}{4}$ $\frac{}{3}$.
4. 171, 1, 5: second note, C.
5. 198, B, 3, 7-8: 4 above bar line.
6. 203, A, 8, 3: 
7. 206, B, 3, 3: B-sharp.
8. 210, B, 2, 3: $\flat\frac{6}{5}\#$.
9. 212, B, 6, 3: ~~6~~.
10. 214, B, 2, 3: $\frac{6}{5}$.
11. 214, B, 4, 3: $\frac{6}{4}$ $\flat$.
12. 214, B, 7, 3: $\flat\frac{7}{5}$ $\frac{}{3}$.
13. 215, B, 3, 4: 
14. 216, A, 3, 4: $\frac{6}{4}$ $\flat 2$
15. 216, A, 7, 4: B-natural.
16. 218, B, 2, 3: A-natural.
17. 219, A, 8, 1: F.
18. 225, B, 5, 4: $\flat\frac{6}{4}$
19. 226, A, 4, 4: B-natural.

20. 226, A, 6, 2: $\flat\frac{4}{3}$

21. 229, A, 6, 3: $\frac{5}{2}$

22. 230, B, 7, 6: G.

23. 244, 3, 2, $\mathbb{G}$: 

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