

UNIVERSITY OF THE ARTS
LIBRARIES

Twentieth Century Fugal Practice

by

Donald R. Chittum

THIS ITEM DOES NOT CIRCULATE
UNIVERSITY OF THE ARTS LIBRARY

UNIVERSITY OF THE ARTS LIBRARIES

Table of Contents

Part I: Historical Aspects of the Page Before the Twentieth Century

Medieval and Renaissance	Page 1
Baroque	Page 15
Classical and Romantic	Page 35

To

Joan and Donnie

Part II: Materials and Devices in Twentieth-Century Pages

A. History and the Subject	Page 39
B. Title and Author	Page 45
C. Bibliography	Page 125
D. Experimental Devices	Page 128
E. Spatial, Middle, and Closing Entries	Page 130
F. Illustration	Page 187
G. Personal Files	Page 225
H. The Synthesis of Materials and Devices	Page 230

Appendix

Page 232

Index

THIS ITEM DOES NOT CIRCULATE
UNIVERSITY OF THE ARTS LIBRARY

THIS ITEM DOES NOT CIRCULATE
UNIVERSITY OF THE ARTS LIBRARY

UNIVERSITY OF THE ARTS
LIBRARIES

Table of Contents

Part I: Historical Resume of the Fugue Before the Twentieth Century

Medieval and Renaissance	Page 1
Baroque	Page 13
Classical and Romantic	Page 32

Part II: Materials and Devices in Twentieth-Century Fugues

A. Melody and the Subject	Page 53
B. Rhythm and Meter	Page 83
C. Counterpoint	Page 103
D. Contrapuntal Devices	Page 122
E. Initial, Middle, and Closing Entries	Page 140
F. Episodes	Page 183
G. Formal Plans	Page 201
H. The Synthesis of Materials and Devices	Page 212

Conclusion	Page 240
------------	----------

Selected Bibliography

Addenda

Page 1, line 7 should read: include a greater number of musical practices. In spite of this, however, I believe that the most necessary attribute of fugue is its imitative exposition. The author proposes, etc.

Page 246, line 13 should read: structural ideas inherent in the subject; i.e., inversions of motives in the subject may suggest the use of melodic or contrapuntal inversion, which would then be applied to the subject in toto, etc.

Page 246, last line should read: of musical thought. Or in other words, owing to the disintegration of fugue caused by the collapse of the major-minor harmonic system, it seems that if fugue is to live it must incorporate the new devices now found in the non-fugal, but still contrapuntal, music of the twentieth century.

Preface

An important characteristic of twentieth-century music is its emphasis upon counterpoint and allied devices: as a result fugue becomes, once more, a significant vehicle for the development of musical ideas. The purpose of this dissertation is to determine what seems to be common practice in twentieth-century fugues, and to codify the contributions of twentieth-century composers to the evolution of fugue.

The main basis for this study is a selected group of approximately one hundred contemporary fugues. While a larger group actually passed through my hands, many seemed to lack the quality necessary to be included in this study. An effort was made to represent as many different contemporary styles as possible; the relative unavailability of foreign scores, however, has caused this study to be centered primarily around the fugues of native American composers or European composers who have migrated to this country.

The dissertation is divided into two parts, followed by a conclusion. Part I is a historical resumé of the contributions of various periods to the evolution of fugue. It sets the stage for Part II, which is an analysis of the specific materials and devices used in contemporary fugues. In this part, I attempt to show the influence of past periods, to illustrate what seems to be common practice in contemporary fugues, and to determine the contribution of the contemporary period to the development of fugue. *In Section A of Part II I attempt*

to show what seems to be common practice in contemporary fugue subjects in relation to shape, placement of climax, range, length, leaps, motive organization, and tonality; to illustrate how the subject may suggest certain intervallic ideas or contrapuntal devices which are later used in the fugue; to illustrate the use of modes other than the major and minor, and the expansion of the scale from seven to twelve notes; to illustrate the expanded implied harmonic basis of melody, the use of parallelism, and the influence of certain contemporary theoretical observations on particular kinds of melodic organization.

Next, it seemed logical to discuss rhythm in order to show how it has evolved to a state where it is no longer subordinate to tonality, and consequently plays a more decisive role in the overall development; and also to illustrate the use of such novel devices as isorhythms, asymmetrical meters, hemiola, polyrhythms, polymeters, multiple time signatures, and various subjects in different tempi.

Following this melodic independence between parts, the melodic cadence, and the use of the suspension are discussed. Also discussed in this section is the expansion of the harmonic basis to one which permits a greater number of vertical dissonances which suggest various kinds of contemporary chordal formations, the treatment of these dissonances, and the thematic derivation of contrapuntal intervals.

At this point it seemed prudent to ascertain what kinds of contrapuntal devices have been carried over from former periods, and discuss more recent devices as the use of large stretti, duplex and triplex canons, and the mixing of certain homophonic and polyphonic devices.

This leads to a discussion of the typical manners of exposition, the use of redundant entries and counterexpositions, the duplex subject, and the role of countersubjects, codettas, and accompanying counterpoints. It is shown that the exposition need no longer be composed for a fixed number of voices, that new pitch schemes have evolved, and that the pitches of middle and closing entries may be derived from the pitches used in the exposition or based upon some symmetrical intervallic arrangement. It is then shown how closing entries usually follow the models of the fugues of earlier periods.

A discussion of non-subject material then follows, based upon a description of the function, structure, and manners of development used in contemporary episodes. I also illustrate common contrapuntal devices, and the manner in which episodes are related to each other, testifying to their reliance upon older modes of development.

This position is maintained through the next section, in which it is necessary to discuss contemporary fugal formal plans in order to show that no essentially new ones have been discovered. Also discussed are isolated instances of fugues with subjects in different tempi, a fugue in retrogression, and a fugue with a re-exposition serving as a coda.

And in the final section of Part II it is the author's intension to illustrate the degree to which certain contemporary composers have integrated the vertical and horizontal dimensions; and how basic structural ideas affect melody, the choice of contrapuntal intervals, chordal structure, progression, the pitches of imitative entrances and strettii, the choice of devices, and overall tonal relations.

While one might expect a study of this kind to deal with the various aspects of serial technique, it seemed prudent to this author to discuss devices associated with this idiom in so far as they are used in actual fugues, since a more comprehensive discussion would necessitate a study of its own. For the same reason such contrapuntal devices as canon and fugato are also discussed only in so far as they appear in fugues per se.

All charts, tables, diagrams, analysés, and reductions (except those on pages 26, 56, and 91) have been done independently and are the product of my own personal research. They are designed to clarify and substantiate statement and observations made in the body of the dissertation.

D.R.C.

Part I

Fugue Before the Twentieth Century

The purpose of Part I is to trace the evolution of the fugue from its inception in the Medieval period through the nineteenth century by a discussion of the specific contributions of each major period. In this discussion I will attempt to show that fugue has been in a constant state of evolution for over six centuries; and that, in the course of this period, the denotation of the term "fugue" has gradually expanded to include a greater number of musical practices. The author proposes also to illustrate the degree to which fugue evolved prior to the twentieth century in order to contribute to a clearer understanding of the innovations developed in the contemporary period.

The term fuga does not occur in theoretical writings before the fourteenth century.¹ However, as with many other contrapuntal practices, certain antecedent developments in melody, counterpoint, and rhythm were necessary in order to reach this point. The earliest polyphony, called strict organum, contained only perfect consonances moving in parallel motion. After the introduction of oblique motion and the easing of intervallic restrictions, strict organum evolved into free organum, which contained contrary motion and crossing of parts. Rhythmic individuality

Medieval
and
Renaissance

¹ Mann, The Study of Fugue, p. 9 Here Mann uses as his source the Coussemaker Scriptorum de musica medii aevi nova series (4 Vols. 1864-1876, 1908), Facs. Ed. Milan, 1931. According to this source the term fuga was attributed to Jacobus of Liege in his Speculum Musicae.

was introduced into the melismatic organum of the twelfth century, becoming a primary cause in the development of rhythmic modes in the measured organum and clausulae of the School of Notre Dame.

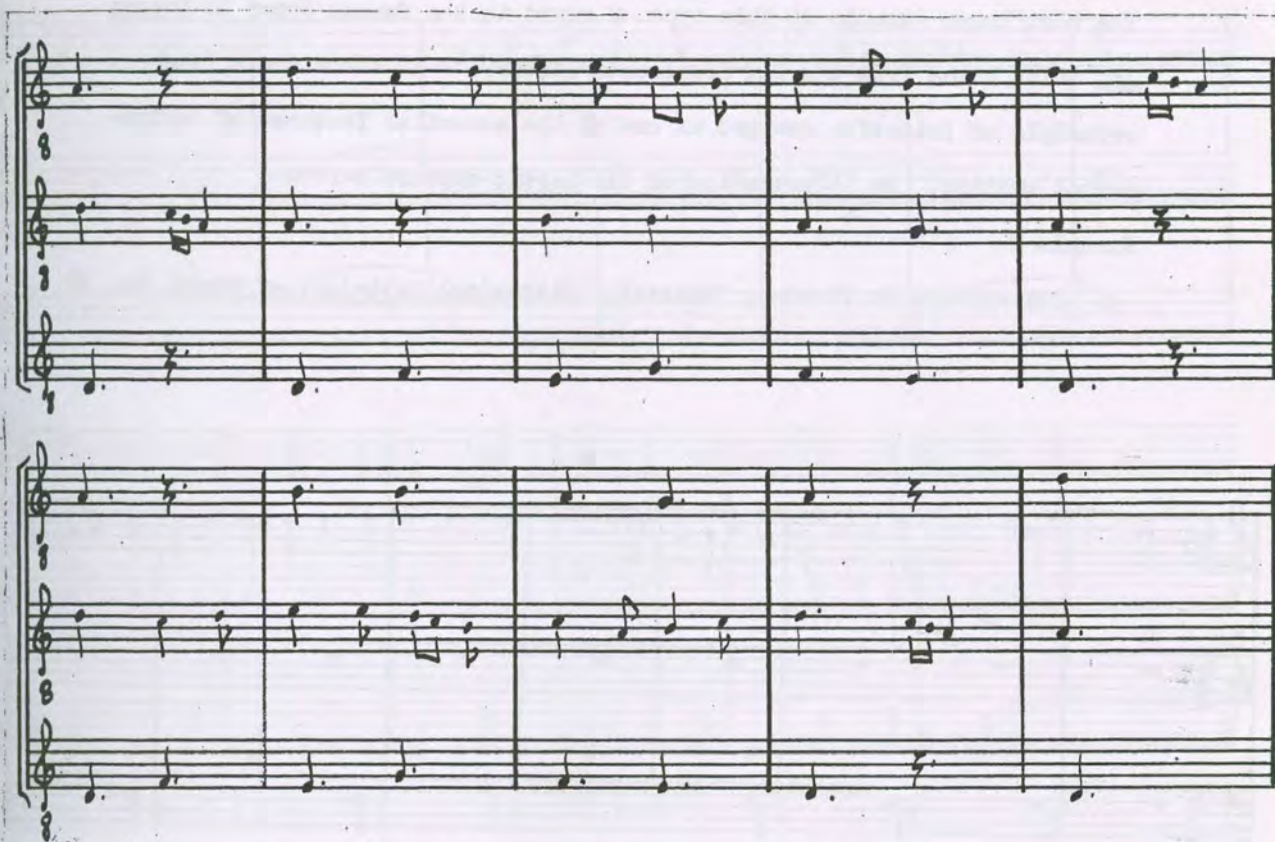
An interesting antecedent of fugal writing appears in the anonymous motet "Alle, psallite-Alleluia" in the Historical Anthology of Music, Vol. 1, page 35, and is quoted below. This motet comes from the period of Franco of Cologne (c. 1250), occurring between Ars Antiqua and Ars Nova, and was a transitional period in which some of the techniques of Ars Nova were introduced in an embryonic form. While the device of canon is not used in itself, it is suggested through the interchange of parts. Notice that the counterpoints in the upper two parts of the first phrase are exchanged in the second phrase. It is probable that this interchange of parts, combined with a greater interest in imitation, led to the canon itself. One can see in this early example that the contrapuntal intervals are still the same as those used in Ars Antiqua; i.e., octaves, fourths, and fifths on the points, and all others between the points. An early example of triadal parallelism, a device more often associated with Ars Nova, appears in the third and fourth phrase.

Example 1

"Alle, psallite-Alleluia", Historical Anthology of Music, Vol. 1, No. 33a²



² Publishers and date of publication appear in the selected bibliography



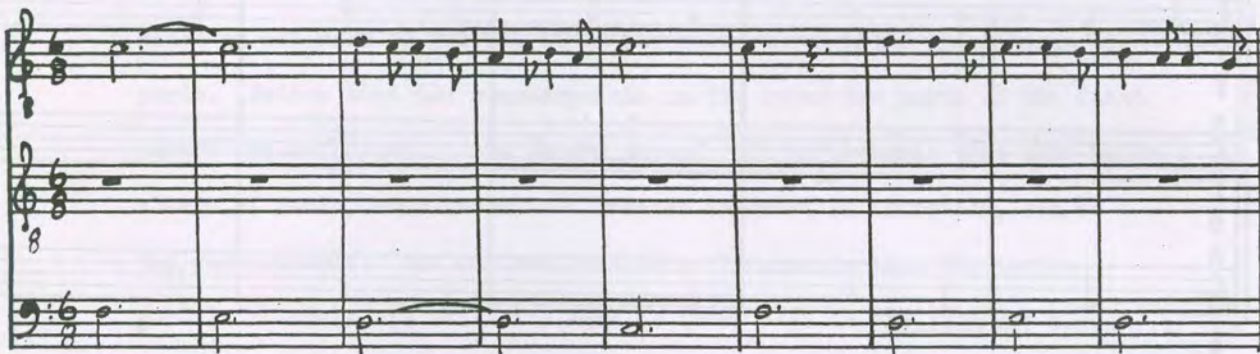
The term fuga was first applied to the secular forms of the caccia and rondellus, also known as the rota or round.³

³ Apel, Harvard Dictionary of Music, p. 112 Mann, op. cit., says that "In the course of the fourteenth century, . . . the secular technique of canonic imitation gained prominence and recognition in the caccia and the rondellus. . . . And the term fuga seems to have served for either of them." p. 9

The best known example of this type of round is the famous Sumer Is Icumen In, which comes from the mid-fourteenth century.⁴ In these forms, the principle of imitation emerged as one of the essential features of contrapuntal writing. An illustration of the caccia appears below.

Example 2

Ghirardello da Firenze, "Caccia", Historical Anthology of Music, No. 52



⁴Davidson and Apel, Historical Anthology of Music, Vol. 1 give the date of this piece as circa 1310 but suggest that "according to recent investigations, its date is probably about seventy years later than has assumed." p. 220



Notice that it is a strict two part canon at the octave, accompanied by a free tenor. Since the caccia was written in canon, and was also called fuga it seems as though both terms were nearly synonymous to the composers of the Italian Ars Nova.

It was not long, however, before the principle of canon made itself manifest in sacred music. In the Trent Codices, the term fuga is used for the first time in connection with sacred as well as secular works.⁵ In the sacred works of Dufay appear fugues consisting of imitative en-

⁵ Mann, op. cit., p. 10

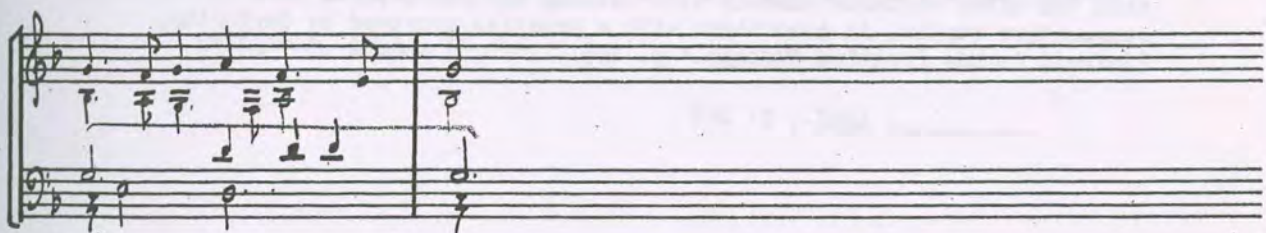
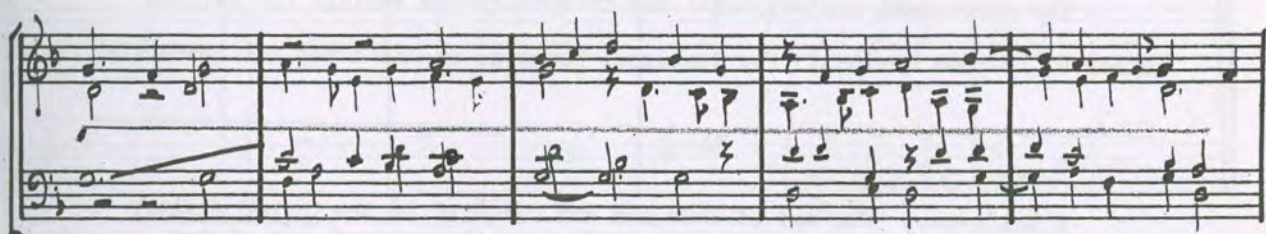
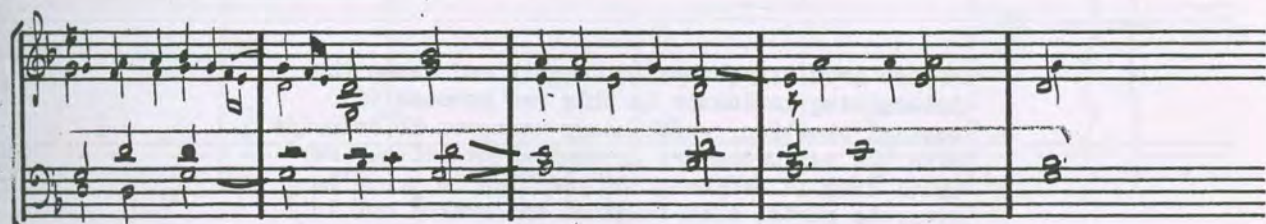
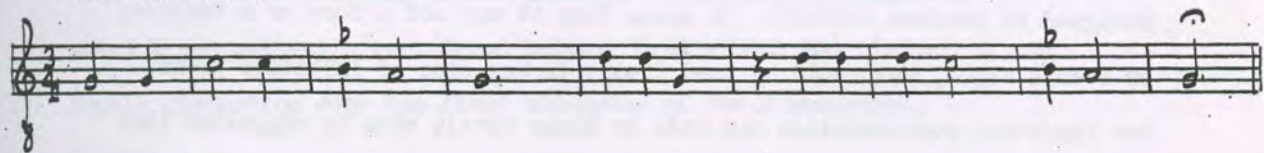
trances of the points over an ostinato (pes), which were obviously a carry-over from the caccia.⁶ The canon in the Agnus dei of Dufay's Missa L'homme armé gives the following instructions: "Cancer eat plenus et redeat meus" (The crab proceeds full and then returns half), meaning that the tenor should be read first in retrogression in full note values, and then forward with all note values halved. The devices of augmentation, diminution, and retrogression developed in conjunction with canon, and lead to the riddle canons of the Flemish period.⁷ Other types of riddle canon may be found in Numbers 89 and 98 of the Historical Anthology of Music.

Example 3

Dufay, "Agnus Dei" of Missa L'homme armé, Historical Anthology of Music
No. 66c

⁶ Van den Borren, "Dufay and His School" in the Oxford History of Music, Vol. III. In speaking of the method of setting the mass in the first half of the fifteenth century he says "Even the trecento caccia could be a source of inspiration, as in the curious Gloria ad modum tubae by Dufay, when the text is sung end to end in canon at the unison, supported in the lower two voices by ostinato figures entrusted to brass instruments, and treated in their turn in canon or rather hoquet." p. 221

L'Homme armé



In the early Renaissance, fugue was merely another musical device designed to produce variety. It seems that it was not a form or a texture, or even a style, but could be used freely in any type of imitative piece. One important consideration was made by Ramos Pareja when he suggested that imitative entrances be confined to perfect intervals.⁷ This led to a greater differentiation between canon (imitation at perfect intervals) and simple imitation (imitation at other intervals). In the mean time a host of other minute but important principles emerged. Franchino Gafori sanctioned the use of direct motion between parts, especially those in a three-part texture;⁸ and Pietro Aron insisted on the composition of all parts simultaneously, rather than separately, as had been the case before. Bridgeman mentions that

Pietro Aron attributes to Josquin and Issac the determining influence in this new process of musical creation, which seems moreover to coincide with the new procedure in musical notation. For until then it had been the practice to write in separate parts, each imagined and worked out in its own right; but about 1500, if Lampadius is to be believed, men began sometimes to compose directly in score - a material illustration of the unitary quality henceforth to characterize musical composition.⁹

The fourteenth-century motet was frequently the vehicle for various kinds of learned devices. For instance, Busnois, in his motet "In hydraulis"

⁷ Mann, op. cit., p.11

⁸ Bridgeman, "The age of Ockeghem and Josquin" in the Oxford History of Music. In discussing Antoine Brumel's mass *L'homme arme*, she states that "he often contents himself with letting the outer parts move in consecutive tenths, in accordance with a practice approved by Garfurius (Gafori) in his Practica Musicae." p. 295

⁹ _____, ibid., p. 242

used "scattered canonic imitation and subtle modulation."¹⁰ Bridgeman also cites an interesting illustration of diminution in Compere's motet Virgo caelesti, reproduced below. Notice both the diminution and double diminution over the first six notes of the F hexachord.

Example 4

Compere, Virgo caelesti, Oxford History of Music, Vol. 3



¹⁰ Bridgeman, ibid., p. 244

Don Nicola Vincentino advocated the desirability of imitation over strict canon, the value of maintaining the original puncto (point), and the use of imitation per arsin et thesin.¹¹ In imitation per arsin et thesin, the imitation occurs in reverse accents; i.e., a subject beginning on a strong beat is imitated beginning on a weak beat, or off of the beat, and vice versa. A typical example occurs in Josquin's chanson "Faulx d'argent". The chanson is in five parts, of which the first two are in imitation per arsin et thesin.

Example 5

Josquin, "Faulx d'argent", Historical Anthology of Music, No. 91



¹¹ Mann, op. cit., pp. 15-18
 Lang, Music in Western Civilization, pp. 295-296

Vincentino also advocated the use of the tonal answer. A typical illustration appears in the "Chirie Quartus" of Cavazzoni's organ Mass Missa Apostolorum, and is quoted below. The upper part begins with a leap from D to A; the second voice enters in imitation (in augmentation) with a tonal answer, since the opening fifth is answered by a fourth. Such imitation in augmentation appears in several passages in this Mass.

Example 6

Cavazzoni, "Missa Apostolorum", Historical Anthology of Music

No. 117



During this same period Gioseffo Zarlino, the famous pupil of Willaert, suggested the use of guida and consequente to designate opening and answering voices, as well as fugue in augmentation and diminution.¹² An illustration of this type of imitation appears in Pierre de la Rue's Missa L'homme arme, and is quoted below. The L'homme arme melody appears in the bass. The tenor contains the subject in canon at the octave, while the upper parts contain the subject in diminutions.

¹² Mann, Fugue p. 27

Example 7

Pierre de la Rue, Missa L'homme armé, Historical Anthology of Music

No. 92



Another device which emerged during this time was imitation of pairs of voices. In this kind of imitation two voices began the point and were answered by two others, while the original voices either rested or continued. Reese mentions that in "Acordes moy", "Busnois three times employs imitation in pairs-- an outstanding trait of Josquin de Prez; in two instances the device is so used as to produce brief passages in double counterpoint."¹³

¹³Reese, Music in the Renaissance, p. 106

The example below is from a lauda by Giacomo Fogliano which contains this kind of imitation.

Example 8

Fogliano, "Ave Maria" Historical Anthology of Music, No. 94



To sum up, composers of the Medieval period established the principles of parallel, oblique, and contrary motion, the rhythmic individuality of separate parts, imitation, and canon. Succeeding composers developed the principles of augmentation, diminution, inversion retrogression, imitation per arsin et thesin, the tonal answer, and introduced the duplex subject which Coperario later called double fugue.¹⁴

On the other hand, Baroque composers were concerned with the larger aspects of fugue, and were striving toward that which was to become the monothematic fugue in Bach's time. They sought to broaden the meaning of fugue from a mere device to a larger and more unified contrapuntal plan.

Baroque

¹⁴Mann, Fugue, p. 23, from Coperario's Rules for Composing


Frescobaldi's interest in variation inspired him to write many pieces which combined variation and existent fugal procedures. His canzoni were rhythmical pieces on the traditional canzona figure, and consisted of as many as ten sections of contrasting tempo, mood, texture, and character. The subject of each section was usually a variant of the original subject, and usually appeared upon the tonic or dominant. While these canzoni contained passages in invertible counterpoint, the composer made no great attempt to utilize this device. Voices could be omitted at will, and strettis were rare. An excellent example of the canzona style appears in "Canzona No. 3" of the Frescobaldi-Gasella Sonate trascritte per pianoforte (Section 3, page 15). Here, Frescobaldi uses a different rhythmic variant of the original subject as the theme for each new section.

Example 9

Frescobaldi-Casella, "Canzona No. 3"

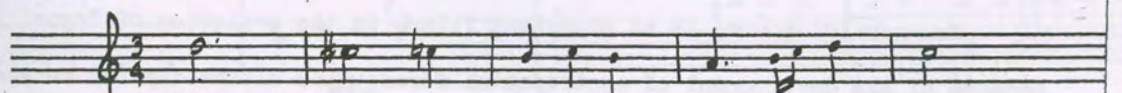
Sonate trascritte per pianoforte

Subject



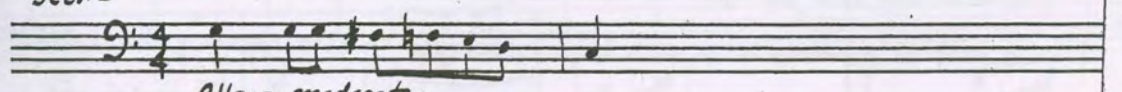
Allegro moderato

Sect. 2.




Allegro vivace

Sect. 3



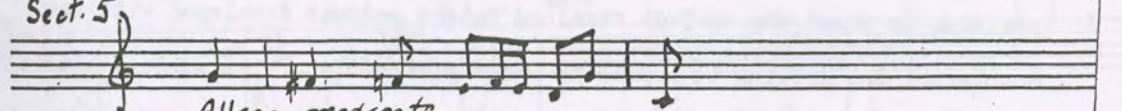
Allegro moderato.

Sect. 4



Adagio

Sect. 5



Allegro moderato

More contrapuntal in character was the monothematic and polythematic ricercari. The monothematic ricercare was more similar to the vocal style. It was sectional and consisted of as many expositions as there were themes (permitting a possible return to the original theme in augmentation or diminution). Thus the theme underwent less variation than did those in the polythematic ricercare, and was more likely to be used in combination with new counter-subjects.¹⁵ For this reason the monothematic ricercare may be considered one of the immediate predecessors of the Baroque fugue. The polythematic ricercare, on the other hand, contained a series of expositions in which the subject underwent frequent and extensive variation in a manner similar to the canzona. In both, however, one finds the chromatic subject which Frescobaldi favored.

Frescobaldi towers as an important figure in the evolution of fugue because of his development of contrapuntal forms which ultimately led to the fugue of the late Baroque. He also helped create the monothematic fugue plan, and was, in a sense, very much like Beethoven: a link between two styles. In the early part of his life, fugue was associated with the canzona and ricercare techniques; i.e., a loose string of expositional sections, each possessing its own subject. From this, fugue evolved to a monothematic composition in which the subject remained intact and was developed with new counterpoints, growing to a plan in which statements of the subject alternated with episodic passages. The entire work was placed upon an architectonic basis, with harmony playing a more decisive role in the total organization.

Frescobaldi's Fugue in G Minor clearly illustrated the type of fugue discussed above.

¹⁵ Bukofzer, Music In The Baroque Era p. 49

Fugue in G Minor

Adagio Grave

my head

Tail

Frescobaldi

L codetta

5 C.S. 1

Ans.

L coda

9

C.S. 2

f

SUB.

13

C.S. 2 (VAR)

L codetta

Ans.

17

SUB

sempre f ma non troppo

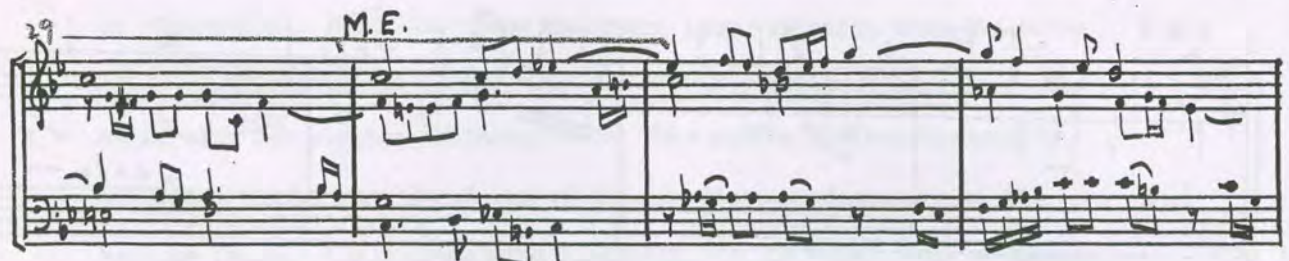
L codetta

Epis.

L codetta

4 PARTS

25  4 PARTS

29  M.E.

33  EPIS. 4 PARTS

37  SUB.
mf

41  coda -

45 

49

53

57

61

4 PART

sub

molto f

piv Largo

Largo

sfz

ff

The subject consists of a head (or a beginning) and a tail (or ending); the head is strongly tonal, while the tail is sequential. The subject ends on a trill, followed by a short codetta leading to a real answer in the dominant key. The counterpoint accompanying the answer is taken from the subject and is in double counterpoint. The third entrance appears again in the tonic, and is followed by a fourth entrance in the dominant. Whether this last entrance is a redundancy or whether it is the last entrance in a four voice exposition is debatable, since the fugue, for the most part, is written in three voices. Notice, however, that in bars 24, 28, 34, and 54, the texture is in four parts, suggesting that the fugue is actually in four parts, with the rests for the nonparticipating part merely omitted.

The fourth entrance of the subject is followed by an episode in triple counterpoint. In comparing this episode with the one beginning in measure 34, notice that the latter is a reworking of the material of the former, but in a new key, thus showing the relation of episodic material. These two episodes are separated by a middle entry in C minor in which the counter-subject seems to play no significant role. The second episode is followed by varied entries of the subject in G minor and D minor, with the last entry melting into a short episodic passage which, in turn is followed by an entry of the subject in G minor. This entry begins in the bass and ultimately concludes in the soprano, and is accompanied by a suggestion of the beginning of the subject a tenth higher. The final entry is on G and appears over a tonic pedal point.

This fugue illustrates the degree to which the monothematic approach evolved in the music of Frescobaldi. The harmony suggests major-minor tonality through chordal implication, cadence structure and

modulatory plan. The exposition contains important counterpoint which grows out of material first appearing in the subject. The episodes are not mere interludes but serve to work out important motives with the device of invertible counterpoint playing a more important function in relating the episodes to each other. Middle entries are in related keys, with entrances other than tonic or dominant occurring midway through the fugue, thus creating a harmonically rounded form. The final section also contains an entry of the subject in the bass, in addition to an entry over a tonic pedal point. Conspicuously absent, however, is the use of canon or stretto; this fugue otherwise contains all of the elements usually associated with the Bach-type fugue.

Sweelinck contributed notably to the evolution of the fugue through his frequent use of stretto. His fantasias are monothematic and usually contain the soggetto type of subject.¹⁶ While variation played a considerable role in Frescobaldi's fugal passages, Sweelinck was more likely to keep the subject intact and vary subsidiary counterpoints or counter-subject. Bukofzer notes his "perpetual stretti, the piling up of contrapuntal devices and the increased pace" which leads to a toccata-like climax.¹⁷ While the fantasias designated as "in the manner of an echo" more closely resemble the toccata, they also contain extensive passages in close stretti.

¹⁶ For a discussion of this type of subject see Part II, Section A.

¹⁷ Bukofzer, *ibid.*, p. 77

Example 11

Sweelinck, "Fantasia in echo", Historical Anthology of Music

No. 181



Samuel Scheidt, who was Sweelinck's most brilliant pupil, displayed emphasis upon rhythmic variety in his music. In his Tabulatura nova he abandoned the traditional German organ tabulature in favor of the Italian method of writing in open score. The fugues in this set resemble the fantasias of Sweelinck, and contain extensive passages based upon augmentation and diminution.

During the early and middle Baroque periods, fugue evolved to a point where it no longer was a device but rather a modus operandi, with both formal and harmonic connotation. To see how instrumental the fugues of this period were in establishing harmonic relations and principles of form, one need only compare them with some of the fugues of the late Baroque period. An examination of Johann Cristoph Bach's Preludium und fuge ex dis,¹⁸ Johann Fischer's Prelude and Fugue in E,¹⁹ and

¹⁸ Davidson and Apel, op. cit., Vol. II, No. 237

¹⁹ Ibid., Vol. II, NO. 247

Johann Pachelbel's Magnificat Fuga,²⁰ readily indicates that composers were waiting for developments in harmony and tuning in order to proceed rather, than the development of new and more varied devices.

Theorists, meanwhile, codified certain principles. Reinken observed the desirability of treating both the subject and countersubject separately, giving greater prominence to the countersubject as a source of episodic material.²¹ Bononcini suggested that the stretto be saved until the end and also introduced such terms as canon per tonus (a canon in which each entrance is a tone higher), fuga regolare (fuge with tonal answer), fuga reale (fugue with real answer), and fuga reditta (fugue with a strict canonic or stretto conclusion).²² Bononcini also introduced the double row of numbers, used by students ever since, to indicate the inversion of intervals at various points.²³

The year 1722 saw the completion of the Well Tempered Clavier.²⁴ A second volume was finished in 1740 in which Bach reproduced the pitch scheme of his earlier contrapuntal achievement. Bach's intention was to prove the practicality of equal temperament through the composition of twenty-four preludes and fugues in all possible keys. For the then existent dearth of key relations hampered the development of any piece of sizeable

²⁰ Davidson and Apel, op. cit., Vol. II, No. 251

²¹ Mann, Fugue, p. 38

²² —, ibid., pp. 41-42

²³ —, ibid., p. 43

²⁴ The title Well Tempered Clavier was originally for the first volume appearing in 1722, but is now used for both the first volume and the second.

proportions. Pieces of the day were not large works, but rather strings of small pieces or sections. The development of a relatively longer movement such as the sectional rondo or the sonata-allegro form had to wait until composers expanded the system of tonal relations. In a sense the adoption of equal temperament did more for the early classical composers than it did for the composers of the preclassical period. Equal temperament allowed material to be led through all keys, creating passages in which harmonic development played a greater role than thematic development. The didactic idea of arranging preludes and fugues in an order to illustrate certain theoretical arguments has not fallen into complete disuse even today. For instance, the interludi and fugi of Hindemith's Ludis Tonalis are arranged in the order of his Series 1, which is an arrangement of all keys in a series of diminishing relations to the tonic. The fugues are in the following order: C, G, F, A, E, Eb, Ab, D, Bb, Db, B, and F#. Shostakovich also wrote a set of Twenty-four Preludes and Fugues following Bach's method of placing each fugue in a different major or minor key. He arranged them, however, according to the cycle of fifths rather than chromatically, as Bach did.

The fugues of the Well Tempered Clavier vary in content, intensity, and approach. Since they are a set, each must not only be understood in itself but also in relation to those that come before or follow it. Some are learned while others are relatively simple and unassuming. The subjects range from the slow, cryptic ricercare type to the self-contained canzona type, which contains broken chords and lively rhythm. The fugues of Volume One show a decidedly greater concentration on the episodic fugue. The fugues of the second volume, however, concentrate

more on the subject and subject development, and are what I prefer to call subject centered.⁷ Dickinson, in his definitive study of Bach's fugal technique,²⁵ divides the fugues of Volumes One and Two in the following manner:

Volume I

1. Fugues with episodes in equivalent measures to the subject entries (15)
 - (a) Mainly organic or extemporaneous episodes
 - (i) Short: C minor, E flat, E minor, A flat, G sharp minor, B flat
 - (ii) Long: F, A
 - (b) Mainly independent episodes
 - (i) Short: D, F sharp, F sharp minor
 - (ii) Long: C sharp, F minor, G, B minor
2. Concentration on the subject (9)
 - (a) No thematic devices- -Short: E
 - (b) Canon or inversion with slight episode
 - (i) Short: D minor, G minor, B
 - (ii) Long: E flat minor, A minor, B flat minor
 - (c) No episode
 - (i) Short: C
 - (ii) Long: C sharp minor

Volume II

1. Episodic (8)
 - (a) Organic episodes (6)
 - (i) Long: C, E minor, F sharp, G, B flat, B minor
 - (b) Independent episodes (2)
 - (i) Long: F, F minor
2. Subject
 - (a) With episodes (4)
 - (i) Short: D sharp minor, A, A minor
 - (ii) Long: A flat
 - (b) Canonic (7)
 - (i) Short: C minor, C sharp, D, D minor, E flat, E
 - (ii) Long: B flat minor
 - (c) Development of counter-subject
 - (i) Long: C sharp minor, G minor, B

²⁵Dickinson, Bach's Fugal Works

- (d) Second or third subject
 (i) Long: F sharp minor, G sharp minor

Bach's ultimate contrapuntal achievement was his Art of the Fugue, and with the Goldberg-Variations, and A Musical Offering, the Art of the Fugue is understood to be the apex of Baroque contrapuntal writing. The Art of the Fugue was completely didactic in function and was not conceived for performance as much as it was to instruct Bach's students and admirers in his subtle art. It is a textbook on Baroque counterpoint. The work consists of nineteen fugues which Bach humbly calls "Contrapuncti". The final fugue, which was to be a quadruple fugue, is incomplete. Hans Gal gives the following table of themes and synopsis of the form of the contrapuncti:²⁶

Example 12

Gal, Table of Themes from the Art of the Fugue

Subjects and Variants

The image shows three staves of musical notation, each representing a different subject from the Art of the Fugue. The first staff, labeled 'Original' and 'A1', is in treble clef and G major, showing a sequence of eighth and sixteenth notes. The second staff, labeled 'Inversion' and 'A2', is also in treble clef and G major, showing the inverted version of the first subject. The third staff, labeled 'original' and 'A3', is in bass clef and G major, showing another variation of the subject. Each staff ends with a double bar line.

²⁶ Gal, Analysis of the Art of the Fugue appearing in the Boosey and Hawkes edition.

Inversion

Original

Inversion

Original

Inversion

Countersubjects

B - A - C - H

B - A - C - H

Synopsis of Form

- Contrapunctus I. Main subject (A1) treated in simple manner.
- Contrapunctus II. Another simple fugue on A1, counterpoint with a dotted rhythm.
- Contrapunctus III. Fugue on the inverted subject (A2) with a chromatic counter-subject (tenor bars 5-8). From bar 23 (soprano) a later variant of the subject (A4) is foreshadowed.
- Contrapunctus IV. Another fugue on A2, using another counter-subject (soprano bars 5-8), and with striking features of modulation introduced into the third and fourth bars of the subject (bars 61 and the following section).
- Contrapunctus V. Stretto fugue in contrary motion, with the subjects used in the varied shapes A3 and A4.
- Contrapunctus VI. Stretto fugue in the French style (dotted notes) on A3 and A4, using diminution. . . .
- Contrapunctus VII. Stretto fugue in contrary motion, again on A3 and A4, using both diminution (tenor, opening) and augmentation (bass, bars 5-13).

- Contrapunctus VIII. Triple fugue combining another variant of the main subject (A6) with two countersubjects, B1 and C1. . . .
- Contrapunctus IX. Double fugue opened by a new subject (D) which is joined by A1 from bar 35. These two subjects are written in double counterpoint at the 12th. . .
- Contrapunctus X. Double fugue, the two subjects of which (E1 opening, A4 from bar 23, both combined from bar 44, alto and tenor) are written in double counterpoint at the tenth, permitting doublings in thirds, sixths, and tenths. . . .
- Contrapunctus XI. Triple fugue on the inversion of the subject of VIII, introduced in different order: A5 opening, B2 entering in bar 34 (tenor), C2 in bar 90 (tenor). . . .
- Contrapunctus XII. Canon in the lower octave. The first four bars are a variation of the inverted main subject A2. . . . In bar 77 (soprano) the canon is recapitulated from the beginning ("canon ad infinitum").
- Contrapunctus XIII. Canon in inverted augmentation, in double counterpoint at the octave. The first four bars are a variant of the main subject. . . .
- Contrapunctus XIV. Canon in the tenth. The first four bars are a Syncopated version of A2. From bar 40 the parts are exchanged in double counterpoint of the 10th, producing a canon in the lower octave. . . .
- Contrapunctus XV. Canon in the 12th. The first eight bars are a variant of A1. From bar 34 the parts are exchanged in double counterpoint of the 12th. . . .
- Contrapunctus XVI. Mirror fugue on the main subject (A1): a contrapuntal structure every part of which can be inverted. This inversion of the original is carried through in the "Inversus". . . .
- Contrapunctus XVII. Mirror fugue on the main subject in a new variation, (A7 and A8), the subject being used in both its original and in the inversion.
- Contrapunctus XVIII. The same fugue arranged for two harpsichords, with an addition of a free part, which frequently changes its place.

Contrapunctus XIX.

Quadruple fugue, (the fourth subject is conjectured to be A1). The three subjects are F (opening), G (bar 1/4 alto), and H (B-A-C-H, bar 193). Here Bach's manuscript ends. In all probability the introduction of A1 would follow, with the four subjects in combination as the crowning climax.

The subjects of most of Bach's fugues seem to be tailored to the unique function each is requested to perform. Rhythmic effects are sometimes dominant or recessive, and his subjects are answered both in the real and tonal manner. Generally if the subject modulates, or contains the leading tone near the beginning, or the end, the answer is tonal. The answer is also tonal if the subject begins with, or contains, a tonic-dominant leap. The countersubject is made from motives appearing in the subject or in the melodic link which connects the subject to the answer. It is rhythmically compatible with the subject, and both make a sound harmonic progression. Most frequently the countersubject and subject (or answer) are in double counterpoint at the octave.

Rather frequently Bach chooses to insert a coda, or episode, between the answer and the third entrance of the subject whose function is twofold: first, it effects a smooth return to the tonic key; second, it develops and enlarges upon material first presented in the subject, codetta, or countersubject. This episode then may in turn become the source of material for later episodic passages. While this type of passage is no longer needed to perform a modulatory function, it is still used today in its later function; i.e., as a generator of episodic material.

If Bach chooses to use a counterexposition he frequently changes the order of voices, or the order of subjects and answers. The subjects may also appear in inversion or in canon.

Middle entries display a variety of contrapuntal devices, with the subject sometimes appearing in augmentation, diminution, inversion, altered in double counterpoint, or in various types of canons and strett⁷. In the ~~D~~ minor fugue of the first volume of the Well Tempered Clavier, for instance, the following devices appear in the middle entries:

- A. Subject in canon at the 5th below, two beats later
- B. Subject in canon at the 9th below, one beat later, with another voice in free augmentation
- C. Subject in inversion
- D. Inverted subject in canon at the octave below, two beats later
- E. Inverted subject in canon in agumentation
- F. Inverted subject in canon at the octave, two beats later (Double counterpoint at the octave of D.)
- G. Subject in augmentation and double augmentation, accompanied by the original subject and followed by the inverted subject
- H. Subject in augmentation and double augmentation, accompanied by the subject in answer form, which is then sequenced
- I. Subject in augmentation, and double augmentation, accompanied by the subject in original note values

Episodes are frequently sequential and are usually based upon a familiar motive or a newly produced figure. They sometimes grow out of the preceeding middle entry, and usually lead smoothly to the next, and frequently begin as a false entry of the subject. As previously mentioned, episodes usually grow from material first presented in the codetta, countersubject, or episode between answer and third entry of the subject. The use of double counterpoint is common, especially double counterpoint at the octave. And episodes are usually related to each other either in content or manner of development.

Bach's counterpoint is harmonically oriented, and all dissonances

resolve in essentially the same manner as dissonances in the homophonic music of the period. He treats the fourth with greater freedom, especially when it occurs in the bass and is understood to be part of a broken chord. He also uses a greater number of dissonances on the points, which function as accented passing tones or appoggiaturas.

The overall key relations are firmly rooted in classical principles of tonality, and initial entrances of the subject almost invariably appear on tonic and dominant. The fugue then moves into more related keys or hovers close to the tonic, with final entries over tonic, dominant, or subdominant.⁷ The harmonic plans of several fugues from the first volume of the Well Tempered Clavier appear below.

Fuga I (C major)

C G C F C G (d) C G a C G a d F d G C F C F C

Fuga II (C minor)

c g c g f Ab Eb g c F c

Fuga XVI (G minor)

g d g d Bb F Eb g c g Eb c g

Of Bach's contemporaries and immediate followers, Haydn used fugue for the beginning of sections and choruses, as in "The Heaven's Are Telling", while Mozart too used fugue in his keyboard works, masses, and symphonies. Both Mozart and Haydn usually incorporated fugue into a larger formal plan, where it was only one aspect of the total development. This can be seen in the fugal finale of Mozart's Jupiter Symphony where he, foreshadowing Beethoven, combines elements of the fugue with the sonata-allegro form. Heretofore, fugue had been more argumentative, and Baroque composers relied upon contrapuntal treatment as the principal

CLASSICAL
and
Romantic

manner of development. In the Classical period, however, fugue expanded in length, became more episodic, frequently served as only part of a movement, and was combined with other forms.

While Haydn and Mozart both created exquisite fugues, it was actually Beethoven who synthesized the new style and the old. Beethoven's first lessons in counterpoint were with Haydn in 1792.²⁷ The text was Fux's Gradus ad Parnassum and Beethoven completed several hundred exercises in strict counterpoint, of which 245 have been preserved in Nottbohm's Beethoven's Studien, Vol. 1, 1873. Apparently Beethoven was dissatisfied with his progress and turned to Shenk and, then later, to Albrechtsberger for additional instruction. With Albrechtsberger Beethoven studied simple fugue, fugued chorale, double fugue, double and triple counterpoint, and canon.²⁸ Albrechtsberger's gross mis-evaluation of Beethoven's talent has been committed to posterity in the form of an admonition uttered to an inquiring lad: "Have nothing to do with him," he said "he has learnt nothing, and will never do anything in a decent style."²⁹

Beethoven's early works indicate a desire to avoid the contrapuntal method. The works composed before his studies with Albrechtsberger contain only sporadic contrapuntal passages, some of which are awkward, and even incorrect, according to current concepts of contrapuntal writing. After his studies with Albrechtsberger, Beethoven

²⁷ Grove's Dictionary of Music and Musicians, Third Ed., Vol. I, p. 275

²⁸ ibid. , p. 275

²⁹ ibid. , p. 275

began to use counterpoint more naturally until finally near the end of his life it became his favorite manner of presentation. In the last quartets and sonatas, Beethoven used the contrapuntal method as naturally as Bach had several generations before. Beethoven replaced the long sweeping cantilena melodies of his earlier style with short, epigrammatic motive kernels, which he then led through a most exhaustive contrapuntal treatment.

Beethoven made a distinction between theory and practice. It is probably for this reason that several of his fugues containing departures from the Baroque norm of contrapuntal writing were described by Beethoven as fugues "with a little license" (Op. 106) or "free and artificial" (Op. 133). One of these licenses was his use of non tonic-dominant pitch schemes which were more directly linked to the intervallic nature of the grundgestalt. The pitches in the Piano Sonata, Op. 101 are E, G, A, and E; while the chromatic subject of the fugue in the String Quartet, Op. 133 is stated in the keys of G, C, F, and Bb.

Beethoven used no compositional procedure or form which did not bear the hallmark of his particular genius. He made everything his own through a synthesis of each musical practice with his personal style so that, in the hands of such a master, fugue became a warmer and more sensuous form. He combined the elements of the sonata with the fugue to produce a new hybrid bearing the characteristics of both, and is most notable in his treatment of the episode. In the Baroque period the episode tends to be short. Modulations, while common, are less extensive, and sequential treatment tends to be tonal, rather than real. Beethoven

expanded the length, character, and content of the episode, so that it became a rather long development section. In his String Quartet, Op. 133, for instance, some episodes are twenty-eight measures long, and the style of these episodes is reminiscent of the sequential type of harmonic elaboration associated with the development section in the sonata-allegro form. A comparison of an episode by Bach, with its non-modulatory type of sequence, with one by Beethoven readily indicates the new function of harmony and modulation in the episode.

Example 13

a. Bach, Well Tempered Clavier, Vol. I, Fugue XI

b. Beethoven, Piano Sonata Op. 106

Beethoven treated his material in a more homophonic manner.

Rather frequently the texture was quasi-harmonic or quasi-contrapuntal. Counterpoints based upon broken chordal ideas were led through harmonic developments containing parts thickened to thirds or sixths, or even triads. His fugues were less apt to be self contained or independent, but rather they played an integral part in a larger form. In his Piano Sonata, Op. 101 fugue serves as a development section. In the String Quartet, Op. 59/3 the last movement begins with a spirited fugate. And the fugues in the Piano Sonata, Op. 106 and Piano Sonata, Op. 110 serve as fugal finali.

The same type of harmonic treatment may also be seen in the fugue in Schubert's Phantasy, Op. 15 ("Der Wanderer"). This fugue is in an idiomatic keyboard style with no adherence to a prescribed number of voices, and abounds with all types of scales, arpeggios, and broken chords. The episodes are in a brilliant keyboard style and are entirely harmonic, Schubert developing the subject through modulatory elaborations. In the illustrations below, the subject is first accompanied by a contrapuntal line thickened to thirds and sixths, and is then stated in a completely harmonic manner.

Example 14

Schubert, Phantasy, Op. 15

While there was some interest in fugue and counterpoint throughout the nineteenth century, much of it tended to be academic and dry. For the most part the composers of this period used Bach, rather than Beethoven, as their model, producing anachronistic fugues in which the contrapuntal writing more resembled formalization than true creative composition. Because certain developments in the harmonic music of this

The second fugue of this set is a study in tritones and dominants. The subject contains three consecutive melodic tritones which resolve in a traditional manner. The tritones ultimately appear as leading tones in dominant functioning harmonies. The first two entries are quoted below.

Example 16

Mendelssohn, Three Preludes and Fugues, "Fugue Two"



An interesting illustration of Liszt's approach to fugue may be found in his Fantasia and Fugue on the Name of B-A-C-H in which Liszt combines the characteristic of the fugue with those of the fantasia. After a normal exposition the subject makes no normal middle entries, but rather splits into head and tail, with each used separately as the basis for episodic developments. Again the number of voices vary. The subject is chromatic and suggests dominant functioning harmonies, and the contrapuntal intervals contain a number of diminished sevenths and tritones. A typical passage is quoted below, which also contains Liszt's use of chordal melody.

Example 17

Liszt, Fantasia and Fugue

Spitta, the great biographer of Bach, held that Schumann was a great contrapuntalist, and that he combined the old strict style with the modern style.³⁰ He believed that Schumann was one of the few nineteenth-century composers who could effectively express himself in a contrapuntal style. Dickinson, on the other hand, says that this combination of Baroque and Romantic principles caused a dilution in polyphonic intensity. Concerning Schumann's published fugues, Dickinson says, "they either confirm an innate restlessness, inimical alike to fugue and concentrated song, or betray an outmoded routine for which the subject is not fitted."³¹ Apparently Dickinson sees this fusion of styles but not its importance in the overall development of fugue, so that a more realistic position is probably somewhere between the two.

³⁰ Spitta, in article on R. Schumann in Groves Dictionary of Music and Musicians, Vol. IV, p. 676

³¹ Dickinson, Bach's Fugal Works, p. 239

A typical illustration of Schumann's fugal writing can be found in his Four Fugues for piano. The subjects of these fugues bear some interesting thematic affinities in that each is made of the same intervallic kernels and all possess sequence and repetition.

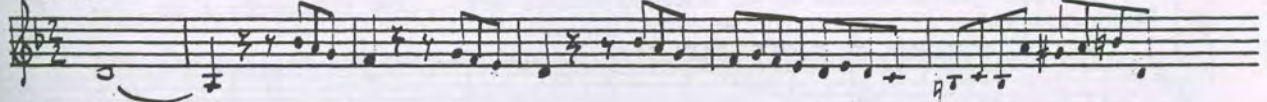
Example 18

Schumann, Four Fugues. (All subjects)

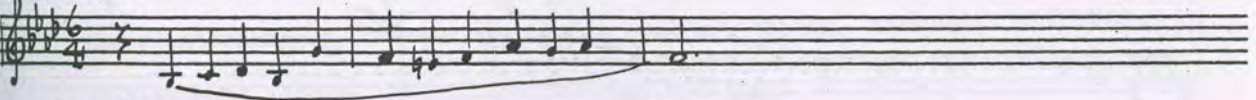
FUGUE I



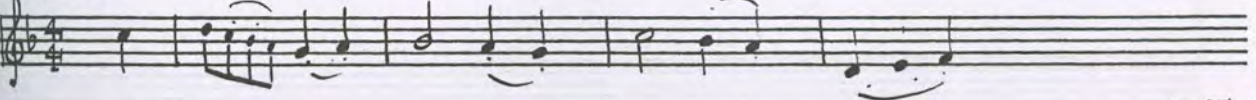
FUGUE II



FUGUE III



FUGUE IV



The pitches for initial and middle entries in these fugues follow a rather conservative plan of related keys. The episodes rely upon modulating sequences and are frequently based upon material from the tail of the subject. There are some passages in double counterpoint, yet Schumann does not use the device with the significance it was used in the Baroque period. Chordal reference and progression are typically Romantic and contain dominant-functioning diminished sevenths with augmented fifths. The counterpoint consists mainly of sixths and thirds

with greater use of the appoggiatura and accented auxiliary on the points. The contrapuntal lines grow from new combinations of motives, first presented in the original subject. In the second fugue, the subject is dismembered and reunited with motives from the countersubject, which Schumann then treats in a canonic fashion. An illustration of this technique may be seen in the following example.

Example 19

Schumann, Four Fugues, "No. 2"

Subject

Countersubject

COMBINATION

The musical score is presented in three systems. The first system shows the 'Subject' on a single staff and the 'Countersubject' on a second staff. The second system, labeled 'COMBINATION', shows the two parts together in a two-staff format. The third system shows a more complex fugue texture with multiple staves, including dynamic markings such as *sfz* (sforzando) and *f* (forte). The notation includes various musical symbols such as notes, rests, accidentals, and slurs, illustrating the contrapuntal technique described in the text.

Brahms was able to use both the argumentative Baroque fugue as well as the episodic Classical fugue with ease and skill. More than any other nineteenth-century composer he seems to be the logical successor to Beethoven. His Fugue in A Flat Minor is a contrapuntal tour de force, and is more intense and tightly knit than most other fugues of the period. The subject of this fugue is reminiscent of the Bach head and tail type, in which the head leaps and is sequential, while the tail is linear and chromatic. The subject is answered in inversion a semitone higher. The accompanying countersubject is based upon ideas suggested in the subject, and also contains sequential treatment as well as a chromatic tail. The countersubject is in double counterpoint with the subject and both can appear with either part in contrary motion. The third entrance of the subject is the same as the first; the countersubject, however, is now in contrary motion. The same procedure is carried through the next two entries.

Example 20

Brahms, Fugue in A Flat Minor

Handwritten musical score for Brahms' Fugue in A Flat Minor, Example 20. The score is written on three systems of staves. The first system has a treble staff with a "SUB. C.M." label and a bass staff with "SUB." and "CS. CM" labels. The second system has a treble staff with "SUB C.M." and a bass staff with "CS.", "Cp. I", and "Cp. I C.M." labels. The third system has a bass staff with "SUB" and "CS CM" labels. The notation includes various musical symbols such as notes, rests, and accidentals, with some parts enclosed in brackets.

The exposition is followed by an episode which is interrupted by an entrance of the subject in Cb major. Another episode follows which contains a free canon in two parts plus a free augmented version of the countersubject over an Eb pedal point. The subsequent entries find

the subject and its inversion in various strettì.

Example 21

Brahms, Fugue in A Flat Minor

(open Score)

The next episode is based upon one of the earlier episodes, and displays an interrelationship of episodic material. Free canonic working is, again, the essential manner of development. In the next middle entries the subject, answer, and familiar counterpoints are combined rectus and inversus, with some passages being in double counterpoint. In other entries one finds the subject in close canon, in close canon in inversion, in augmentation and diminution, and in stretto.

Example 22

Brahms, Fugue in A Flat Minor (Final entries)

Handwritten musical score for Brahms' Fugue in A-flat Minor, showing the final entries. The score is written on six staves (three systems of two staves each) in A-flat minor. It includes various annotations in boxes: "SUB DIM", "SUB", "SUB C.M. DIM", "SUB C.M.", "SUB SYNC", "AUG", and "SUB AUG". The notation includes treble and bass clefs, key signatures of three flats, and various musical symbols like notes, rests, and dynamic markings.

The fugue in the Choral Prelude and Fugue on "O Traurigkeit, O Herzelied" is much less ambitious. Here the subject is again answered in contrary motion and developed rectus and inversus.

The fugue in the Prelude and Fugue in A Minor foreshadows the device of returning to the exposition in the closing portion of the fugue-- a device Hindemith also uses in Fuga Nona of his Ludis Tonalis. Another interesting device is the appearance of the fugue subject near the end of the prelude. A similar device is also used in his Prelude and Fugue in G Minor. In this fugue, however, the situation is reversed so that material from the prelude appears in the fugue. Both of these fugues are characterized by the creation of a great number of counterpoints, many of which are combined in double and triple counterpoint.

If one were searching for the direct antecedent of twentieth-century fugue one might say that it occurred in the "Von der Wissenschaft" section of Strauss' Also Sprach Zarathustra. It is revealing that Strauss uses fugue in a section subtitled "of science", and it is possible that this reference to science, indicates Strauss' personal attitude toward fugue. The subject is based upon five broken triads, and contains all twelve notes of the chromatic scale, indicating that the modal basis has shifted from a seven-note diatonic scale to a twelve-note chromatic scale. Further, the relation of the triads strongly contradicts classical concepts of triadal relations. The subject is quoted in Example 22, below which appears a reduction of its implied harmonies. Notice that fourth and fifth relation are conspicuously absent, and that second, third, and tritone relations are predominant. The use of third relation root associations,³² the expansion of the scale to twelve notes, and the subtle clash

³² Third relation is used not only to indicate roots in third relation, but second, and tritone root relations as well.

of cross relations give the harmony of the late nineteenth century its inimitable flavor.

Example 23

Strauss, Also Sprach Zarathustra



Notice that the subject contains a rather unusual rhythmic structure. There are no clearly defined rhythmic motives, and two-beat and four-beat triplets create a sluggish feeling of hemiola. The subject is led through a four-part polytonal exposition which is also canonic, with the successive entrances of the subject in the keys of C, G, D, and A. Notice that the counterpoints of each entry generally suggest the same harmonies.

Example 24

Strauss, Also Sprach Zarathustra

The head of the subject, accompanied by a chromatic bass line and inner parts, is canonically imitated in the episode which follows. Again the harmonic reference is strongly third relational, but is also expanded to include consecutive dominant functioning seventh chords;

i.e., dominant sevenths, dominant ninths, diminished sevenths, and half-diminished sevenths. The monochromatic rhythm of the individual counterpoints blurs, producing a unified harmonic effect.

Example 25

Strauss, Also Sprach Zarathustra

The first middle entry finds the subject in augmentation, accompanied by various entrances of the head of the subject in the upper parts. There is also a suggestion of stretto and a hint of bitonal harmony, which is ultimately confirmed in the final cadence of the piece. Another episodic passage leads to a transition in which the fugue is

dissolved. A lyric section of some forty-eight measure is inter-
stitially set between this transition and the return of the fugue
subject in a re-exposition in varied form. The return of the fugue
subject is quoted below.

Example 26

Strauss, Also Sprach Zarathustra

The musical score is presented in two systems, each with a grand staff (treble and bass clefs) and a separate bass line. The first system begins with a treble staff containing a triplet of eighth notes, followed by a series of sixteenth notes. The bass staff has a single eighth note. The second system continues the melodic line in the treble staff, featuring a triplet of eighth notes and a series of sixteenth notes. The bass staff has a single eighth note. The third system shows a more complex rhythmic pattern in the treble staff, with a triplet of eighth notes and a series of sixteenth notes. The bass staff has a single eighth note. The fourth system features a series of sixteenth notes in the treble staff, with a triplet of eighth notes. The bass staff has a single eighth note. The score is written in a key signature of one flat (B-flat) and a time signature of 4/4.

To summarize then, the composers of the Medieval and Renaissance periods established the principles of the fugal exposition, and such devices as augmentation, diminution, inversion, and retrogression. The composers of the early Baroque developed the principles of canon and stretto, introduced the monothematic fugue, and expanded fugue from a device to an entire composition. The composers of the late Baroque placed fugue upon a firm harmonic basis rooted in the major-minor diatonic system. The composers of the Classical period treated the counterpoint in a more homophonic manner, permitted a more rapid thematic development, expanded the function of the episode, and used devices associated with the sonata-allegro form. And finally, the composers of the Romantic period expanded the harmonic vocabulary, increased the use of dissonances, and expanded the scale from seven to twelve notes.

Part II

Materials and Devices

The purpose of Part II is to examine, separately, various materials and devices used in contemporary fugues in order (1) to show their relation to older fugues, (2) to determine common practice in the contemporary period, (3) to cite the use of new devices, and (4) to determine the contributions of twentieth-century composers to fugal development. Part II is arranged from the relatively simple to the complex, and deals first with melody and then rhythm, counterpoint, contrapuntal devices, the exposition, middle entries, closing entries, episodes, formal plans, and finally, the synthesis of materials and devices.

A. Melody and the Subject

Before discussing the subject itself, it seems advisable to discuss some of the important twentieth-century theories of melody. One such theory is that of Heinrich Schenker which has been modified and enlarged to some extent by Felix Salzer and Allen Forte. This theory grew out of the premise that every chord does not serve a structural function; but that some harmonies are the result of melodic movement in various voices.³³ To some extent,

³³ Salzer, Structural Hearing: Tonal Coherence in Music, "The distinction between structure and prolongation led Schenker to a new concept of the functions of harmony and counterpoint in creating organic unity. He came to the realization that, as has been suggested, not every chord is of harmonic origin." p. 14

the same may be said of melody, since all melodic tones are not of equal importance.³⁴ According to this theory some melodic tones are focal while others are of secondary importance and function to connect one focal point with another. One of the main concerns of the theory is the reduction of music to its substructure to foster a greater awareness of the meaningful relations which exist on that level. It is understood that a chord or scale step may be prolonged or unfold through melodic movement, causing events to occur which structurally are of secondary or tertiary importance.³⁵

The theory contradicts Rameau's concept of chordal independence and progression. Oswald Jonas, who has edited and annotated Schenker's Harmony, remarks that "In its broadest terms Rameau's great error was to interpret harmonically, or vertically, a bass that was composed horizontally, according to contrapuntal principles."³⁶ We also know from a letter written by C.P.E. Bach to Kirnberger that neither he nor his father could accept Rameau's theory as valid.³⁷

The melodic aspect of Schenker's theory grew into the concept of the Urlinie, or fundamental line. As Schenker developed his theories the concept of the Urlinie was replaced with that of the Ursatz, or basic structure. Two of the important principles of the Urlinie were the need of dissonance

³⁴ Ibid., "We shall find that with melody tones, as with chords, the differences in significance are great. . . ." p. 41

³⁵ Schenker, Harmony, p. ix

³⁶ Ibid., p. xiii

³⁷ Ibid., Jonas quotes the following statement attributed to C.P.E. Bach in a letter to Kirnberger. "You may announce it publicly that my father's principles and my own are anti-Rameau." p. xii

to lead to ultimate resolution, and the ability of a harmonic event to unfold melodically.³⁸ In successive reductions through the foreground, middle-ground, and background one was to become aware of the structural skeleton of the work.³⁹ The Ursatz was this skeleton and was synonymous with tonality or key. An illustration of this type of analytical approach appears in Example 27 by Felix Salzer.⁴⁰

³⁸ Ibid., pp. xviii and xix

³⁹ Forte, Contemporary Tone-Structures, pp. 20-22

⁴⁰ Salzer, op. cit., Vol. 2 Ex. 289, p. 99

Example 27

Allegro

f *p* *cresc.*

a.

b. **c.**

IV₆ V I IV₆ V I

Needless to say, such a technique of analysis goes far beyond a discussion of surface qualities. It even deals with a level of artistic creation of which the composers may not be consciously aware. But whether it is necessary to go this deeply, or whether the final reduction is not, in fact, an oversimplification is debatable. I feel that music reduced to its cadential proportions is by no means more important than the manner by which these relationships unfold.

Paul Hindemith has also offered a theory of melody in his Craft of Musical Composition, and shares some concepts with Shenker. Hindemith observes that melody has both a harmonic and melodic nature. He maintains that the harmonic nature of a melody manifests itself through the relation of small harmonic grouping called degrees. And further that these degrees indicate the ultimate tonality of the melody.

Another interesting concept discussed by Hindemith is that of the "melodic step progression". Musicians have been long aware that frequently a melody could better be described as a melodic complex rather than as a single line melody. One notices that within the main melodic outline smaller melodies occur; and that a certain melodic tone may be more closely related to a tone a measure away than to the one from which it came. According to Hindemith's observations these tones within the overall melodic movement are related in seconds and form the step progression. He maintains that a well organized step progression is indispensable to good melody. It is unfortunate that Hindemith did not take his observations on the step progression one step further; for it seems that the melodies of many structurally-minded composers contain step progressions which are thematically related to the basic material of the piece. Below are several fugue subjects

which are analyzed according to his method.

Example 28

a. Milhaud, String Trio



b. Bloch, Concerto Grosse



c. Stravinsky, Symphony of Psalms

Along with other observations of the nature of music, Reti,⁴¹ Rufer,⁴² and Toch⁴³ have given us greater insight concerning thematic nature of melody. The crux of their observations is that melody and music in general abound with certain types of thematic relations which may not always be suggested in the surface contour itself. They also suggest that basic structural motives possess the ability to affect both the linear as well as the horizontal dimensions of a piece. Reti discusses the differences between contrapuntal imitation, variation, and transformation; and how these different developmental processes affect the compositional method. He also

⁴¹ Reti, The Thematic Process in Music

⁴² Rufer, Composition with 12 Notes

⁴³ Toch, The Shaping Forces in Music

defines some types of transformation which until now have gone unnamed, and makes valid comments on the influence of the thematic material upon the key relations in classic and romantic music. Rufer shows how the basic idea (grundgestalt) generates themes and accompaniments, and how it influences the harmony and counterpoint of a piece. He then traces the use of basic compositional principles from the Classical through the Contemporary periods, making the following observation concerning the function of the basic shape in twentieth-century music:

. . . the same notes (or the intervals formed by them) which, in conjunction with the rhythm, shape the horizontal course of a musical idea, can also be combined in the vertical dimension into one or more chords; that is to say, without rhythm, but containing the same intervals. The co-ordination which is attained in this way between the two dimensions of music. . . and the homogeneity and unification of the music which is arrived at by these means are plain to see.⁴⁴

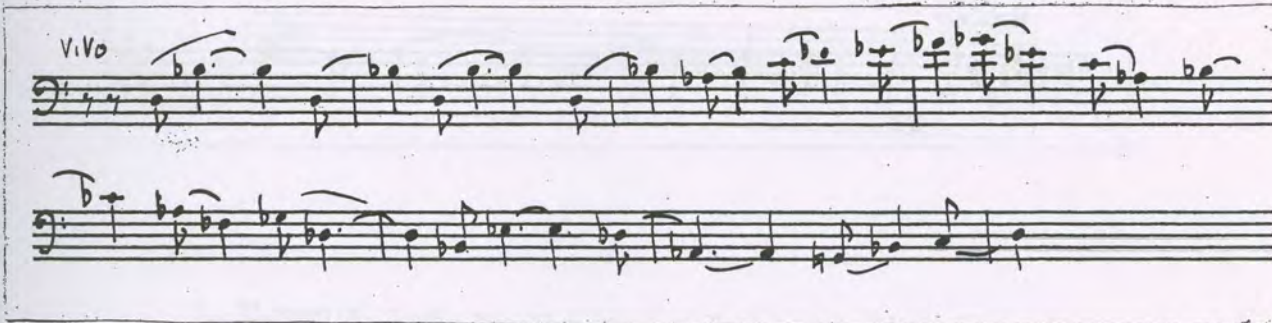
The Fugue Subject

The contour of the fugue subject still follows the age-old principle of the melodic curve. Most frequently the arch is upward rather than

down, and quite often the melody grows through successive arches to an upper or lower climax which is generally not repeated. If the climax occurs late there is usually a relatively sharp movement in the opposite direction; if the climax occurs early the movement is usually more tapered.

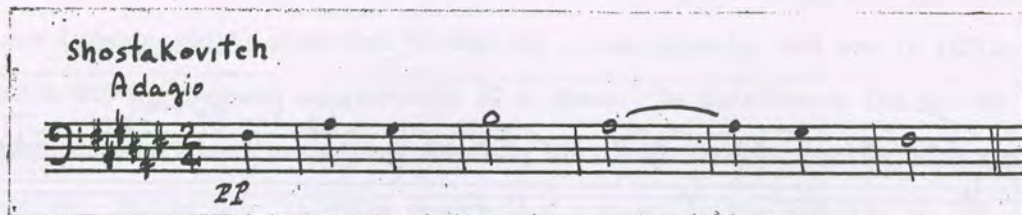
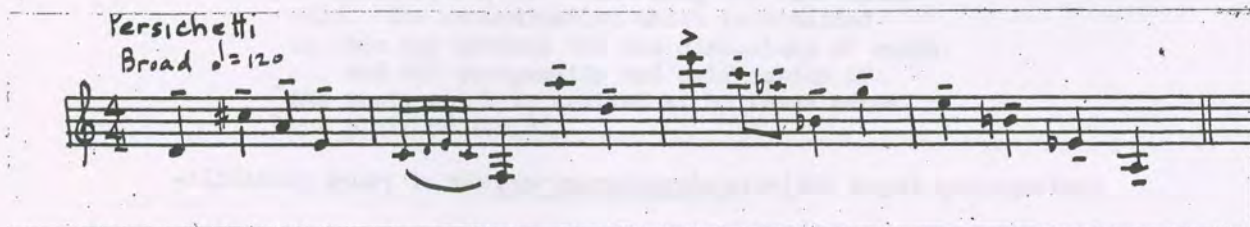
⁴⁴Rufer, Composition With Twelve Notes, p.69

Example 29

Bartok, Concerto for Two Pianos and Percussion

Contemporary fugue subjects also show a variety of range possibilities. It seems that length, while a determinant, does not seem to be the final arbiter of range; for some short subjects have a wide range while longer ones have a narrower one. The total range of the subjects found in this study falls anywhere from a fourth to a twenty-first, with most falling between a sixth and an eleventh. The narrowest range, a fourth, is in the second volume of Shostakovich's Twenty-Four Preludes and Fugues for Piano, and the widest, a twenty-first, in Vincent Persichetti's Fourth Piano Sonata. Both are quoted below.

Example 30 a.

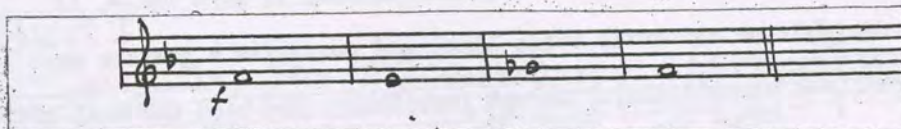
Shostakovich, 24 Preludes and Fugues, Fugue No. 13b. Persichetti, Fourth Piano Sonata

The length of fugue subjects has been discussed by Ralph Vaughan-Williams in his article on fugue in Grove's Dictionary of Music. He suggests three basic types: the attacca, the soggetto, and the andamento. The attacca type is very short and usually is set in a characteristic rhythm. The soggetto type is usually in one homogeneous section although it sometimes approaches the length of the andamento type, which is generally of extended length and occasionally in two or more sections. The attacca type is very rare in contemporary fugal writing, and most contemporary subjects fall into either of the other two groups. An illustration of each

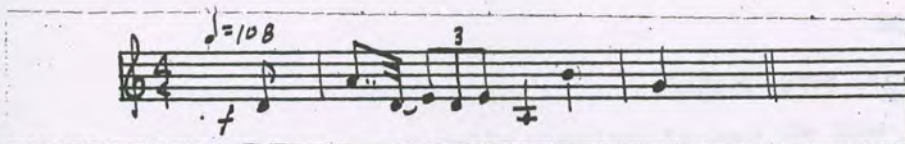
appears below.

Example 31

- a. Vaughan-Williams, Symphony No. 4 (attacca)



- b. Hindemith, Ludis Tonalis, Fuga Octava in D (soggetto)



- c. Schuman, American Festival Overture (andamento)



One can observe that the head and tail type of subject is still rather common. The head usually is masculine and decisive, i.e., moving in slower values, outlining broken chords, issuing motto themes, and possessing strong harmonic force. The tail usually is more agile, is based on diatonic or chromatic scale line, and possesses a greater melodic force (see example 32a). Almost inevitably, the head and tail are molded from one basic thematic idea. This type of subject tends to suggest a possible separation of head and tail, or at least different roles for each. This principle may be most clearly seen in Barber's Piano Sonata, where the tail ultimately becomes detached from the head and becomes the second subject of a double fugue.

Example 32

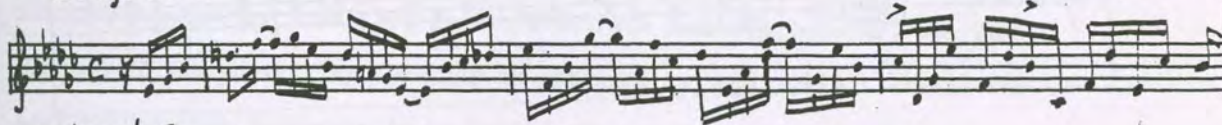
a. Berg, Wozzeck

a) Exp. of Sub 1.
Hauptman

The musical score is handwritten and consists of three staves. The top staff is in treble clef, the middle in alto clef, and the bottom in bass clef. The key signature has one sharp (F#). The score begins with a treble clef and a key signature of one sharp. The first staff has a tempo marking 'a) Exp. of Sub 1.' and a dynamic marking 'Hauptman'. The music features various note values, including eighth and sixteenth notes, and rests. There are also some markings above the staff, such as '8' and '37', which might refer to measures or specific musical elements. The notation is somewhat sketchy, with some notes and rests appearing to be added or corrected.

b. Barber, Piano Sonata

Subject 1



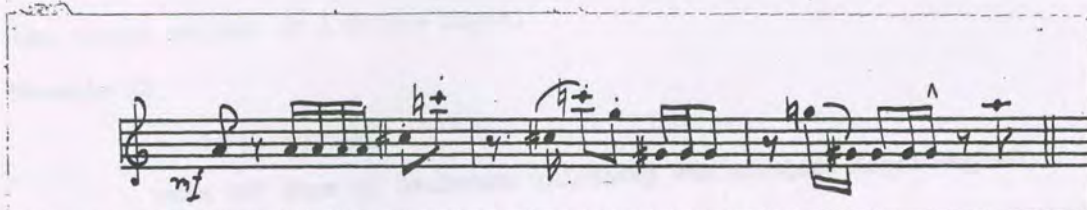
Subject 2



Larger fugal subjects are generally organized in much the same manner as are the thematic material in non-fugal music. Subjects in three or four short phrases are not uncommon. Sometimes these units approach phrase length, while at other times they are merely motive length. The examples below illustrate subjects which are divided into several smaller sections.

Example 33

a. Hindemith, Ludis Tonalis, Fuga septima

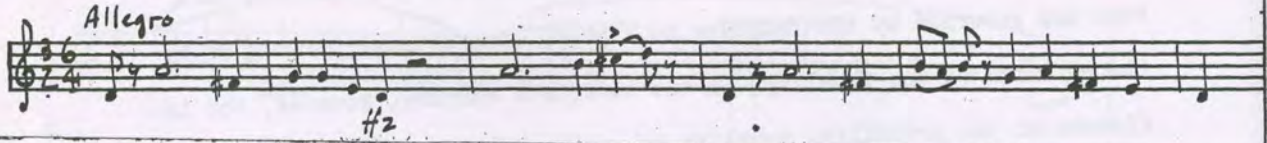
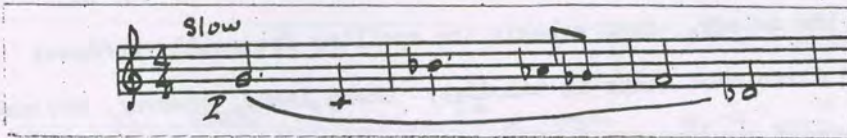
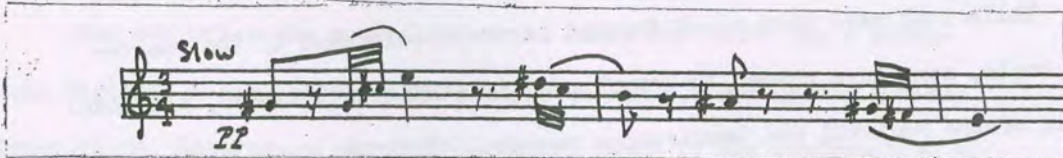
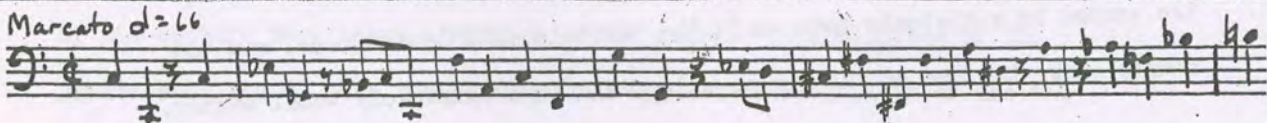
b. Vaughan-Williams, Symphony No. 6c. Riegger, Woodwind Quintet

For centuries the prevailing scale basis for music was a seven-note diatonic scale, either modal, major or minor. One of the notable innovations, however, of twentieth-century music is the confirmation of the expansion of the scale basis from seven to twelve notes. With this expansion newer and richer melodies become possible as do a variety of new harmonic effects. Except for a small minority, almost all composers by mid-century have taken advantage of the melodic possibilities of the twelve-note scale, even though they all may not be serialists or use the so-called "twelve-tone technique". As a matter of fact, this writer was able to find only one fugue written in a strict serial style, the Riegger Nonet For Brasses.

With the adoption of the twelve-note scale, composers have made certain modification in the principles which govern the choice of spellings for intervals and chords. In the traditional period the spelling of a tone was governed by its relation to a prevailing triadal harmony or by its relation to the tonality; in the twentieth century, however, the influence of the prevailing tonality on spelling is negligible, causing the spelling of most intervals to be based upon a compatibility with the prevailing harmony. For instance, a composer using a predominantly quartal harmonic texture would spell melodic tones in a manner which would show their relation to the prevailing harmony and not necessarily the implied tonality of the melody. Such a basis for spelling frequently produces augmented or diminished leaps in melodies; these leaps, however, are not manifestations of the composer's desire to use unusual melodic intervals so much as a manifestation of his desire to maintain a certain compatibility between harmonic and melodic spelling. If no such clear harmonic basis is present, the composer usually chooses spellings which are easiest to read.

While composers have moved forward in the development of the twelve-note scale, some have chosen to rework, or to use in a new manner, the modal scales of the Medieval and Renaissance periods. Thus the scale basis for most contemporary fugues is either one of these modes or a twelve-note scale, with sporadic use of synthetic and other exotic scales. The examples below illustrate typical kinds of scale structure. The first is D major, the second is a diatonic mode on C, the third is an E Lydian mode, and the fourth shows the use of the twelve-note scale in a completely tonal manner.

Example 34

a. Harris, Symphony No. 3b. Hindemith, Ludis Tonalis, Fuga primac. Hindemith, Ludis Tonalis, Fuga quarta (second subject)d. Honegger, Prelude, Fugue, and Postlude

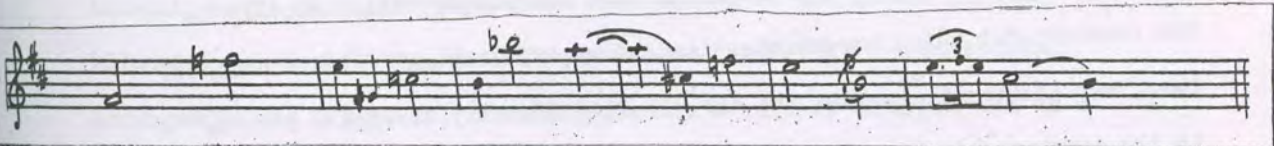
One does not usually associate the most recent innovations in melody with fugue but, rather with melody as it exists in the music of serially-minded composers. But in spite of this, fugal melodies, while still consisting mainly of seconds and thirds, show a growing tendency to contain larger and more frequent leaps. Leaps of seventh and ninths are common, and consecutive leaps are usually absorbed into tertian or quartal harmonic groupings. The reader's attention is directed to the subjects quoted thus far and those given below.

Example 35

a. Copland, Symphony No. 1



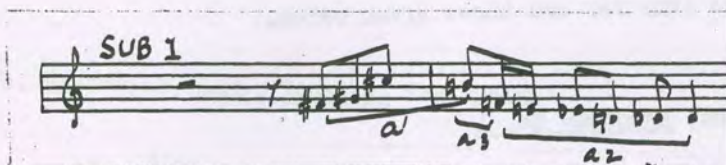
b. Bliss, Colour Symphony



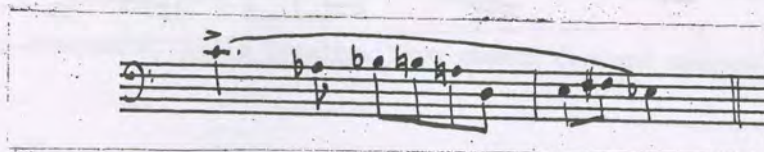
Another typical feature of twentieth-century melodic writing is the frequent use of chromaticism, which is more often associated with the latter portion of the subject and functions as a cadential device. The two illustrations below are by composers of somewhat different stylistic persuasions, yet both bear this common feature.

Example 36

a. Berg, Wozzeck (first subject)



b. Schuman, String Quartet No. 3



There is a tendency for the melodic cadence of the subject to be obscure, since it is most advantageous that the subject lead smoothly to the counterpoint which accompanies the answer. The actual melodic cadence, then, may inobtrusively pass the ear, leading directly through a codetta to the countersubject. Rhythm is probably the most important single influence upon determining the cadence. The cadence tone itself must be felt as an arrival, and the manner in which it is approached is of great

importance. In most cases the cadence is approached diatonically or chromatically, with the chromatic conveying the greater feeling of arrival. In some cases, as in Riegger's Nonet, the chromatic cadence is approached by a leap of a major seventh. The example below illustrates this common kind of melodic cadence.

Example 37

Piston, Prelude and Fugue



Contemporary fugue subjects, like their counterparts in other periods, frequently contain various types of broken chordal melody. And while most of these broken chordal designs fall in the small tertian group (triads and seventh chords), there are numerous instances where quartal and added-note harmonies are outlined. While broken chords give very clear information as to the harmonic implication of the subject, one may also deduce the harmonic basis of a line through an examination of the latent harmonic implication in the motives themselves. Rather frequently broken chordal arrangements are filled in, or embellished in a variety of ways, but in a manner which still gives an impression of clear harmonic relationships. This is especially true of composers whose idiom is primarily harmonic or quasi-harmonic. It seems as though composers such as Honegger, Schuman, Britten, Harris, and Barber find this type of harmonic logic indispensable

to their fugal subjects.

As previously mentioned the triadal reference seems to be the strongest. A clear illustration of this type of harmonic reference appears in the fugal subject of Schuman's Symphony No. 4.

Example 38

Schuman, Symphony No. 4



It may have been noticed that several different types of harmonic relationships occurred in the previous illustration. Some of these relations have their roots in the chordal progression of the classic period, while others seem to stem from more recent concepts in progression. As mentioned in Part I, one of the harmonic procedures of the romantic movement was not so much to invent new harmonic structures as it was to place existent ones in new relations. In the music of Wagner, Liszt, and Strauss we see a growing tendency to reduce the importance of the fourth and fifth relation progression, and to substitute in its place progression based upon seconds, thirds, and tritones. The exploitation of cross relational possibilities was also no small matter. In the twentieth-century we see all of the principles operative, especially the triadal parallelism of a diatonic or chromatic nature. This type of progression seems to be appropriate and compatible with other modal devices used by many contemporary composers. Several illustrations of implied triadal parallelism are quoted below. In

the Britten Young Person's Guide to the Orchestra the triadal parallelism is diatonic; in the following two illustrations the triadal relations are mixed.

Example 39

a. Britten, Young Person's Guide to the Orchestra

Example 39a shows a musical excerpt from Britten's Young Person's Guide to the Orchestra. The top staff contains a melody in G major, starting with a dotted quarter note G4, followed by eighth notes A4, B4, C5, D5, E5, F#5, and G5. The bottom staff shows the corresponding triads: G4-B4-D5, A4-C5-E5, B4-D5-F#5, C5-E5-G5, D5-F#5-A5, E5-G5-B5, F#5-A5-C6, and G5-B5-D6. The triads are written as vertical stacks of notes on a grand staff.

b. Honegger, Prelude, Fugue, and Postlude

Example 39b shows a musical excerpt from Honegger's Prelude, Fugue, and Postlude. The top staff contains a melody in G major, starting with a dotted quarter note G4, followed by eighth notes A4, B4, C5, D5, E5, F#5, and G5. The bottom staff shows the corresponding triads: G4-B4-D5, A4-C5-E5, B4-D5-F#5, C5-E5-G5, D5-F#5-A5, E5-G5-B5, F#5-A5-C6, and G5-B5-D6. The triads are written as vertical stacks of notes on a grand staff.

c. Schuman, Symphony No. 3

a) Fugue Subject

Example 39c shows a musical excerpt from Schuman's Symphony No. 3, specifically the Fugue Subject. The top staff contains a melody in G major, starting with a dotted quarter note G4, followed by eighth notes A4, B4, C5, D5, E5, F#5, and G5. The bottom staff shows the corresponding triads: G4-B4-D5, A4-C5-E5, B4-D5-F#5, C5-E5-G5, D5-F#5-A5, E5-G5-B5, F#5-A5-C6, and G5-B5-D6. The triads are written as vertical stacks of notes on a grand staff.

In the music of Hindemith one sees a subtle blending of thirds and fourths with considerable emphasis on the fourth. Quoted below are two fugue subjects from his Ludis Tonalis, which illustrates linear writing with a definite quartal harmonic reference.

Example 40

Hindemith, Ludis Tonalis



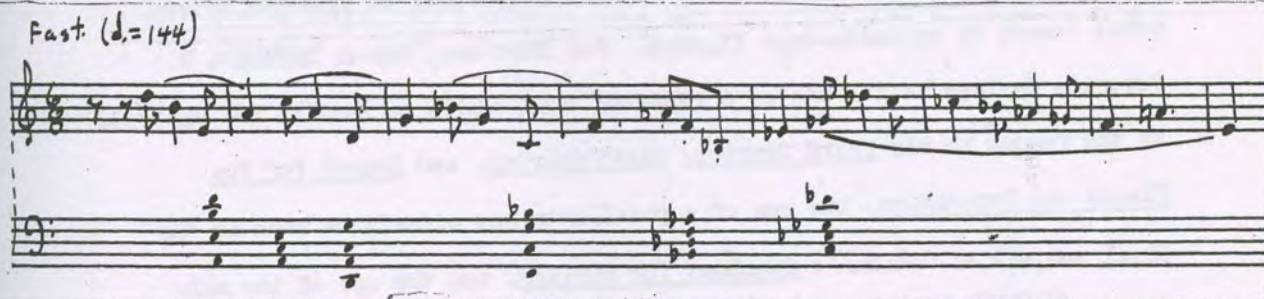
Melodic reference to polychordal relations is rather difficult to manage, since by necessity it requires the subject to be of wide range. It is interesting to note that the only subject found which contained a clear suggestion of polychordal relations was also the one found with the widest range, the fugal subject in Persichetti's Piano Sonata No. 4 (See Example 30). If the composer decides to develop the harmony in a polychordal idiom, he generally uses relationships which are suggested successively, rather than simultaneously, in the subject.

A more common chordal reference, however, is to an added-note harmony or major-minor type chord. Clear illustrations of the added-note reference appear in the fugue subjects of Barber's Piano Sonata, Op. 26 and Stravinsky's Symphony of Psalms, and the major-minor type of chordal

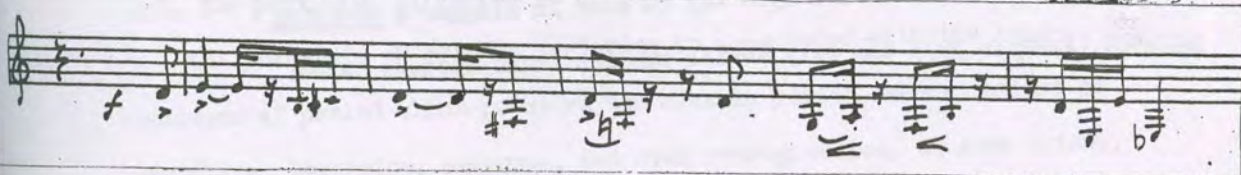
reference appears in the fugal subjects of Stravinsky, Harris, and Milhaud. In the example below the subject from Hindemith's Ludis Tonalis is the added-note variety, while the subject from Stravinsky's Concerto For Two Pianos is the major-minor type.

Example 41

a. Hindemith, Ludis Tonalis, Fuga quinta



b. Stravinsky, Concerto For Two Pianos



Fugal subjects in the twentieth-century, therefore, seem to be overwhelmingly tonal, either in reference to a seven-note diatonic, or twelve-note chromatic, scale. Devices as chordal association (actual or implied), scale reference, as well as various types of cadential effects have a tendency to strengthen the tonal feeling. Rather frequently the tonal center shifts with the change of harmonic reference, yet at other times it remains relatively static. Some of the melodic devices which also seem to strengthen the tonal feeling are the uses of repeated notes, pedal tones, or ostinato-type figures. For instance, one of Bartok's favorite devices is the use of a repeated tone, which he uses in the subjects of the fugues in his Third Quartet, Sixth Quartet, and Sonata for Two Pianos and Percussion. The use of a pedal note may clearly be seen in the fugal subject of Schuman's Symphony for Strings. And the use of the melodic ostinato may be seen in Stravinsky's Mass and Octet.

The use of extensive amounts of chromaticism tends to obscure the tonality or to keep it shifting rapidly. While this type of subject is not as popular as its more tonal counterpart, composers such as Bartok, Riegger, and Berg have used it with considerable success. The serial type of subject is even less common, this writer having found only one example. An example of the non-serial type may be seen in Riegger's Woodwind Quintet (Example 33); the only serial subject found appears below.

Example 42

Riegger, Nonet

The image displays musical notation for Example 42, Riegger's Nonet. It consists of two staves. The top staff is labeled 'Series' and shows a sequence of 12 notes: 1 (C), 2 (D), 3 (E), 4 (F), 5 (G), 6 (A), 7 (B), 8 (C), 9 (D), 10 (E), 11 (F), 12 (G). The bottom staff shows a melodic line in C major, starting with a forte (f) dynamic, followed by a piano (p) dynamic, and ending with a sforzando (sf) dynamic.

Contemporary motive structure is characterized by various degrees of melodic and rhythmic force. Characteristic rhythmic patterns seem to lend a type of reference which is susceptible to a more elaborate type of melodic variation, while motives which are based upon rather even note values have a primarily melodic force; certainly both types are common. One sees through the development of the motives within the subject, the beginning of formal growth in the piece.

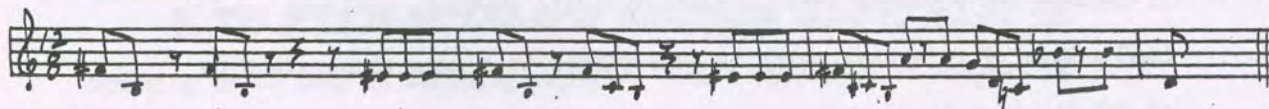
The principle of melodic variation is associated with the long contrapuntal period which preceded the classic period, where devices as repetition, inversion, sequence, and even retrogression, to some extent, went through a rich and elaborate period of development. But the ricer-care technique suggested a more far-reaching thematic development which was characterized by a type of variation that was more remote, and pointed to the thematic treatment of the Classic and Romantic periods. Reti,

while maintaining that the idea of thematic transformation is generally associated with the classic period, was able, nonetheless, to trace certain types of transformational procedures back as far as Palestrina.⁴⁵

Considering the many types of development at hand, many of the fugue subjects encountered developed in a rudimentary fashion, using only the older principles of repetition, sequence, and inversion. An example of a subject based upon the inversion of motives appears in Britten's Young Person's Guide (Example 39); a characteristic illustration of sequential construction appears in Riegger's Woodwind Quintet (Example 33); an illustration of motive repetition appears in the subjects of Britten's Variations on a Theme by Frank Bridge (below).

Example 43

Britten, Variations on a Theme by Frank Bridge



Using some of the principles of the Schenker method of analysis in conjunction with those of Hindemith and Reti, one is sometimes able to get a great insight into the manner in which the fugue is to develop

⁴⁵ Reti, Thematic Process, p.62

through a close examination of the subject itself. The subject may for instance, expose certain intervallic relations which may become important thematically and harmonically. The subject may also indicate certain types of developmental procedures which are used throughout the fugue (See the analysis of Barber's Piano Sonata Op. 26 in section H).

Among others, such a subject is the one in Honegger's Prelude, Fugue, and Postlude. It may be observed that most of the motives can be reduced to triadal formations or seventh chords in parallel relations. How these basic intervallic ideas affect harmony and melody can clearly be seen in the third entrance of the subject.

Example 44

Honegger, Prelude, Fugue, and Postlude

The musical score is divided into two systems. The first system consists of four staves: SUB, C.S., Cpl, and a grand staff. The second system consists of three staves: a grand staff and a single staff. The music is in 3/4 time and features various musical notations including notes, rests, and accidentals. The score is divided into measures by vertical bar lines. The first system contains measures 1 through 4, and the second system contains measures 5 through 8. The notation includes various musical symbols such as clefs, time signatures, and dynamic markings. The score is handwritten and shows signs of being a working draft or a personal copy.

System 1:

- Staff 1 (SUB):** Measures 1-4. Notes: G4, A4, B4, C5. Dynamics: *mf*. Markings: *A*, *B*, *C*.
- Staff 2 (C.S.):** Measures 1-4. Notes: G4, A4, B4, C5. Dynamics: *mf*. Markings: *A*, *C*, *D*, *B*, *B*.
- Staff 3 (Cpl):** Measures 1-4. Notes: G4, A4, B4, C5. Dynamics: *mf*. Markings: *A*, *C*, *D*, *B*, *B*.
- Grand Staff:** Measures 1-4. Notes: G4, A4, B4, C5. Dynamics: *mf*. Markings: *A*, *C*, *D*, *B*, *B*.

System 2:

- Staff 1 (Grand Staff):** Measures 5-8. Notes: G4, A4, B4, C5. Dynamics: *mf*. Markings: *A*, *C*, *D*, *B*, *B*.
- Staff 2 (Grand Staff):** Measures 5-8. Notes: G4, A4, B4, C5. Dynamics: *mf*. Markings: *A*, *C*, *D*, *B*, *B*.
- Staff 3 (Single Staff):** Measures 5-8. Notes: G4, A4, B4, C5. Dynamics: *mf*. Markings: *A*, *C*, *D*, *B*, *B*.

Probably the best illustration of a subject containing devices to be used throughout the fugue occurs in Bartok's Music for Strings, Percussion, and Celesta. For a detailed analysis of this subject see Section H.

The influence of phrasing upon the projection of the structural organization within the composition is sometimes overlooked, leaving the impression that it is essentially determined by style and taste. However with innovations in melody and rhythm, contemporary composers are predisposed to use even more judicious phrasing in order to clearly project their structural ideas. For instance, the structural organization in a fugue such as Bartok's Music for Strings, Percussion, and Celesta would probably go unnoticed if it were not for the inimitable phrasing used throughout this movement. Likewise much of the meaning in the music of Stravinsky and Hindemith would be lost if the indications for phrasing were omitted. How proper phrase indications aid in organizing passages into meaningful structural units may be seen in the subject of Fuga quinta of the Ludis Tonalis (Example 41).

The practice, then, of twentieth-century composers so far as subject and melody are concerned may be summarized as follows:

1. Melodies usually possess a well defined shape and a non-repetitive climax.
2. With few notable exceptions, the overall range of subjects remains close to the octave.
3. Composers prefer the soggetto or adamento subject in preference to the attacca subject.
4. The subject may be in one continuous unit, divided into head and tail, or divided into a group of small sections.
5. Most subjects are tonal.
6. Subjects sometimes contain pedal-type or ostinato-type figures.
7. Many subjects suggest certain intervallic ideas or contrapuntal devices which are later used in the fugue.

The specific contributions of twentieth-century composers to the development of fugue may be summarized as follows:

1. Recent observations by contemporary theorists (Reti, Rufer, Schenker, and Hindemith) concerning the nature of melody permit contemporary composers to conceive melodies with a considerable amount of thematic and structural logic even though these melodies are not anchored in major-minor tonality.
2. Composers have expanded the scale basis from seven to twelve notes.
3. Composers use modes other than the major and minor.
4. Some subjects contain larger and more frequent leaps.
5. The melodic cadence is frequently chromatic.
6. Broken chordal melodies have been expanded to include suggestions of large tertian, quartal, compound, or added-note harmonies.
7. Melodies sometimes suggest parallel harmonies.
8. Cross relations are more common.
9. The serial fugue was introduced.
10. Phrase markings are frequently used to suggest the structural organization of the melody.

B. Rhythm and Meter

Before discussing rhythm and meter in the twentieth century, I believe some discussion of the evolution of rhythm and meter is necessary in order better to understand the contributions of the contemporary period. Measured rhythm has long been associated with the symmetry produced by an evenly recurring accent pattern. It originally grew out of the necessity to control the intervals which occurred on the points in the polyphony of Ars Antiqua. Since almost all music of this period was based upon a text it was natural that composers borrowed their rhythmic and metrical organization from poetry. In its most rudimentary stages, composers based measured rhythm upon the constant recurrence of a triple metrical unit, in addition to the repetition of certain simple rhythmic patterns, called rhythmic modes.

The first modifications, or rather enlargements, of these concepts occurred in Ars Nova. The composers of this period enlarged the relatively short rhythmic modes to longer patterns called isorhythms. They used more frequent and smaller divisions of the basic values, and also introduced duple meter, which brought about the development of time signatures. While all of these developments were important in the evolution of rhythmic and metrical organization, the development of the isorhythmic principle is of special importance to contemporary composers.

The isorhythmic principle is based upon the recurrence of a relatively large rhythmic pattern. It usually appeared in the tenor part of the motet, or less frequently in an upper part (duplum or triplum). The recurring rhythmic unit was called a talea and the melody, usually derived from the chant, was called the color. Thus even with these notable

developments, composers still based rhythmic organization upon the recurrence of established rhythmical patterns. An example of an isorhythmic tenor appears below.

Example 45

Machaut, "S'il estoit nulz", Historical Anthology of Music
No. 44



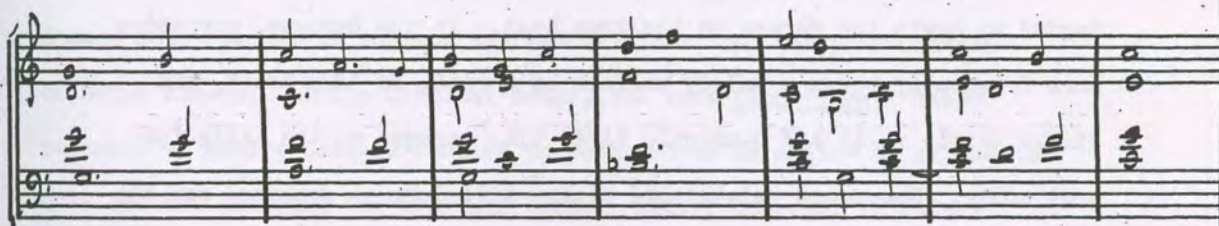
The rhythmic developments of Ars Nova led to a "complexity of rhythm which has never been paralleled in all history."⁴⁶ Sachs also described the polyphonic texture of this period as yielding "to an ever moving, often confusing texture."⁴⁷ During the Renaissance, however, there was a return to severity, and simplicity, and composers were again intent upon capturing the normal inflection of words in their music, as in the illustration below.

⁴⁶ Apel, Harvard Dictionary of Music, p. 641

⁴⁷ Sachs, Rhythm and Tempo, p. 236

Example 46

Ockeghem, "Missa L'homme arme", Historical Anthology of Music
No. 73



Not long after this composers introduced the bar-line in order to facilitate the reading of several staves simultaneously. They purported to be merely "orientation marks only, but not yet bars to delineate the accentual patterns; they would quite arbitrarily separate sections of different lengths."⁴⁸ The singers of that day would render their own part with no concern for the accentual pattern appearing in the part of another singer. In other words, Renaissance composers intended the bar-line

⁴⁸ Sachs, Ibid., p. 257

The style galant ushered in a period in which rhythm became subservient to harmony. This was a period of elegance and grace in which composers created the so called agréments, embellishments used to close the gaps between indicated melody tones. Other rhythmic devices appearing during this period were the Scotch snap, i.e., a reversal of the long-short pattern so that it appeared short-long; the use of the double dot; the use of duplets against triplets; and the introduction of tempo rubato. In its original sense, the term tempo rubato meant to shift an entire passage forward or backward by an eighth- or sixteenth-note without changing the original tempo. Today, however, it refers to subtle changes of tempi within the bar or phrase.

In the Classical period both rhythm and form were the handmaidens of tonality. Composers desired balance and symmetry, and forms based upon harmonic tonality reached their highest point of development. It was not until the collapse of harmonic tonality that rhythm was allowed to exert an influence on the course of the development, and the ultimate shape of the form. It has been said that the dissonance has been emancipated in the twentieth century;⁴⁹ the same may also be said of rhythm. Now rhythm may develop, or participate in the organization of a work, to a degree unknown before.

In a sense Stravinsky's Le Sacre du Printemps not only liberated dissonance, but also, liberated rhythm from the bondage of tonality. At least since then, composers have come to understand asymmetrical compound meters, changes of meter, the use of hemiola and other related

⁴⁹ See footnote 53 on page 107

devices, and the use of perforated bar-lines as common contemporary procedures. Until the twentieth century compound meters were produced by multiples of simple meters; 2 times 2 produced $4/4$, 3 times 3 $9/8$, 4 times 3 $12/8$, etc. Composers avoided compound meters such as 5, 7, and sometimes 8 because they could not be divided into symmetrical divisions. For example, five meter has to be divided 3 plus 2, or 2 plus 3, and in some cases $\frac{4}{7}$ plus 1. Seven meter is usually divided 3 plus 2 plus 2, or in some other order. Because these meters may be divided in several different manners, composers resort to the use of perforated bar-lines or the grouping of a number of notes under one beam in order to indicate the metrical subdivisions. Composers also arrange common meters such as $4/4$ into $8/8$ measures so that they also may be divided into such an asymmetrical grouping as 3 plus 3 plus 2.

Some composers, aware of the tendency of the performer to accent the first beat of each bar, insert a bar-line before a note which is to receive a metrical accent, thus producing frequent changes of meter. Some composers, on the other hand, prefer to keep the metrical pattern relatively even, and mark stressed notes with artificial accents. Here the bar line serves its original function of divider, and aid in reading.

Rhythmic developments in the contemporary period are not based so much on the use of smaller divisions of the beat as they are upon the use of established division in new combinations. Much of the rhythmic excitement in contemporary music is not governed by the use of syncopation, but rather through the development of certain asymmetrical patterns in relatively even note values. A clear illustration of this may be seen in the "Dance of the Adolescents" in Stravinsky's Le Sacre du Printemps.

Example 48

Stravinsky, Le Sacre du Printemps, "Dance of the Adolescents"

Tempo giusto $\text{♩} = 50$
 Strings

Contemporary composers frequently use hemiola and other related devices. Originally, hemiola was the use of a duple pattern in a triple measure, or vice versa; or, the use of duple and triple patterns against each other. I believe the term should also be used to indicate such other ratios as 5:4, 5:2, 7:4, etc. Today these ratios are used to produce unique polyrhythmical and polymetrical effects, which contemporary composers by no means limit to two parts alone. Composers such as Charles Ives composed long passages, or entire movements in which two or more ensembles played in different tempi. While these devices are

more often associated with the serial method of composition, examples may also be found in contemporary fugal literature. Since both serial technique and the isorhythmic principle depend upon rotation of patterns, it is understandable that composers have recently attempted to serialize rhythm. This is done by creating a series of rhythmic values, placing them in some order, and then using this rhythmic row in a rotating manner; or as Boulez did in his Structures for two pianos interpreting "the transpositions of his twelve-tone row to various pitch levels as a form of rotation" and transplanting "the results to the parameter of time in order to obtain an analogous sequence of derivative forms of his time series."⁵⁰ Gyorgy Ligeti demonstrates how this is done in Structure Ia in his article "Pierre Boulez," in which a series of note values in an arithmetical series (Example 4a) is arranged into a durational series (Example 4b) derived from the original pitch series.⁵¹ Ligeti then goes on to discuss the serialization of dynamics and modes of attack.

⁵⁰ Krenek, article "Extent and Limits of Serial Technique" in Problems In Modern Music, p. 79

⁵¹ Gyorgy Ligeti, "Pierre Boulez," die Reihe, Vol. 4, p.39

Example 49

The musical notation for Example 49 consists of five staves. The first staff, labeled "Series", shows a sequence of 12 notes with pitch bends, numbered 1 through 12. The second staff, labeled "Time values", shows the same sequence of notes with rhythmic values, also numbered 1 through 12. The third staff, labeled "Series Transposed", shows the same sequence of notes with pitch bends, numbered 1 through 12. The fourth staff, labeled "Original Numbers", shows the sequence of notes with pitch bends, numbered 5, 6, 8, 9, 12, 10, 4, 11, 7, 2, 3, 1. The fifth staff, labeled "TIME SERIES", shows the same sequence of notes with rhythmic values, numbered 5, 6, 8, 9, 12, 10, 4, 11, 7, 2, 3, 1.

Elliot Carter has introduced a personal device called "metrical modulation", which is a manner of changing from one tempo to another through the fixed relation of note values. In referring to his First String Quartet Carter says, "you will find that there is a constant change of pulse. This is caused by an overlapping of speeds. Say, one part in triplets will enter against another part in quintuplets and the quintuplets will fade into the background and the triplets will establish a new speed and that will become the springboard for another such operation."⁵²

Most contemporary fugues are written in a straight forward duple or triple meter. There are also instances of entire fugues written in quintuple meter. One occurs in Stravinsky's Octet, which is 5/8 throughout;

⁵² Carter, article "Shop Talk by an American Composer" in Problems In Modern Music, p. 55

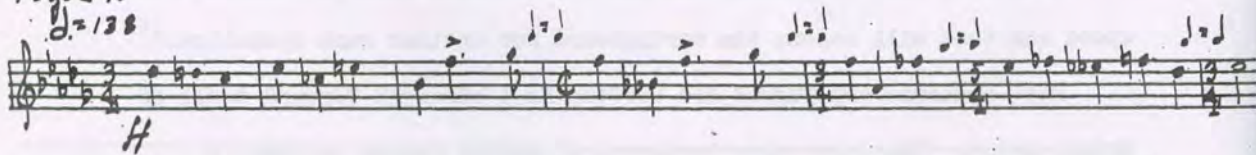
while others occur in Fugues 17 and 19 of Shostakovich's 24 Preludes and Fugues, which are in $5/4$ time.

Composers rarely use a change of meter in the subject itself. Should this be done, the composer would be forced either to use the subject in its original state in each successive entrance or to alter it. Composers do both. Ingolf Dahl begins the fugue in his Music for Brasses with the subject in a $5/4$ measure. However, rather than continuing with the initial bar of each entrance in $5/4$ he shortens it to $4/4$. Shostakovich, on the other hand, chose not to make this adjustment in Fugues 15 and 16 of his 24 Preludes and Fugues. The subject of Fugue 15 is in $3/4$ except for the fourth bar, which is in alla breve, and the last, which is in $5/4$. Through each successive entrance, the subject remains in this metrical framework, causing frequent metrical changes throughout the fugue. A similar situation occurs in Fugue 16, where the subject is in common time, with a one measure codetta in $5/4$. Rather than shorten this figure, Shostakovich prefers to keep it intact throughout the fugue, this time producing constant changes from $4/4$ to $5/4$.

Example 50

Shostakovich, 24 Preludes and Fugues, Nos. 15 and 16

Fugue 15
♩ = 138

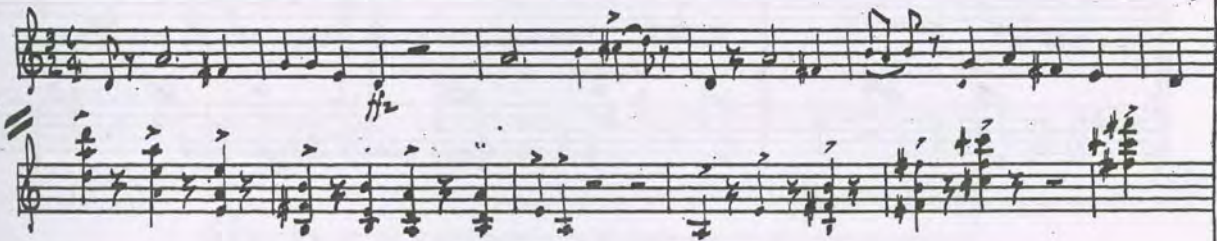


Fugue 16
♩ = 52.



In some fugues, composers use a double time signature, indicating both duple and triple divisions of a common time unit, which is frequently the measure itself. Such a device permits the composer to divide the measure according to one scheme in certain bars and according to another in other bars without any change in the metrical indication. For instance, the fugue in Harris' Third Symphony contains the time signature $\frac{3}{2} \frac{6}{4}$. The first bar seems to be in three, while the second bar seems to be in six, since the sforzando of the fourth quarter-note of second bar tends to divide it into two portions, rather than three. One can see the same type of metrical alternation later in the same work when the strings enter in fourths and fifths.

Example 51

Harris, Third Symphony

The use of polymetrical organization, i.e., counterpoints in different meters, permits composers to develop contrasting accentual patterns, as well as to exploit the tension inherent in rhythms derived from different metrical schemes. The most common manifestation of the principle is the combination of two and three. The subject of the fugue in Copland's

First Symphony is in a highly syncopated 2/4. The lower line contains a broken chordal ostinato in 3/8. Notice that Copland prefers to keep the original 2/4 bar-lines and use perforated bar-lines to indicate the actual metrical arrangement. The accompaniment is both isorhythmic and isomelodic.

Example 52

Copland, First Symphony

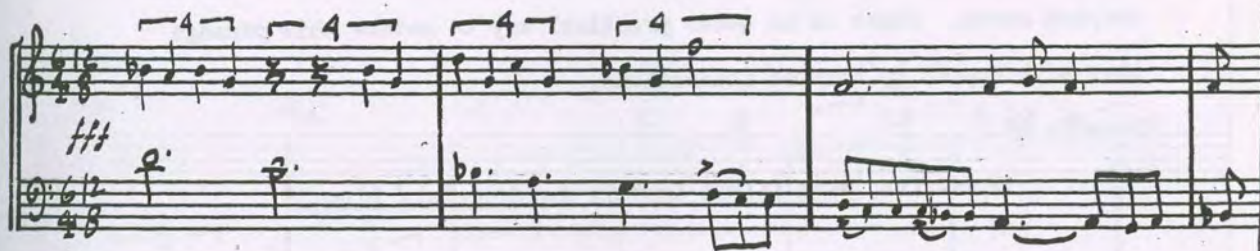


A somewhat similar situation occurs in the duplex subject in Schuman's Symphony for Strings, but without the isorhythmic device. Schuman writes the upper line in a triple time signature even though most of the figures are duple, and the lower line is essentially based upon triple figures. The choice of notation seems more complicated than

necessary. It might have been more simple for Schuman to use a duple time signature and write the triple divisions as triplets.

Example 53

Schuman, Symphony for Strings



In the illustration below Vaughan-Williams avoids the use of triplet or quadruplet marks by the use of both duple and triple time signature in the appropriate voices.

Example 54

Vaughan-Williams, Symphony No. 4



An interesting illustration of the use of duple figures against triple figures appears below. Here Hindemith uses a time signature of $9/4$ for the upper part, and a double signature of $\frac{3}{2} \frac{9}{4}$ for the orchestral parts. Owing to their nature, neither signature accommodates the divisions in their respective parts without the use of duplet or triplet marks. There is no other practical way to notate this passage than with duplet or triplet indications.

Example 55

Hindemith, When Lilacs Last in the Door-Yard Bloom'd



The use of the hemiola may occur in one of two manners: Sometimes the two and three appear against each other, as in Examples 53 and 54, above; other times the hemiola appears in the line itself, as in Example 51. A striking example of hemiola, but without the aid of separate time signatures, appears in Vaughan-Williams' Fourth Symphony. The motto theme appears in the soprano and is accompanied by itself in diminution and double diminution in the bass. Against this duple background appears an inner voice in triplets some of which are tied over the bar. In bar

four Vaughan-Williams inverts the upper two parts, producing double counterpoint at the fifteenth.

Example 56

Vaughan-Williams, Fourth Symphony



Hemiola which occurs within the line depends upon the existence of a discernable metrical pattern for its projection, since the hemiola will go unnoticed and its effect will be lost if a clear meter is not established. It is for this reason that composers tend to place hemiola near the end, rather than at the beginning, of a phrase. When the meter is triple and the hemiola duple, it seems to quicken the pace and to create a liquidational effect. In the first illustration below Bartok establishes a clear triple meter with the use of simple divisions, the hemiola occurring in the sixth measure. Notice that the character of the figure produces the effect of two within three. In the second illustration Bartok reverses the situation so that now the hemiola

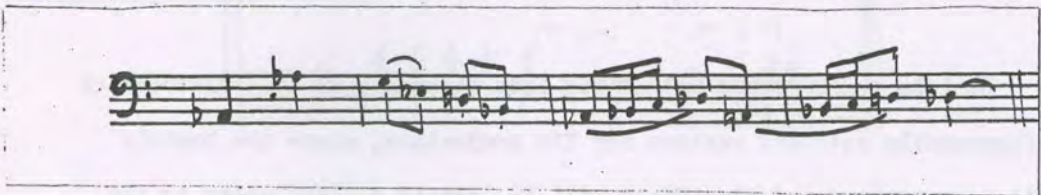
consists of three in two. Again Bartok begins the melody with simple rhythms which clearly establish the meter. The chromatic sequence and clear phrasing contribute to the feeling of hemiola.

Example 57

A. Bartok, Third Piano Concerto



b. Bartok, Concerto for Orchestra



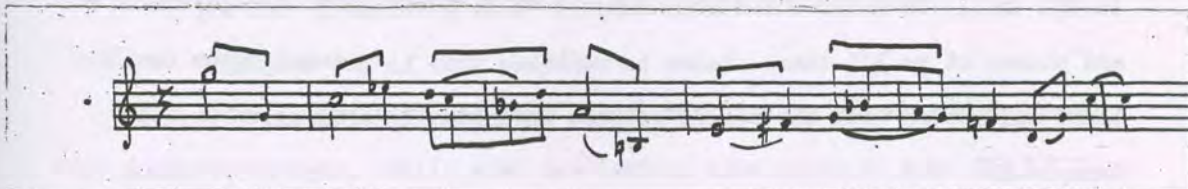
The hemiola principle may be extended to include any recurring metrical pattern appearing in another meter. In the passage in Example 76, an ostinato in parallel triads accompanies the upper contrapuntal parts. The pattern is five beats long while the meter is in four, causing the C major chord to fall one beat later in each bar and not returning to the first beat until the fourth bar.

Tippett uses a rather simple and ingenious method of indicating duple

and triple figures within a line in his First Symphony. Rather than resorting to changing meters, or using duplet or triplet signs, he merely brackets the notes which are to appear together.

Example 58

Tippett, Symphony No. 1



The use of such divisions as 3:2 and 4:3 are relatively common; and divisions of beats follow along traditional lines for the most part. Composers generally avoid complex syncopations and minute divisions of the beat, and their metrical basis is even more conservative. For instance, composers such as Stravinsky and Berg, who otherwise use many mixed meters in their non-fugal music prefer not to use mixed meters in their fugues. Complexity, if it exists at all, unfolds upon the rhythmical level. This may be seen notably in Stravinsky's Octet and Symphony of Psalms, and in the fugue in Berg's Wozzeck. The revitalization of rhythm in contemporary music has also caused several composers to write purely rhythmical fugues, the most well known being Toch's Fuga aus der Geographie. Unfortunately, however, this fugue does little to explore innovations in twentieth-century rhythmic effects, and therefore seems less successful than such other non-fugal percussion pieces as Varese's Ionization.

It is common for one or two of the subject in double and triple

fugues to undergo some rhythmical modification before being combined with the others. Some double and triple fugues even cast their subjects in different tempi, making their combination in the original impossible. For instance, in the double fugue in fuga quarta of the Ludis Tonalis, Hindemith marks the first subject "With energy (108)", and places it in $3/2$ time. He marks the second subject "Slow grazioso (ca. 63)", and places it in $3/4$ time. Later he combines them in the original tempo and meter, with the second subject rhythmically altered.

Example 59

Hindemith, Ludis Tonalis, fuga quarta

The musical score for Example 59, Hindemith's Ludis Tonalis, fuga quarta, is presented in three systems. The first system shows two subjects: SUB1 in $3/2$ time, marked "f With energy.", and SUB2 in $3/4$ time, marked "pp Slow, grazioso". The second system shows the combined section, with SUB1. in $3/2$ time and SUB2. in $3/4$ time. The third system shows the combined section continuing, with SUB1. in $3/2$ time and SUB2. in $3/4$ time.

Similar necessity forces Harris to alter the first subject in his Piano Quintet. Initially, the subject appears with a quarter note as the unit of value, with metrical changes in almost every measure from two to three, or four. Before combining this subject with others Harris first alters it to a straight 6/8. While the third subject is also in 6/8, it is actually a duple melody with the 6/8 signature used merely as a notational convenience.

The meter in twentieth-century fugues tends to be even and not subject to extensive changes. While some new devices have filtered into fugal writing, fugue does not seem to be characterized by the rhythmic experimentation occurring in other types of contemporary contrapuntal writing, most notably in serialism. This may be due to the fact that rhythm must disassociate itself from tonality in order to flourish independently. However, most twentieth-century fugues are associated with tonal relations (even though not necessarily of a traditional nature) which may account for the lack of any considerable degree of rhythmic development within them.

One, then, can make the following observations concerning the use of rhythmic and metrical devices in twentieth-century fugues:

1. There has been no extensive use of smaller divisions of beats other than those which appeared through the Romantic period.
2. There is a slight increase in the use of syncopation.
3. The metrical pattern is usually even.

The specific contributions of contemporary composers is summarized as follows:

1. Rhythm is no longer subordinate to tonality and may play a more decisive role in the development.
2. There is a reinterest in the isorhythmic principle, leading to recent attempts to serialize rhythm.
3. Asymmetrical meters are common.
4. Hemiola is common.
5. There is a greater use of such ratios as 2:5, 4:5, and 3:5.
6. There is a more frequent use of polymeters and polyrhythms.
7. There is a more frequent use of double and triple fugues which contain subjects in different tempi.
8. Two different time signatures are sometimes used in order to indicate the simultaneous division of a unit of value into duple and triple divisions.
9. The rhythmic fugue was introduced.

C. Counterpoint

Polyphony has displayed two contrasting rhythmic styles since its inception in the ninth century. The first polyphony was note against note and completely harmonic. As polyphony evolved, the principles of oblique motion, contrary motion, crossing of parts, and rhythmic dissimilarity manifested themselves in that order. In other words, since its inception, part writing has partaken of two basic styles: the first was based upon rhythmic similarity (primarily harmonic), and the second was based upon rhythmic dissimilarity (primarily contrapuntal). In early periods the harmonic style was referred to as the familiar style, the conductus style, or in its most rudimentary state as parallel and free organum. With the innovations of the twelfth-century School of St. Martial, part writing began to show a greater amount of rhythmic independence. It was, in fact, this movement which precipitated the development of the rhythmic modes in the thirteenth-century School of Notre Dame. With the advent of this school one of the most cherished polyphonic principles was established; i.e., the desirability of maximum individuality of parts fostered through the independence of melodic contour and dissimilarity of rhythm.

Even in the twentieth century contrapuntal lines tend to possess a considerable amount of independence. The contrapuntal writing in the early part of the century was an immediate reaction against the harmonic tonality of the eighteenth and nineteenth centuries. A new style emerged based upon preclassical principles and rooted in the polyphonic idiom. As in the music of other periods individuality was dependent upon contrasting shape, motion, and rhythm. And while no hierarchy may be established, it seems that today rhythmic dissimilarity is the primary requisite for con-

trapuntal independence.

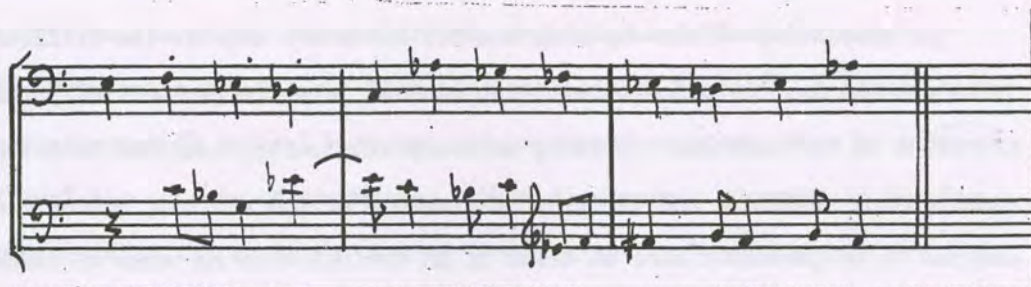
Good rhythmic organization in polyphony, however, is based upon more than contrast; there must also be rhythmic compatibility. No line should hamper the rhythmic development of another line, and as each line develops, it must not stifle the rhythmic growth on other levels. It is true, however, that as the number of parts increase, so does the necessity for creating more parts of a rhythmically subordinate nature. Practice in the twentieth century is cognizant of these necessities and a variety of degrees of independence may be quoted, all governed by the nature of the materials involved and the number of parts used.

Maximum independence is still the ideal in two part writing. And, while rhythm and contrary motion are the decisive influences, the shape of the phrase and the placement of the climax may be contributory. In the first illustration below, both contrasting motion and rhythm conspire to create lines of relative independence, and are attended by a contrast in shape and placement of the melodic climax. A similar situation occurs in Example 60b. This may be seen to a lesser degree in Example 60c, where the contrast between climax, shape, direction, and rhythm is not so well marked.

Example 60

a. Stravinsky, Concerto for Two Solo Pianos

(Some parts omitted)

b. Hindemith, Symphonic Metamorphosisc. Britten, Young Persons Guide to the Orchestra

The cadence is as essential in contrapuntal music as it is in homophonic music, yet there is a tendency not to appreciate the importance of the contrapuntal cadence since it is frequently the ending of one idea and the simultaneous beginning of another. In homophonic music rhythmic and melodic cessation combine with harmonic stasis to produce a feeling of cadence. In contrapuntal music, on the other hand, the conclusion of one idea frequently occurs with the commencement of another in an overlapping connection, so that the contrapuntal cadence, therefore, depends upon harmonic

relations and voice-leading for its effect. Like former composers, contemporary contrapuntalists use this connection to maintain forward motion.

The complexity of contemporary chordal structure adds to the difficulty in determining the cadence, since consonance is no longer an indispensable attribute of the cadence. In fact, harmonic complexity, combined with the simultaneous beginning and ending of statements of the subject, causes the cadence to be perceived more in terms of an arrival than in terms of cessation or repose. Frequently, this arrival is upon a unison or octave, an open fifth, or a chord of low tension compounded with added notes. The feeling of arrival may be enhanced by an emphasis on contrary motion and diatonic or chromatic voice-leading.

While materials have changed, the suspension is still a valuable and common device, and is still produced in a traditional manner, i.e., a note is held into a harmony, creating a dissonance, and then resolves to an interval of lower tension. If the harmony in which the tone is suspended is dissonant the suspension must be even more dissonant in order to be perceived as such. The realization of a suspension, then, depends upon holding a tone into a clearly stated series of low tension harmonies and not merely the presence of a tied or dotted note. To use the term in relation to more dissonant and chromatic types of writing seems both unnecessary and unwise.

In a sense the history of music has been characterized by a development from a state of greater consonance to a state of lesser consonance. In the period of Ars Antiqua only the most consonant intervals (octaves, fifths, and fourths) generally appeared on the points. All other intervals were permitted, but in less crucial areas. In the Burgundian School the triad emerged as the main harmonic unit, and dominated the intervals occurring

on the points. The evolution continued through the Renaissance, where the dominant seventh was introduced as a melodic, and then as a harmonic dissonance. By the end of the Baroque period, composers established a clear system of harmonic relations. They also established a manner of composition which was rooted in triadal harmony, and contained numerous rules in order to control the effects of dissonance. Most dissonances occurred in passing or, occasionally, as accented passing tones, with the appoggiatura, or dissonance on the point, relatively rare. In the subsequent periods composers gradually shifted the interval of the second from its position between the points to a position on the points. This development, strangely enough, occurred with greater deliberation in the harmonic, rather than contrapuntal, music of the eighteenth and nineteenth centuries.

Stravinsky, in his Poetics of Music, speaks of the so-called "emancipation of the dissonance."⁵³ In a sense dissonance has always attempted to emancipate itself so that the dissonant intervals of one period frequently become the consonant intervals of the next. In the twentieth-century we are at a point where the major second and minor seventh are understood to be mild dissonances. In this respect they are now in somewhat the same position as was the third in Ars Nova.

Most twentieth century theorists arrange the intervals of the octave in some hierarchy of consonance.⁵⁴ In spite of personal differences all seem to agree that dissonance does not exist so much an absolute, but

⁵³ page 36

⁵⁴ See Krenek, Studies in Counterpoint; Hindemith, Craft of Musical Composition Vol. I; and Persichetti, Twentieth Century Harmony.

rather within a context.⁵⁵ In other works, the context determines the dissonant content of an interval.⁵⁶ In the table below the intervals of the octave are divided into the groups as they are commonly understood in the twentieth century.

<u>Open Cons.</u> ⁵⁷	<u>Soft Cons.</u>	<u>Mild Diss.</u>	<u>Sharp Diss.</u>	<u>Indeterminate</u>
(Octave)	Major 3rd	Major 2nd	Minor 2nd	Tritone
Perfect 5th	Minor 3rd	Minor 7th	Major 7th	
Perfect 4th	Major 6th			
	Minor 6th			

In twentieth-century fugues there are considerably fewer passages in two-part counterpoint than in three or more parts. As examination of passages in two and three part writing from the same works suggests that two-part writing tends to be more consonant, and that there also seems to be a tendency to increase tension with the addition of more parts. Graves, in his otherwise informative study on contemporary fugue, maintains that "two-voice counterpoint has undergone no significant change."⁵⁸ This observation is based upon a comparison of the intervals occurring in two part passages in Bach and several modern composers. However, his acceptance of

⁵⁵ Reti, Tonality- -Atonality- -Pantonality, "Viewed from the musical aspect, it seems to this writer that the ear will always be inclined to understand any combination of two or more simultaneous sounding notes as dissonance, if there is a more consonant combination in the immediate neighborhood into which the dissonance can resolve, so to speak, as a suspension." p. 10

⁵⁶ Toch, The Shaping Forces in Music, "Dissonance can exist only if and where there exists consonance. The two terms are interconditioned as are big and small, light and dark, warm and cold." p. 11

⁵⁷ abbreviated OC, SC, MD, SD, TT, respectively.

⁵⁸ Graves, W.L., Twentieth Century Fugue, unpub. diss, Philadelphia Conservatory of Music, 1958

all intervals, both on the points and between the points, as being equal in value has led him to some erroneous conclusions. Stringent rules have always existed governing the kinds of intervals which were permitted on the points and those which were permitted between the points. A tabulation of intervals, not taking into consideration whether they appear on the points or between, reduces the counterpoint of almost any period to the same ratios of consonance and dissonance; thus, the explanation of Graves' findings.

However, the counterpoint of various periods does have different characteristic intervallic tensions, which are easily perceived by the ear due to the consistent use of certain intervals on the points. The tension of a contrapuntal passage is therefore influenced not so much by the number of dissonances or consonances it contains, but by their strategic placement. For instance in the passage below, two lines are arranged so that they are successively open consonant, soft consonant, and mildly dissonant. Obviously, the controlling factor is the intervals which occur on the points.

Example 61



The table below indicated the intervals found in two-part writing from Frescobaldi through R. Strauss. The passages are arbitrarily chosen and seem to be typical of both the composer and the period. While this sampling is much too meager to permit any irrefutable conclusions, the statistical information is valuable, nonetheless, in deducing basic trends.

Frescobaldi		Oct						
<u>(Fugue in G minor)</u>		<u>Unis.</u>	<u>OG</u>	<u>SC</u>	<u>MD</u>	<u>SD</u>	<u>TT</u>	<u>%SC on Pts.</u>
On Pts.	1	1	12	1	0	1		75%
Between Pts.	2	13	20	8	0	2		

Bach								
<u>(Fuga X WTC, Vol. I)</u>								
On Pts.	1	6	28	3	0	2		70%
Between Pts.	4	3	8	4	3	1		

Beethoven								
<u>(Piano Sonata, Op. 106)</u>								
On Pts.	1	2	5	7	1	1		30%
Between Pts.	5	13	31	10	2	4		

Schumann, R.								
<u>(Six fugues on B-A-C-H)</u>								
fugue two								
On Pts.	4	1	27	6	1	1		67%
Between Pts.	3	8	11	5	1	0		

Brahms								
<u>(Organ fugue in G and Ab minor, and Choral Prelude and Fugue)</u>								
On Pts.	2	0	26	3	0	2		78%
Between Pts.	3	11	12	7	2	5		

Strauss, R.								
<u>(Also Sprach Zarathustra)</u>								
On Pts.	4	1	1	3	1	1		28%
Between Pts.	8	9	23	10	2	4		

Frescobaldi used no sharp dissonances on, or between, the points. Mild dissonances on the points were rare, but more common between the points in the form of passing tones and suspensions. Soft consonances outnumber all other intervals both on, and between, the points. Bach slightly increased the use of open consonances on the point, and still avoided dissonances on the point, but used several between the points. A noticeable

change occurred in Beethoven, who reduced the number of soft consonances on the points and increased the number of mild dissonances. Schumann, Brahms, and Strauss show no radical increase in dissonant content.

The number of intervals on the points as opposed to those between the points is not decisive in determining the relative degree of consonance or dissonance, since these intervals merely indicate the degree of rhythmic independence between the parts. A similar table appears below, this time based upon an examination of contemporary two-part counterpoint.

	<u>Oct.</u>	<u>OC</u>	<u>SC</u>	<u>MD</u>	<u>SD</u>	<u>TT</u>	<u>Totals</u>	<u>% of SC on pts.</u>
Stravinsky (Symphony of Psalms)								
On Pts.	2	2	15	5	1	4	29	52%
Between Pts.	1	5	9	2	0	5	22	
Schuman, W. (Symphony No. 3)								
On Pts.	8	12	19	1	1	0	41	48%
Between Pts.	2	28	42	6	5	1	84	
Hindemith (Sonata in C)								
On Pts.	0	2	4	2	2	0	10	40%
Between Pts.	1	19	12	6	6	1	45	
Barber (Piano Sonata, Op. 26)								
On Pts.	3	4	9	3	4	0	23	37%
Between Pts.	1	0	4	5	0	1	11	
Bartok (Music for SPC)								
On Pts.	7	0	14	10	2	7	40	35%
Between Pts.	0	2	18	5	2	6	33	
Persichetti (Piano Sonata No. 4)								
On Pts.	0	4	4	3	1	2	14	30%
Between Pts.	3	2	5	7	3	0	20	
Milhaud (String Trio No. 1)								
On Pts.	1	10	5	1	3	0	20	25%
Between Pts.	3	7	5	7	1	1	24	
Harris (String Quartet No. 3)								
On Pts.	4	14	8	1	0	4	31	25%
Between Pts.	3	16	8	3	0	6	36	
Honegger (Prelude, Fugue, Postlude)								
On Pts.	1	6	5	5	4	3	24	20%
Between Pts.	3	3	8	1	0	2	17	
Riegger (Nonet for Brasses)								
On Pts.	0	8	5	8	2	5	28	18%
Between Pts.	0	13	11	7	3	2	36	
Vaughan-Williams (Prelude and Fugue)								
On Pts.	1	3	2	9	0	0	15	13%
Between Pts.	0	4	2	3	0	0	9	

While the preceding table is arranged according to the decreasing use of soft consonances on the points, it is not my intention to suggest that it is possible to absolutely evaluate statistically one composer's use of dissonance in comparison to another. For instance, the preceding table suggests that Vaughan-Williams is the most dissonant of the composers listed. This, however, is not true. Bartok used more than twice as many consonances as Vaughan-Williams on the points; but an examination of the respective pieces indicates that Bartok becomes much more dissonant as the piece progresses, while Vaughan-Williams does not. Thus the preceding table merely indicates tendencies.

The range of soft consonances on the points is from 13% to 52%. One would assume that as the number of soft consonances decreases the number of dissonances increases, but this is not always the case. For instance, in the Harris Quartet soft consonances tend to be replaced with open consonances rather than sharp or mild dissonances.

In comparing this table with the preceding one, notice that there has been a decrease in the use of soft consonances on the points. This trend has also been accompanied by a growing use of dissonance, especially the mild dissonance. And also that such composers as Milhaud, Harris, and Hindemith have reduced the number of soft consonances but increased open consonances, not dissonances.

The mild dissonance is treated more freely than the sharp dissonance. When occurring on the points, mild dissonance is frequently left in contrary motion with one of the parts moving by step, and the interval which follows is usually lower in tension. Consecutive dissonances tend to be approached and left in contrary or oblique motion with the parts moving by step. The

sharp dissonance is usually used at the climax and is treated more strictly than the mild dissonance.

Counterpoint in three and four parts possesses all of the melodic characteristics of two-part writing. The important difference is the expanded harmonic basis, which is usually one of the common types of chordal organization in non-contrapuntal music of twentieth century. The most common harmonic bases are the tertian (triadal and seventh chord), open fifths or fourths, added-note, compound, or quartal chords. The voices are arranged so that certain types of intervals consistently appear on the points, giving the passage its inimitable harmonic flavor.

An illustration of the simple triadal type appears in Example 62a, and is from Fugue 14 of Shostakovich's 24 Preludes and Fugues. Rather frequently, triadally inspired counterpoint is accompanied by the extensive use of parallelism, as in Example 62b. Here certain parallel tertian relations, which are first suggested by the subject, manifest themselves on the contrapuntal level. Notice the number of parallel relations.

Example 62

a. Shostakovich, 24 Preludes and Fugues, fugue 14



b. Honegger, Prelude, Fugue and Postlude

The image displays a musical score for a four-part setting, likely a fugue or postlude, by Honegger. The score is written on five staves. The top staff is a single melodic line. The second and third staves form a two-part setting, with the second staff featuring a complex, rapid melodic line. The bottom staff is a single melodic line. The score is divided into four measures. The key signature is one flat (B-flat). The time signature is 4/4. The music features a variety of chordal textures, including triads, dyads, and larger chords. The bottom staff features a prominent pedal point, which is a sustained note (B-flat) that serves as a harmonic basis for the counterpoint. The overall style is characteristic of 20th-century modernism, with a focus on dissonance and complex harmonic structures.

The use of larger chords in thirds is less common. Most composers prefer smaller chords with adjusted degrees of dissonance to larger chords which contain the same degree of dissonance, but also a greater number of tones. In the four-part passage below, Stravinsky uses seventh chords and ninth chords as the harmonic basis of the counterpoint. Notice the use of a pedal point which sometimes agrees or disagrees with the implied harmony.

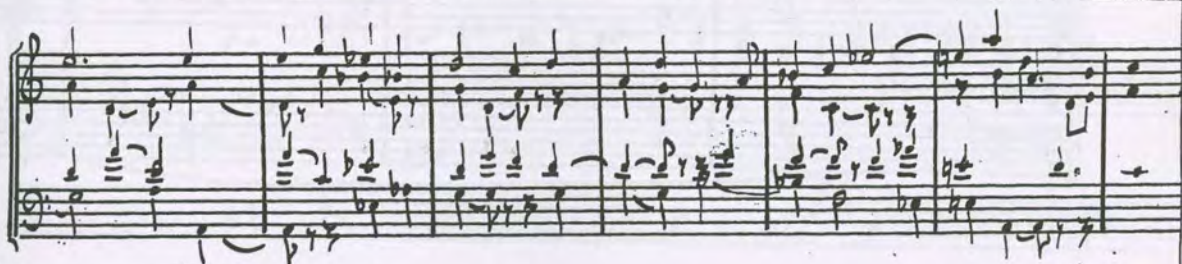
Example 63

Stravinsky, Mass

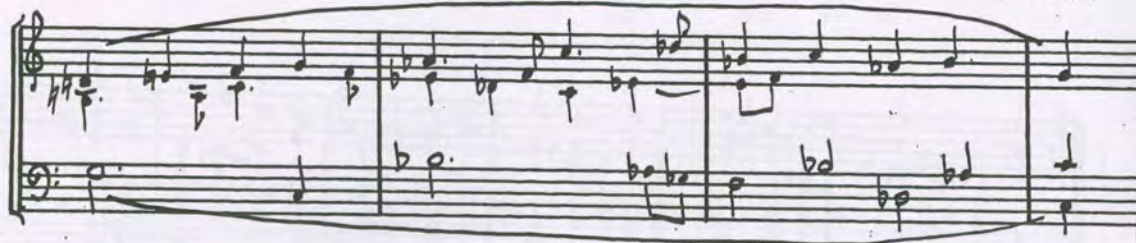
The musical score for Example 63, Stravinsky's Mass, is presented in three systems. The first system, labeled 'CHORUS', consists of two staves with complex rhythmic patterns and various accidentals. The second system, labeled 'WINDS', consists of two staves for Trumpet (Tpt.) and Trombone (Trbn.) with sustained notes and some movement. The third system, labeled 'REDUCTION', consists of two staves with simplified harmonic structures, primarily using open fifths and sustained notes.

The use of open fifths is frequently associated with Harris, and permeates his music, both melodically and harmonically. A typical illustration of his use of fifths in a contrapuntal manner appears below. Following this illustration are contrapuntal passages based upon added notes (Example 64b), and quartal chords (Example 64c). See Example 86 for an illustration of the use of compound chords.

Example 64

a. Harris, String Quartet No. 3b. Piston, Prelude and Fugue

A musical score for a prelude and fugue, consisting of five staves. The notation includes various musical symbols such as notes, rests, and accidentals, arranged in a complex, non-standard manner. The score is written in a single system. The first four staves are grouped together, and the fifth staff is labeled "Added tones".

c, Hindemith, Ludis Tonalis

In most instances the shift from one texture to another is not radical, and dissonance grows with the addition of parts or through dramatic necessity. An instance, however, of a noticeable change in the intervallic basis or more aptly, a growth in the intervallic basis, appears in Harris' Quintet for Piano and Strings. In three successive passages he permits the harmonic reference to grow from fifths (Example 65a) to triadal-type parallelism (Example 65b), and finally to polychords (Example 65c).

Example 65

Harris, Quintet

A) Strings

Piano

b)

c)

Strings

Piano

The harmonic basis of counterpoint in more than four parts emanates from that established in three-and four-part writing, and the addition of more parts may, or may not, add to the degree of tension. A passage with a considerable number of parts appears in Harris's Third Symphony. While this passage gives the impression of great complexity, it is actually reducible to a rather simple polychordal succession.

Harris, Symphony No. 3

Handwritten musical score for Example 66, Harris, Symphony No. 3, page 120. The score consists of 11 staves. The first 10 staves are in treble clef, and the 11th staff is in bass clef. The music is written in a key with one sharp (F#) and a 3/4 time signature. The notation includes various note values, rests, and accidentals, with many notes beamed together in groups. The score is divided into measures by vertical bar lines, and there are several large curved lines indicating phrasing or breath marks. The handwriting is in ink on aged paper.

One then, can make the following observations concerning the contemporary composer's use of counterpoint:

1. Individual lines in contrapuntal passages show varying degrees of independence.
2. Chordal complexity sometimes obliterates the cadence.
3. The suspension is more difficult to produce owing to the increase in chordal complexity.

The contemporary composer's contributions to the development of fugue may be summarized as follows:

1. Composers have increased dissonance in their contrapuntal intervals, causing a greater choice of the kinds and numbers of intervals which may appear on the points.
2. Dissonance is treated with fewer restrictions than in former periods.
3. Contrapuntal intervals frequently can be reduced to a harmonic basis consisting of parallel or non-parallel tertian, quartal, compound, or added-note harmonies.
4. Contrapuntal intervals are sometimes thematically inspired.

D. Contrapuntal Devices

Contemporary composers use in their fugues such traditional kinds of contrapuntal devices as augmentation, diminution, inversion, invertible counterpoint, and canon in addition to devices which are peculiar to the twentieth century. Numerous illustrations of augmentation, diminution, and inversion appear throughout this dissertation, making it unnecessary to quote any further illustrations here. The use of retrogression, however, is quite rare; this writer finding only two illustrations, in fuga tertia and fuga nona of the Ludis Tonalis. In the former fugue the subject is led through an exposition, episode, and canon in contrary motion. From this point on the entire fugue is repeated in retrogression.

Invertible counterpoint developed from the composer's desire to create two melodies which could serve as bass to one another, and in double counterpoint each melody must be able to serve this function. The use of the device reached its apex in the Baroque period, and since then has become less important as a fugal device. The restrictions placed upon the use of intervals such as the second, fourth, fifth, and seventh enhanced the value of the device. The gradual easing of restrictions upon the use of these intervals, however, has neutralized the effectiveness of this device, even though it is still used today by some of the more conservative contrapuntalists such as Shostakovich, Bloch, Barber, Hindemith, and Vaughan-Williams. It most frequently involves subject and countersubject, and it is sometimes combined with such other contrapuntal devices as inversion, augmentation, and canon.

The octave is the most common point of inversion in both Baroque and Contemporary periods. Inversion at the intervals other than the octave or fifteenth are relatively rare, but by no means nonexistent. In some

works, such as Berg's *Wozzeck*, the use of double counterpoint seems, if not accidental, at least of minor importance in relation to other contrapuntal devices. In the Baroque period the problem in double counterpoint at the octave was the inversion of the consonant fifth to the dissonant fourth. This was also true through the Classic period, where practice ruled that the fourth in the bass (6-4 chord) could not be left by leap except to another member of the implied harmony. Seconds and sevenths presented no great difficulty since they invert to each other, so that the strict treatment of a second or seventh in the original counterpoint usually insured its successful use in the inversion.

An illustration of contemporary two-part double counterpoint at the octave appears below. The use of dissonant intervals is indicated by circled numbers, and fourths and fifths are indicated by an "X". At circle one SD and MD on the point moves to SC in oblique motion, and at circle three SD moves to MD in contrary motion and then to MD and OC. The first two fifths resolve through MD to SC. Classical concepts of interval usage would sanction this treatment since the bass line is understood to consist of broken chords, but the last leap of a fifth to MD would not have been permitted.

Example 67

Barber, Piano Sonata

The musical score for Example 67 is presented on two staves, both in G major (one sharp). The top staff begins with a treble clef and a key signature of one sharp (F#). The bottom staff begins with a bass clef and a key signature of one sharp (F#). The music consists of two parts, each with a melodic line and a bass line. The notation includes various intervals, with specific points of interest marked by circled numbers and 'X' marks. Circled number 1 is located in the first measure of the bottom staff, circled number 2 in the second measure, and circled number 3 in the third measure. 'X' marks are placed above the notes in the second and third measures of the bottom staff, indicating dissonant intervals. The score is enclosed in a rectangular box.

A more conservative treatment of the fifth and fourth appears in the illustration below, in which most of the fifths and fourths appear off the points. The fifth in the first measure is part of a broken chord and would be permitted in the Classical period. Notice the presence of a free part which is common in double counterpoint, and functions to smooth out dissonances which may occur between the two lines in double counterpoint. This is especially true when a fifth appears on the point. Here the third line is a pedal point.

Example 68

Hindemith, Ludis Tonalis, fuga quinta



Of the various pitches used as the point of inversion in the Baroque period, the tenth was considered the most difficult to work. This was because SC inverted to OC, causing parallel thirds to invert to parallel octaves and parallel sixths to invert to parallel fifths. For this reason consecutive intervals of any kind were prohibited, and contrary and oblique motion were the only kinds permitted. The use of a free part in this kind of double counterpoint was especially useful. Double counterpoint inverted at the ninth, eleventh, twelfth, thirteenth, and fourteenth are more rare. An example of double counterpoint at the ninth can be found in Persichetti's Piano Sonata No. 4, and an example of double counterpoint at the fourteenth in Bloch's Concerto Grosso.

Contemporary composers also use the so-called "non-inverted" double counterpoint. In this kind of double counterpoint the lines are not reversed so that the upper and lower change places; they maintain their relative position instead. One line, however, appears higher or lower, demonstrating that the two lines may be combined at two different pitch intervals. To find the point of inversion Prout says "invert the smaller of the two intervals in the octave, add the other interval to the inversion, subtract 1, and the remainder gives the interval of the inversion."⁵⁹ An illustration of this type of double counterpoint appears below. The two outer lines begin upon a seventh; the passage is then repeated a few bars later with the two lines beginning upon a sixth. According to Prout's method this is non-inverted double counterpoint at the ninth.

⁵⁹ Prout, Double Counterpoint and Canon, p.3-4

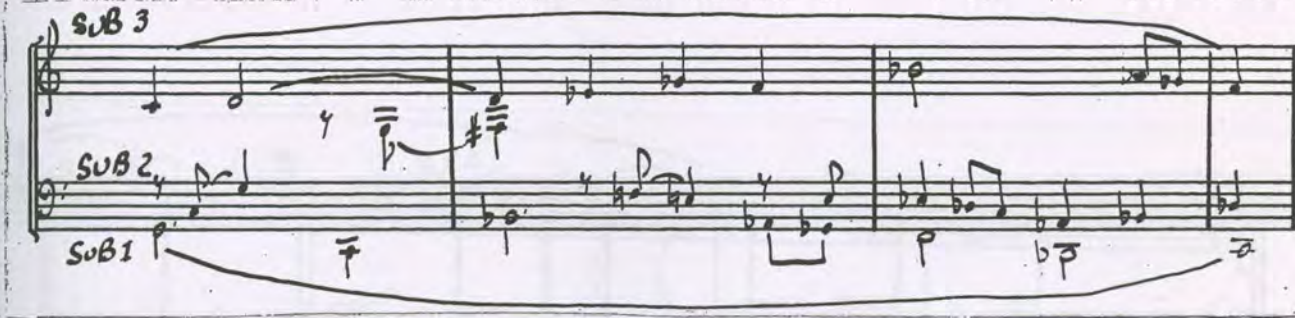
Example 69

Hindemith, Ludis Tonalis, fuga duo decima



Triple counterpoint almost invariably is at the octave; and many examples were found. A typical illustration appears below. Each of the three subjects in this triple fugue appears in the bass at least once. Examples of quadruple counterpoint appear in Schuman's Symphony No. 4. Hovhaness' Prelude and Quadruple Fugue, Op. 128, and the fifteenth fugue in Shostakovich's 24 Preludes and Fugues.

Example 70

Hindemith, Ludis Tonalis, fuga prima

Of all the traditional contrapuntal devices, canon seems to be the most popular. Almost every conceivable type of canon is encountered, as well as some new types in which homophonic and polyphonic devices are combined. The canon 2 in 1 is still most common.⁶⁰ One can find numerous illustrations at various pitch intervals and time distances. Canon are sometimes accompanied by a free contrapuntal part, or supported by harmonies. Since numerous canons are illustrated throughout this dissertation only a few exceptional ones will be quoted here.⁶¹ One interesting two-part canon appears in Harris' Symphony No. 3. This canon begins with a chordal idea stated by strings which is then answered canonically by woodwinds.

⁶⁰ A canon 2 in 1 consists of two entrances of one subject, 3 in 1 three entrances of one subject, etc. A canon 3 in 2 would consist of three entrances of two subjects, causing a duplex canon.

⁶¹ Many unusual canon, such as the serial canons in Stravinsky's Threni, appear in many non-fugal, but contrapuntal, compositions. A discussion of these devices, however, is outside the scope of this paper.

Example 71

Harris, Third Symphony

Another interesting canon 3 in 1 appears below. The relation of each entry is the same; i.e., each entry begins a major sixth higher. The same canon later returns in contrary motion, again with the voices a major sixth apart. Canons 3 in 1 also appear with each entry from the same pitch.

Example 72

Bartok, Third String Quartet

Canons involving more than three entries are also common. For instance, Harris' Prelude and Fugue contains a canon 4 in 1 with the leading part in sixths; Bartok's Piano Concerto No. 3 contains a canon 4 in 1 with harmonic accompaniment; Schuman's American Festival Overture contains a canon 5 in 1; and Barber's Piano Sonata contains a canon 6 in 1 and a canon 7 in 1.

Canons in augmentation can be found in Hindemith's Sonata in C, Villa-Lobos' Bachianas Brasileiras No. 1, numbers fifteen and twenty, of Shostakovich's 24 Preludes and Fugues, and Bloch's Concerto Grosso (Example 73a). Shostakovich

uses a canon in diminution in Fugue 13 of his 24 Preludes and Fugues (see Example 92), as does Berg in the fugue in Wozzeck (Example 73b).

Example 73

a. Bloch, Concerto Grosso



b. Berg, Wozzeck

Handwritten musical score for *Wozzeck* by Alban Berg. The score is written on six staves. The first staff is labeled "WOZZECK" and the second "Hauptman". The third staff is labeled "DOKTOR SUB 2". The fourth staff is labeled "SUB 2". The fifth staff is labeled "SUB 3 (TAIL)". The sixth staff is labeled "SUB 3 (TAIL)". The score includes various musical notations such as notes, rests, and accidentals. There are also some handwritten annotations like "L 3" and "L 3 -" under the SUB 3 (TAIL) staves. The score is divided into two measures by a vertical line.

The canon in contrary motion, or canon in inversion is more common. Examples, other than those previously mentioned, may be found in numbers three, four, and nine, of the Ludis Tonalis, Hindemith's Sonata in C,

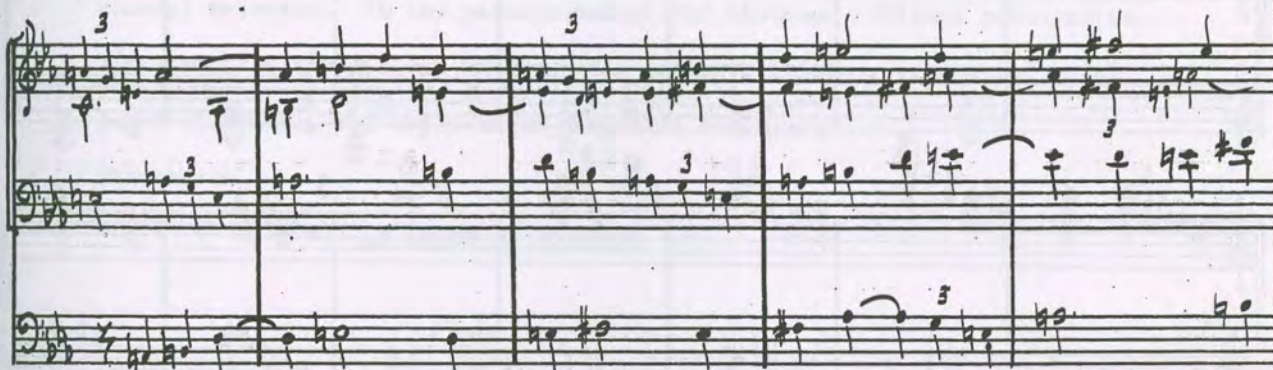
Riegger's Nonet, and Berg's Wozzeck. Hindemith uses the retrogression of the subject in canon with the retrogression in inversion (canon in inversion) and the retrogression in canon with the original version of the subject (retrograde canon) in fuga nona of his Ludis Tonalis.

The use of duplex and triplex canons is more common in the twentieth century than ever before. Two different kinds appear below. In the first, a line thickened in fourths is imitated canonically at the same interval one bar later. In the second, two canons proceed simultaneously; the soprano and tenor contain the subject in canon at the octave, while the bass and alto contain a different canon at the octave. Notice that the inner parts are the double counterpoint at the octave of the outer parts.

Example 74

a. Piston, Concerto for Orchestra



b. Vaughan-Williams, Prelude and Fugue in C minor

I have found no illustrations of three canons occurring simultaneously, but did find, however, instances of a three part chordal ideas treated canonically. Two illustrations of this device appear below. The first is essentially triadal, while the second is quartal.

Example 75

a. Honegger, Prelude, Fugue, and Postludeb. Piston, Prelude and Fugue

The only homophonic device used by Baroque composers was the harmonization of the fugue subject in the closing entries; in the Classical and Romantic periods, however, composers more frequently combined homophonic and polyphonic styles. Today composers use a number of homophonic devices, the most common being harmonic ostinati, thickened parts and chordal melodies. In the passage below, for instance, Milhaud accompanies a fragment of the subject with chordal ostinato (piano), ornamented pedal point (timpani), and major-minor harmonies (violins).

Example 76

Milhaud, Le Creation du Monde

The musical score is written for five instruments: Oboe (Ob.), Violins, Piano (P), Timpani (T), and Small Timpani (Small Timp.). The key signature is one sharp (F#), and the time signature is 4/4. The score is divided into four measures. The Oboe part features a melodic line with various ornaments and slurs. The Violins play a series of chords, some of which are sustained. The Piano part provides a harmonic ostinato with a repeating pattern of chords. The Timpani and Small Timpani parts play a rhythmic pattern that serves as a pedal point for the ensemble.

Harris uses a similar ostinato device in his Symphony No. 3. In Example 77a a canon at the eleventh by horns and trumpets is accompanied by a pedal harmony. Notice, again, the major-minor harmonic implication. While in the passage from the Quartet in Eb, Hindemith does not permit the harmonies to remain static as in the previous two illustrations, but permits them to progress over a chromatic bass line.

Example 77

a. Harris Symphony No. 3

The musical score is presented in two systems. The first system, labeled 'BRASS' on the left, contains two staves. The top staff (Horn) and bottom staff (Trumpet) show a canon at the eleventh. The second system, labeled 'STRINGS' on the left, contains four staves. The top staff (Violin I) features a melodic line with slurs and accents. The bottom three staves (Violin II, Viola, and Cello/Double Bass) show a pedal harmony with a chromatic bass line. The music is in 4/4 time, and the key signature has one flat (Bb).

b. Hindemith, Quartet in Eb

Today, one can find examples of the subject thickened to any interval. Lines in thirds or sixths are common, making it unnecessary to add to the illustrations quoted thus far. Riegger uses the subject in seconds in his Woodwind Quintet; and Harris uses the subject in fourths in his Second Essay for Orchestra. The subject, or another contrapuntal line, is also thickened to various types of chords. Two illustrations of this kind of chordal melody appear below. In the first example three contrapuntal parts melt into one series of parallel triads, which then accompanies a free line in another part. In the second illustration the subject is thickened to three part chords, causing it to appear in three voices simultaneously. Riegger then answers these three part chords by three others at a minor sixth above, producing an incipient two-part counterpoint with each line thickened to compound chords.

Example 78

a. Vaughan-Williams, Symphony No. 6b. Riegger, Nonet

One, then, can make the following observations concerning the contemporary composer's use of contrapuntal devices:

1. Augmentation, diminution, and inversion are still common.
2. Retrogression is rarely used.
3. Invertible counterpoint is not as important as it was before the twentieth century.
4. Traditional kinds of canons are frequently used.

The specific contributions of contemporary composers may be summarized as follows:

1. There is a greater use of large strettii.
2. There is a greater use of duplex and triplex canons.
3. There is a greater use of such homophonic devices as chordal ostinati, melodies thickened at various intervals, and melodies thickened to chords.

E. The Exposition

After a rudimentary development in Ars Antiqua, imitation found a fuller realization in the caccia and related forms, in Ars Nova. However, one problem prevailed: the caccia was entirely canonic and too strict in its use of imitation. Instead of strict canon throughout, the composers of the fifteenth century relied upon the "point of imitation" technique. The technique consisted of leading a number of different themes (puncti) through successive or over-lapping imitative entrances. These entrances not only rendered the "point" more recognizable, but also had the effect of creating a greater thematic bond between the parts. From this device developed the imitative fugal exposition. In its primal state the imitative exposition was merely another device which might be used to any necessary extent within the composition.

In the Baroque period, however, the exposition took on a new function. From a device within the composition or a manner of developing an idea, it evolved into the initial section of a larger, and more inclusive, form. With the advent of full transposability and the development of major-minor tonality, the dimensions of fugue expanded to include not only the initial entrances of the point, but also its subsequent development. Harmony, characterized by the tonic-subdominant-dominant relationship, was the unifying factor. As the importance of subject development increased, composers reduced the exposition to an incipience. It still might be mentioned, however, that while the exposition performed an introductory function, it still remains one of the most characteristic and necessary attributes of fugue.

Most Baroque fugues are in three or four voices. In the first volume of Bach's Well Tempered Clavier, for instance, there are eleven fugues

in three parts, ten in four parts, two in five parts, and one in two parts. Casting the fugues in three or four parts permits the themes to maintain a clear linear logic without sacrificing any harmonic intent. Dickinson says, "The stretch of ten fingers makes three 'voices' the most convenient for a true keyboard style, four practicable, and five exceptionable; the feet can add one real part."⁶¹ Fux,⁶² Marpurg,⁶³ and Albrechtsberger⁶⁴ also recommend three and four part fugues as a norm; while Padre Martini, a notable exception, systematically discusses fugue in two to eight parts.⁶⁵

Fugues in the twentieth century display some noteworthy departures from those in the Baroque era. First, there is no obligation that the fugue be renderable in open score; notes may be freely added to reenforce a part or to clarify a harmony. Fugues for keyboard, quartet, and quintet are usually written for a fixed number of voices, the norm being four; while fugues for orchestra, or similar large combinations, are usually free in their number of parts. In some cases it is difficult to establish the actual number of parts because of the use of fillers, harmonic accompaniment, or chordal melodies.

While there has been extensive discussion concerning the manner in which voices should enter, practice confirms set rules either in the traditional or contemporary periods. Dickinson supports this observation

⁶¹ Dickinson, Bach's Fugal Works, p. 169

⁶² Mann, Fugue, Part II, Chapter 1

⁶³ Ibid., Part II, Chapter 2

⁶⁴ Ibid., Part II, Chapter 3

⁶⁵ Ibid., Part II, Chapter 4

when he says, "Bach's preferences yield some interesting trends" in reference to the order of entries in Bach's fugues.⁶⁶

There no longer seems to be a necessity to pair inner and outer voices. There is a tendency, however, for the final entry to appear in either the bass or the soprano. The initial statement of the subject in many expositions begins in an inner voice and subsequent entries work toward the extremities. In some orchestral fugues, such as Britten's Young Person's Guide to the Orchestra and Schuman's Third Symphony, the order of entrances seems to be based upon timbre and volume. In these fugues the initial statements of the subject are sung by soft woodwinds or horns, followed by a gradual increase of volume leading to final entrances sung by trumpets and trombones.

The composers of the Baroque and Classic periods almost invariably used a tonic-dominant pitch scheme for the entrances of the subject in the exposition. Beethoven modified this principle to include three, or even four, different pitches. Using Beethoven as their model, composers of the twentieth century use a variety of pitch schemes, some of which are inspired by certain intervallic relations in the subject itself, and serve as another unifying element in the exposition. All contemporary pitch schemes fall into one of the three following classifications: those in which two pitches alternate; those in which at least one pitch is repeated; and those in which no pitches are repeated.

Stravinsky seems to favor the first scheme. For instance, in his Symphony of Psalms the entrances of the first subject are on C-G-C-G,

⁶⁶ Dickinson, op. cit., p. 169

and the second subject on Eb-Bb-Eb-Bb. In his Octet they are on C#-G#-C#-G#, and in his Mass they are on E-B-E-B. The only deviation from this pattern occurs in his Concerto for Two Solo Pianos, where the entrances are on D-G-D-A.

The two alternating pitches in the first class are usually tonic and dominant; this is especially true in four voice fugues. In three voice fugues, or expositions with three entries, there is a tendency for first and third entries to be on the same pitch and the second to be either in third, fourth, or fifth relationship with the other two. For instance, Hindemith in his Ludis Tonalis, uses the following relationships.

A. Third Relation

Fuga tertia in F (F-D-F)
Fuga quarta in A (C-E-C)

B. Fourth Relation (Incipient dominant-tonic)

Fuga prima in C (G-C-G)
Fuga quinta in E (D-G-D)
Fuga sexta in Eb (Bb-Eb-Bb)
Fuga duodecima in F# (C#-F#-C#)

C. Fifth Relation (tonic-dominant)

Fuga septima in Ab (Ab-Eb-Ab)
Fuga octava in D (D-A-D)
Fuga nona in Bb (Bb-F-Bb)
Fuga decima in Db (Db-Ab-Db)

D. Mixed Relation

Fuga secunda in G (G-C-D-C-G)

The second classification, where only one pitch is repeated, is the largest of the three. The repetition may either be immediate or at the end of the exposition.

A. Immediate Repetition

Harris, <u>Third String Quartet</u>	(D-D-Bb-G)
Berg, <u>Wozzeck</u> (First Subject)	(F#-F#-Eb-G)
Walton, <u>Symphony</u>	(Bb-Bb-G-A)

B. Repetition and End of Exposition

Harris, <u>String Quartet No. 3</u>	
Fugues 2 and 3	(D-G-A-D)
Hindemith, <u>Quartet in Eb</u>	(D-A-G#-C-D)
Schuman, <u>Symphony No. 4</u>	(C-G-Bb-C)
Milhaud, <u>Le Creation du Monde</u>	(D-E-A-D)

The pitches in the final group usually display some symmetrical intervallic arrangement or possess some thematic importance.

A. Symmetrical arrangements

Schuman, <u>Symphony No. 3</u>	(Bb-B-C-Db-D-Eb-E)
Foss, <u>A Parable of Death</u> ⁶⁷ (Sub. 1)	(Ab-C-E-Ab)
(Sub. 2)	(F-A-C#-F)
Bartok, <u>Sonata for Two Pianos and Percussion</u>	(D-A-E-B)
Villa-Lobos, <u>Bachianas Brasileiras No. 1</u>	(D-G-C-F)
Riegger, <u>Nonet</u>	(D#-C#-B)
Bartok, <u>Music for Strings, Percussion, Celesta</u>	(See Section H)

B. With thematic importance

Hindemith, <u>Sonata in C</u>	(Sub. 2)	(E-G#-C#)
Berg, <u>Wozzeck</u>	(Sub. 2)	(D-F#-E)
	(Sub. 3)	(D#-A-E)
Barber, <u>Second Essay for Orchestra</u>		(F#-A-Eb-C)
Piston, <u>Prelude and Fugue</u>		(Bb-D-G-Bb)
Szymanowski, <u>Quartet Op. 56</u>		(A-E-G-D)

The increase of variety in pitch relationships has not been accompanied by a similar increase in variety of time intervals. Subsequent entrances of the subject tend to be in the same portion of the bar as the initial entrance, i.e., subjects which begin on a down beat are usually answered on a downbeat and vice versa. Subjects sometimes beginning on a primary accent of the bar are answered on a secondary accent, such as the first and third

⁶⁷ The fugato in this work shows the subjects in symmetrical arrangements of ascending major thirds (or broken augmented triads).

beats in common time. An example of this device appears in Riegger's Canon and Fugue for Strings.

Imitation per arsin et thesin⁶⁸ is also rare but by no means non-existent. A clear illustration of this type of imitation occurs in Stravinsky's Concerto for Two Solo Pianos and is quoted below. Another illustration occurs in Ingolf Dahl's Music for Brasses.

Example 79

Stravinsky, Concerto for Two Solo Pianos



It is more common for the subject to enter in different portions of the bar with little change in the accent pattern. Hindemith uses this device in his cantata When Lilacs Last in the Door-Yard Bloom'd, fuga octava of the Ludis Tonalis, and Quartet in Eb. In the latter work the subject begins on an anacrusis. The first and fourth entrances are anacrusis to the first beat, the second and fifth to the third beat, and the third to the second beat.

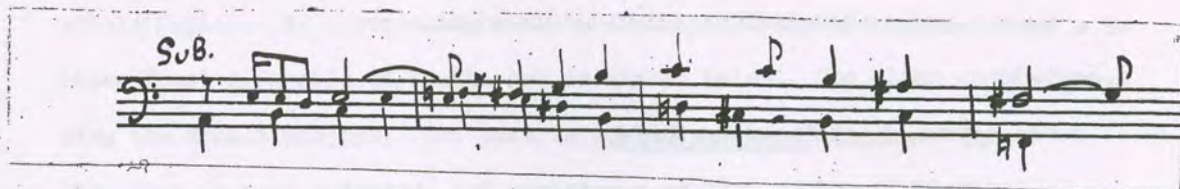
⁶⁸ For a discussion of this device see Prout, Double Counterpoint and Canon, p. 136

Contemporary fugues, like their Baroque and Classical predecessors, frequently contain redundant entries of the subject. In a redundant entry one of the voices sings the subject twice, causing the exposition to contain more entries of the subject than actual voices. If the number of redundant entries should exceed more than half the total number of voices, it is customary to use the term "counterexposition". In many cases I found it confusing to separate redundant entries from middle entries because of the difficulty of determining the actual number of voices. The use of codettas between successive entrances sometimes added to this difficulty.

An apparent redundant entry appears in Hindemith's Sonata in C. In the exposition of this fugue there are five entrances of the subject in, what purports to be, a four voice fugue. Other illustrations may be found in Bloch's Concerto Grosso, Bartok's String Quartet No. 5, Schuman's String Quartet No. 3, and Hindemith's Ludis Tonalis (fuga secunda) and String Quartet in Eb. The use of an exposition and counter-exposition may be found in Ingolf Dahl's Music for Brasses, which contains nine entries of the subject in a five voice fugue.

The subject usually is stated alone in most contemporary fugues, especially if the fugue is an entire movement in itself. The second subjects of double fugues, and the subjects of fugues which occur in the middle of movements sometimes appear with accompaniment. Two typical illustrations appear below. In the first, a free voice accompanies the initial entrance of the subject, and in the second the initial entrance of the subject is accompanied by a harmonic passage.

Example 80

a. Piston, Concerto for Orchestrab. Hindemith, When Lilacs Last in the Door-Yard Bloom'd

A pedal point, or pedal-like device, may also accompany the initial entrance of the subject. In Stravinsky's Mass, for instance, the trombones play an ornamented pedal figure under the exposition. The same device appears in the initial statements of the subjects in Hindemith's Symphonic Metamorphosis, Bartok's String Quartet No. 5, and Stravinsky's Concerto for Two Solo Pianos.

The subject may also appear over an ostinato or ground motive. Copland uses an ostinato, consisting of a broken minor triad, in the

exposition of the fugue in his Symphony No. 1. Milhaud uses a similar device in the fugue in his Le Creation du Monde. The ostinato here consists of a quasi-harmonic fragment repeated by the piano.

Example 81

a. Copland, Symphony No. 1



b. Milhaud, Le Creation du Monde



Accompanied subjects are differentiated from double, or duplex subjects, in that duplex subjects generally develop both lines throughout the exposition, while accompanied subjects develop with a decided emphasis .

on only one of the lines. Duplex subjects generally display the same kind of intervallic relationships as exists between the subjects of double and triple fugues. An interesting example of the duplex subject appears in Lukas Foss' A Parable of Death, and is stated below. The altos and tenors sing the double subject. One part is a slowly descending chromatic line; the other is more animated, and contains a greater number of distinct motivic elements. Both parts are doubled in the orchestra (omitted in the illustration), whose bass lends a punctuating accompaniment, reminiscent of Stravinsky's "added-note bass" technique.

Example 82

Foss, A Parable of Death

Handwritten musical notation for 'Duplex Sub.' from Foss's 'A Parable of Death'. The notation is written on three staves. The top staff is labeled 'Alti' and 'Duplex Sub.' and contains a descending chromatic line. The middle staff is labeled 'Tenori' and contains a more animated line with various intervals. The bottom staff contains a punctuating accompaniment. The notation is handwritten and includes various musical symbols such as notes, rests, and accidentals.

Examples of duplex subjects can be found in Gardner Read's Passacaglia and Fugue in D Minor, Bartok's String Quartet No. 3, Schuman's Symphony for Strings, and Stravinsky's Octet.

An unusual type of subject, which is neither simple nor duplex, appears in Tippett's Symphony No. 1. This subject begins in unison, but immediate-

ly splits into two-part trills. In bar four the trills separate into two fragments in contrary motion and continue in unison after arriving on an E natural. This subject was the only one of its kind encountered.

Example 83

Tippett, Symphony No. 1



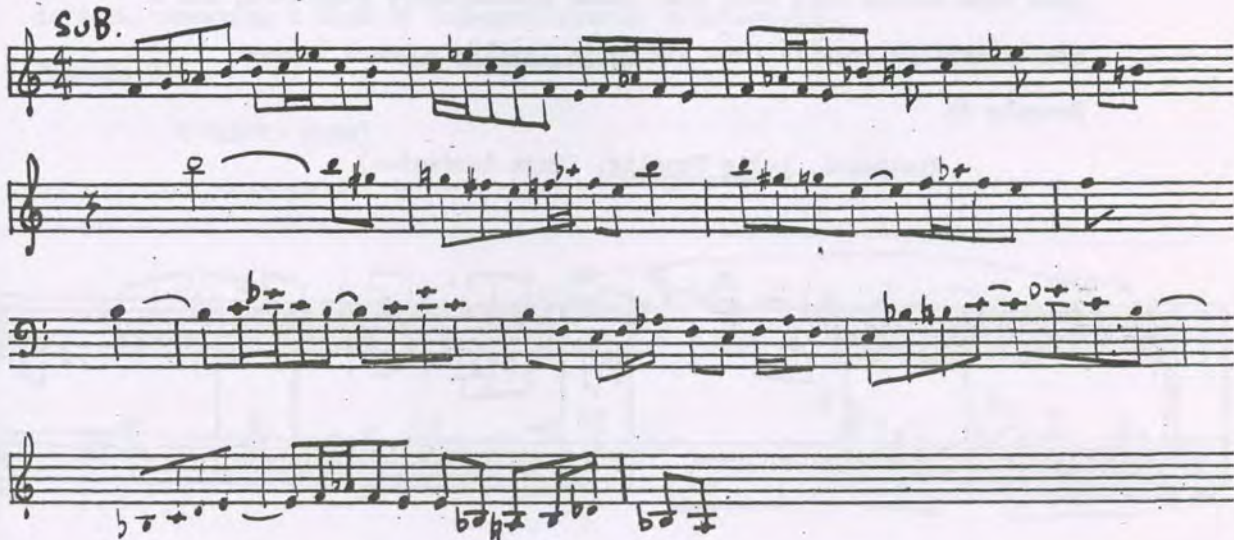
The real, rather than the tonal, answer seems to be the rule in twentieth-century fugues. Former composers never meant the tonal answer to be another version of the subject, but rather to insure a certain type of melodic or harmonic logic. For instance, composers used the tonal answer when the subject modulated to the dominant, so that the third entrance of the subject occurred in the tonic key rather than one another fifth higher. Composers also used the tonal answer when the dominant tone or the leading tone appeared near the beginning or end of the subject; or, when the subject began with a tonic-dominant skip. Thus these composers divided the scale into two complimentary portions consisting of a perfect fifth and fourth, rather than two symmetrical halves, and each portion answered the other. The principles of melody which governed the use of the tonal answer are no longer operative today, causing little necessity for its use; but in spite of this, the tonal answer is not totally absent in contemporary fugues. Bloch, for instance, uses the tonal

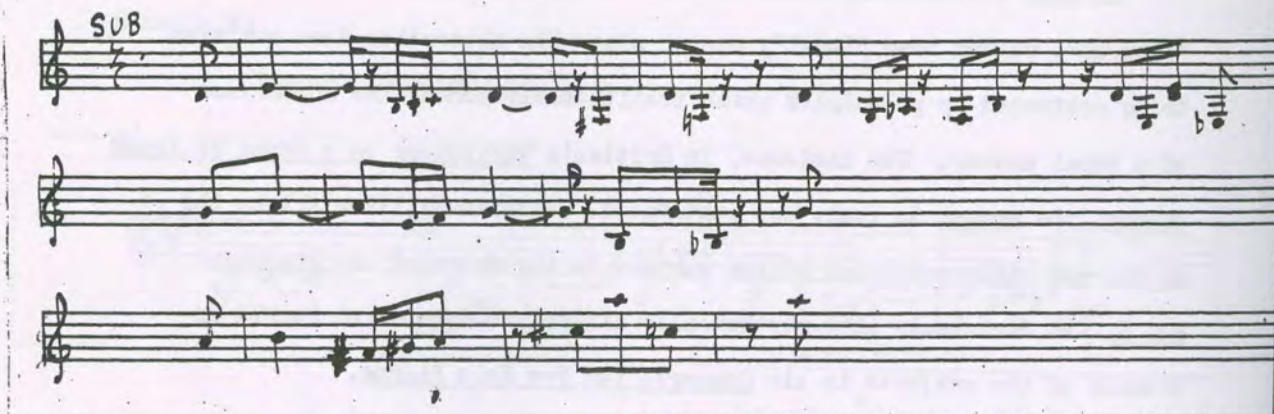
answer in his Concerto Grosso, and Shostakovich also answers an opening fifth with a fourth in Fugue 14 of his 24 Preludes and Fugues for Piano.

In some contemporary cases it might be more prudent to use the term "altered", rather than "tonal", answer since the alteration does not seem to be motivated by principles which traditionally led to the appearance of a tonal answer. For instance, in Britten's Variations on a Theme by Frank Bridge, the answer is real, but contracted. Vaughan-Williams alters the answer and other entrances of the subject in the fugue of his Symphony No. 6, and Stravinsky also rhythmically alters the second and fourth entrances of the subjects in his Concerto for Two Solo Pianos.

Example 84

a. Vaughan-Williams, Symphony No. 6



b. Stravinsky, Concerto for Two Solo Pianos

The answer frequently appears in stretto with the subject. Hindemith uses this device more than most other contemporary composers, and a characteristic example from his Ludis Tonalis appears below.

Example 85

Hindemith, Ludis Tonalis, (fuga duodecima)



While answers in inversion, augmentation, and diminution are almost nonexistent, it is not uncommon to find some of these devices applied to the remaining voices in the exposition. Likewise stretto or premature entrances of the subject are more common toward the end of the exposition. For instance, Berg places the third entry of the first subject of the fugue in the exposition of *Wozzeck* in stretto (See Example 32a). Notice the rhythmic variation in the second entry.

One may find illustrations of expositions with one part in inversion in Piston's Prelude and Fugue For Orchestra and Dahl's Music For Brasses, and a voice in augmentation appears in Schuman's String Quartet No. 3. One of the most interesting entrances I found occurred in the fourth entrance of Riegger's Nonet and is quoted below. Here the subject is thickened to three part compound chords, causing it to appear on three different pitches simultaneously. The other parts blend into one harmonic idea, creating a kind of two-part chordal counterpoint.

Example 86

Riegger, Nonet

Contemporary fugal expositions differ from their eighteenth and nineteenth century prototypes in their use of free parts, fillers, and added notes. Bartok accompanies the second, third, and fourth entries of the fugue with a free voice in his Concerto for Orchestra. Stravinsky uses some added notes in the fourth entry of the fugue in his Octet, causing the texture to be in six voices. Harris, in his Prelude and Fugue for Strings, permits a voice to enter with a free counterpoint, rather than with a statement of the subject. And Stravinsky (in the Octet) and Foss (in A Parable of Death) use expositions in which a subject begins in one part and ends in another.

Like the use of the tonal answer, the role of the countersubject has undergone some modification. According to traditional rules the countersubject should be written in double counterpoint with the subject, and should generally appear with the subject in successive middle entries. The function of the countersubject was, first, to offer a memorable line which could be used as a source of episodic material, and second, to introduce a theme of secondary importance which could be developed along with the subject or other countersubjects in multiple counterpoint. Fux, for instance, justified the study of double counterpoint on the necessity of constructing a countersubject which could appear above or below the subject.⁶⁹ Since development based upon multiple counterpoint is not nearly as important as it once used to be one finds a diminishing

⁶⁹ Mann, Fugue, Josephus asks in reference to double counterpoint, "I am amazed at this device of counterpoint, and I am most anxious to learn how it is applied." Aloysius answers, "I shall take up the theme of the first fugue, in the first mode, and, combining it with a countersubject, shall show you how this can be carried through the entire fugue. . . . The countersubjects used at times in the outer voices, and at times in an inner voice, always answering the principle subject at the octave and always producing a new harmonic sound through the inversion," pp. 112-113

use of the countersubject in the role of accompaniment to the subject.

The countersubject is frequently used only in the exposition, as in Bartok's Piano Concerto No. 3, and Stravinsky's Octet and Symphony of Psalms. It frequently develops motives found in the subject (very often the latter portion), and may in turn, generate motives which become important in codettas and episodes. This principle may be seen in the countersubjects in Piston's Prelude and Fugue For Orchestra and Concerto For Orchestra, Stravinsky's Mass and Concerto For Two Solo Pianos, and Honegger's Prelude, Fugue and Postlude, to mention but a few.

It is still common to use a codetta after the subject or answer. The function of the codetta after the subject is to permit a smooth connection to the counterpoint accompanying the answer. The codetta permits the subject to maintain momentum, and fills the space between the subject and its answer. In this manner the answer begins on the same beat of the bar as the subject. Sometimes the codetta is as short as one note, while at other times it consists of several notes.

The codetta after the answer is still rather common, even though it no longer performs the same function it once did. Besides being a relief from subject material, the codetta suggested material for future episodes. It also permitted a smoother modulation back to the tonic key for the third entrance of the subject, even though this latter function is negligible in twentieth-century fugues. It seems, however, that many composers consider it a characteristic feature of the exposition and still use it to suggest material for future episodic developments. A codetta may also appear after the third, or subsequent, entries. In Riegger's Nonet, for instance, a coda occurs after each statement of the subject, making it

difficult to determine where the exposition actually ends. The codettas in the exposition are usually based upon ideas inherent in the subject, and are frequently imitative or sequential, or both. A typical illustration, from Riegger's Nonet, appears below.

Example 87

Riegger, Nonet



Another type of development occurs as the subject is led through its exposition which consists of manufacturing new shapes and counterpoint from basic ideas appearing in the subject. This inner development creates a formal unity which is of greater structural importance than the formal unity created by the balance of sections. It begins in the subject itself and continues in the creation of each new shape. A clear illustration

of thematic development appears in the exposition of Britten's Young Person's Guide to the Orchestra (Example 88). The subject of the fugue consists of three basic elements; a broken triad (emptied or filled); triads in second relations; and contrary motion (inversion), which permits the triads to unfold either up or down. One may see the influence of these ideas on the creation of accompanying counterpoints in the fourth entrance of the subject. The piccolo part, for instance, contains filled in triads and thirds in second relationship, and inversion. Britten creates the counterpoints in the flutes and oboes in a similar manner. The short appoggiatura in the oboe part is no mere embellishment, but of considerable structural importance, and Britten's choice of phrasing is no longer arbitrary in the light of thematic content of the passage but rather it punctuates and capitalizes upon certain motivic relations. All contribute to a clear presentation of certain structural ideas, creating formal relations of a most sophisticated nature. These shapes suggest new possibilities of harmonic and contrapuntal development.

Example 88

Britten, Young Person's Guide to the Orchestra

The image displays two systems of musical notation for Example 88 from Benjamin Britten's 'Young Person's Guide to the Orchestra'. The key signature is D major (two sharps) and the time signature is 2/4. The first system includes parts for Piccolo (Picc.), Flute (FL.), Oboe (OB.), and Clarinet (CL.). The Piccolo part features a melodic line with eighth and sixteenth notes, including a triplet of eighth notes. The Flute part plays a series of eighth-note chords. The Oboe part has a melodic line with eighth notes and rests. The Clarinet part plays a continuous eighth-note pattern. The second system continues the Piccolo, Flute, and Oboe parts, while the Clarinet part is not shown. The Piccolo part continues its melodic line, the Flute part continues its chordal accompaniment, and the Oboe part continues its melodic line.

Picc.

FL.

OB.

CL.

Picc.

Fl.

OB.

A similar process may be seen in Riegger's Woodwind Quintet, even though in a different style and more dissonant texture. Notice how Riegger develops the shape of accompanying counterpoints and contrapuntal intervals from ideas inherent in the subject.

Example 89

Riegger, Woodwind Quintet

And a final illustration of this kind of organization is taken from Stravinsky's Octet. The duplex subject of this fugue and its analysis appear in Example 90. Stravinsky's intervallic ideas may be best seen by an examination of the melodic step progression of each of the lines. Notice that each counterpoint actually consists of two lines appearing in different registers. These lines are essentially chromatic, and are

based upon the expansion and contraction of sixths (inverted thirds) with major-minor implications (A-C and A-C#). The lower step progression of the subject corroborates these relations and causes the major-minor relation to appear on the harmonic, as well as contrapuntal, plane.

Example 90

Stravinsky, Octet

To see how these structural ideas affect the shape of accompanying counterpoints, we turn to the third entrance of the subject. Notice that the lower line of the subject has been abandoned in favor of a new accompanying counterpoint. Also notice the influence of the chromatic step progression upon the shape of each line. The principle of chromatically expanding and contracting third makes itself more evident in the harmonic

reduction which appears below the quotation.

Example 91

Stravinsky, Octet

The image displays a handwritten musical score for Stravinsky's Octet. The score is organized into three main sections, each with two staves (treble and bass clef):

- Top Section:** Labeled "Sub." on the left. It contains a reduction of the original music, with notes and rests written in a simplified manner across three measures.
- Middle Section:** Labeled "Melodic Analysis of Counterpoints" on the left. This section isolates the melodic lines from the reduction, showing the individual counterpoints.
- Bottom Section:** Labeled "Harmonic Analysis" on the left. This section shows the harmonic structure of the music, with notes grouped to represent chords and their progression over time.

The notation is handwritten in black ink on a white background. The staves are connected by a vertical line on the left, and the sections are separated by horizontal lines. The overall layout is clear and systematic, typical of a music analysis exercise.

One, then, can make the following observations concerning the characteristics and function of the exposition in contemporary fugues:

1. It still usually performs an introductory function within a larger formal design.
2. There is no significant pattern governing the order of entries.
3. Entries tend to begin on the same portion of the measure.
4. Redundant entries and counter-exposition are common.
5. The subject may be duplex.
6. The answer is usually real, it may be in stretto or inversion, but rarely appears in augmentation, diminution, retrogression, or mirror inversion.
7. The countersubject's main function is to accompany the subject in the exposition, and to transform motives appearing in the subject into new shapes for further development.
8. The codetta maintains momentum, fills in the space between entrances of the subject, and also develops motives into new surface shapes.
9. Accompanying counterpoints grow out of basic structural ideas, and sometimes cause a considerable amount of thematic development before the exposition is completed.

Specific contributions made by contemporary composers may be summarized as follows:

1. The exposition no longer needs to be composed for a fixed number of voices.
2. Pitch schemes are based upon a variety of intervallic arrangements, many of which are structurally related to the main thematic ideas.
3. The subject is sometimes accompanied by a free counterpoint, ostinato, or pedal point.
4. The entire exposition is sometimes accompanied by fillers or added parts.

Middle Entries

The number of middle entries is determined somewhat by the nature of the subject. Certain subjects permit a more exhaustive treatment of themselves and produce fugues with a relatively large number of middle entries; while other subjects generate important episodic material, causing a reduction in the number of middle entries and increasing the number or size of episodes. The subject-centered fugue is usually richer in the number of middle entries as well as the number of entrances in each of the middle entries. The function of the fugue may also influence the number of middle entries; i.e., fugues which are parts of movements, or function as developments, usually contain fewer middle entries and episodes than fugues which are independent movements.

Middle entries differ from the initial exposition in several respects. First, not all voices need enter with a statement of the subject; second, the pitches of middle entries are usually different from those of the exposition and third, middle entries, use certain contrapuntal devices which rarely appear in the initial exposition.

Oldroyd suggests that two middle entries be used in examination fugues. In referring to the first episode he suggests, "It is obvious that a treatment in this new key, equal to a full exposition, is not called for; balance of tonality and length of fugue have to be borne in mind. In some three-part fugues of reasonable length by Bach, one entry of the theme sufficed at this stage."⁷⁰ In most contemporary fugues the first middle entry usually sets the pattern of development, and the subject frequently appears in but one or two statements. Composers then add more involved

⁷⁰ Oldroyd, The Technique and Spirit of Fugue, p. 24

and esoteric contrapuntal devices as the fugue progresses.

Like earlier fugues contemporary fugues tend to avoid stating the subject from the pitches used in the exposition in middle entries. There are occasions, however, when this principle is not adhered to both in baroque and contemporary fugues.⁷¹ In the Baroque and Classical periods middle entries usually appeared in related keys and ultimately led to final entries in the tonic key. In reference to Bach, Dickinson says, "Key contrast is rarely exploited for its own sake. Indeed the positive rut within which key development normally moves in these 150 fugues is at first disconcerting. Fresh planes of expression are not the concern of fugue as Bach practiced it. . . . In Bach, tonality is for fugue, not fugue for tonality."⁷² While it is true that variety in pitch schemes was not nearly as extensive in the Baroque era as it is today, it seems that Dickinson has minimized the role of key relation in creating an architectonic form. For instance, the concentration on the interval of the fourth in the subject of the first fugue in the Well Tempered Clavier (Vol. I) seems to have a considerable influence on the modulatory plan of the fugue. — — —

Today the pitches of middle entries are frequently generated by intervallic relations appearing in the exposition, or in the subject itself, an example being the pitch scheme used by Milhaud in his String Trio, No. 1. Here many of the intervallic relations used in middle and closing entries may be traced back to those appearing in the exposition.

⁷¹ Ibid., p. 24

⁷² Dickinson, Bach's Fugal Works, pp. 174-175

<u>Exposition</u>	<u>1st Episode</u>	<u>1st M.E.</u>	<u>2nd M.E.</u>	<u>3rd M.E.</u>	<u>Final Entries</u>
B-G#-F	G#-B-D	G-Eb	Eb-Ab	B-G#-F	B-B-B

On occasions the pitches of all entries will fall into some symmetrical pattern. For instance, in fuga tertia of his Ludis Tonalis, Hindemith uses the following pitch scheme which emanates from the use of the retrogression of the subject in the final portion of the fugue.

<u>Exposition</u>	<u>1st M.E.</u>	<u>2nd M.E.</u>	<u>Final Entries</u>
F-D-F	E-A	A-E	F-D-F

Middle entries display a large and varied number of contrapuntal devices and procedures. Some are related to each other through the use of ever-increasing and more complex contrapuntal devices. Most middle entries fall into one of the following classifications:

1. Subject merely stated alone
2. Subject combined with episodic material
3. The recurrence of a previous middle entry with added contrapuntal complexity
4. Subject in another form (inversion, augmentation, etc.)
5. Subject involved in double or triple counterpoint.
6. Subject combined with other themes, or with other subjects in double and triple fugue.
7. Subject in canon or stretto
8. Subject altered

The subject is frequently stated alone, and no illustrations need be quoted. This kind of middle entry usually appears toward the beginning of the fugue. Less common, but still very prevalent, is the combination of the subject with previously stated episodic material, and illustrations appear in Honegger's Prelude, Fugue and Postlude, Piston's

Prelude and Fugue, and Barber's Piano Sonata.

A typical illustration of a middle entry returning with its content intensified is quoted below and comes from the thirteenth fugue of Shostakovich's 24 Preludes and Fugues. In example 92a the subject of the fugue appears in the bass with the diminution of the subject above. A tenor part then enters with the subject in wide stretto. Example 92b contains the next middle entry, which contains the same passage in double counterpoint at the octave; to this, however, Shostakovich adds a bass line and another inner part which doubles the subject at the sixth below.

Example 92

Shostakovich, 24 Preludes and Fugues, Fugue 13

The appearance of the subject in other forms or in invertible counterpoint is common in the fugues of all periods. A notable example of the combination of the fugue subject with other important themes occurs in Britten's Young Person's Guide to the Orchestra, when Britten ultimately combines the fugue subject with Purcell's theme. The same device is used by Harris in his Symphony No. 3 (beginning on page 76 of the Schirmer

Study Score). Illustrations of the combination of two or three subjects may be found in virtually every double or triple fugue.

Composers frequently place the subject in canon in middle entries, and many illustrations were found which involved a variety of pitch and time intervals. I also found several illustrations of subject alteration in middle entries. The most simple kind of alteration appears in Example 93a and involves nothing more than a few changes in pitch. The alterations in Example 93b are more extensive, and the alterations in Example 93c show the influence of serial principles upon motive variation.

Example 93

a. Honegger, Prelude, Fugue and Postlude



b. Persichetti, Piano Sonata No. 4

c. Berg, Wozzeck

SUB.

Handwritten musical score for 'SUB.' from Berg's *Wozzeck*. The score consists of 11 staves, each labeled with a letter from a) to k). The notation is in treble and bass clefs, with various musical symbols including notes, rests, and dynamic markings. The key signature is one flat (B-flat). The score includes various musical notations such as notes, rests, and dynamic markings like *pp* and *ppp*. The notation is handwritten and includes various musical symbols such as notes, rests, and dynamic markings. The score includes various musical notations such as notes, rests, and dynamic markings like *pp* and *ppp*. The notation is handwritten and includes various musical symbols such as notes, rests, and dynamic markings. The score includes various musical notations such as notes, rests, and dynamic markings like *pp* and *ppp*.

The devices used in the middle entries are affected by the function of the fugue; i.e., whether it is a self contained movement, development within a movement, or fugal recapitulation. Fugues which function as developments tend to end in some kind of transitional passage. Sometimes the last few middle entries display some of the characteristics of closing entries; more commonly, however, they just appear to be usual middle entries followed by a liquidational passage or transition. This is also true of pieces such as preludes and fugues, introductions and fugues, canons and fugues, etc. In such forms the last few entries do not lead to a quick and decisive close, but rather recapitulate earlier material.

One, then, can make the following observations concerning the contemporary composer's use of middle entries:

1. Fugues which are a development section or part of a movement usually contain a few number of middle entries.
2. The devices used in middle entries tend to move from the relatively simple to the complex.
3. The subject frequently appears in augmentation, diminution, inversion, canon, or, less frequently, in retrogression.

The specific contributions made by contemporary composers may be summarized as follows:

1. The pitches of middle entries are frequently governed by intervallic relations suggested in the subject or exposition.
2. The pitches of middle entries frequently fall into some symmetrical interval pattern.

Closing Entries

Contemporary composers use closing entries in fugues which are either movements in themselves, or are the concluding portion of a movement. They usually occur upon pitches used in the exposition and contain devices as strettii, pedal points, subject treated homophonically, combinations of the subject with other subjects in double or triple fugue, or the combination of the subject with themes from other sections. On occasion the fugue may end with an elaborate coda, combining both subject and episodic material.

The use of stretto has been long associated with closing entries, and in such entries one is likely to find canons in contrary motion, augmentation, different pitch, or different time intervals. A characteristic illustration appears below and is from the final set of entries of the fugue in Milhaud's String Trio No. 1. The subject first appears in canon on the pitches B, G#, and F, and at one bar's distance. In the second canon the pitch distance is changed to B, B, and B; and the time interval from one bar to one beat, and a beat-and-a-half, respectively. The final entrance, in the cello, finds the subject in augmentation.

Example 94

Milhaud, String Trio No. 1

The musical score is presented in two systems, each containing three staves. The first system shows the initial measures of a piece, with the top staff (Violin I) featuring a series of eighth and sixteenth notes, the middle staff (Violin II) having a few notes and rests, and the bottom staff (Cello/Double Bass) with a more active line. The second system continues the musical development, with the bottom staff maintaining a low, sustained note (pedal point) in the final measure, while the upper staves continue their melodic and harmonic progression.

The use of pedal points in closing entries was common in the Baroque period, and still is common today. The pedal point usually appears in the bass, or more rarely, in the tenor or an upper part.



Example 96

Vaughan-Williams, Prelude and Fugue in C Minor

The image displays a musical score for three staves, likely piano, arranged in two systems. The key signature is C minor, indicated by three flats (Bb, Eb, Ab). The first system contains four measures. The treble staff begins with a whole note chord, followed by a half note chord, and then two measures of chords. The alto staff features a triplet of eighth notes in the first measure, followed by a half note, and then two measures of eighth notes. The bass staff also starts with a triplet of eighth notes, followed by a half note, and then two measures of eighth notes. The second system also contains four measures. The treble staff has a half note chord, followed by a half note chord, and then two measures of chords. The alto staff has a half note, followed by a half note, and then two measures of eighth notes. The bass staff has a half note, followed by a half note, and then two measures of eighth notes. The score is enclosed in a rectangular box.

In double and triple fugues, or fugues which serve a recapitulatory function, the final entries usually consist of various combinations of the individual subjects. Sometimes these subjects are merely stated together, as in Harris' Prelude and Fugue; or, more commonly, they are combined in strettì, in other forms, or both. For instance, in the closing

portion of fuga quarta of the Ludis Tonalis, Hindemith combines the first and second subjects in their original version and in inversion, canon, and double counterpoint at various pitches. And in the closing entries of his Sonata in C for Violin and Piano, he combines an augmented version of the first subject with the original version of the first and third subjects. The second subject then enters in a canon at the sixth below. This passage appears in Example 97b, and is analyzed according to Hindemith's method.

Example 97

a. Hindemith, Ludis Tonalis, fuga quarta

Handwritten musical score for Example 97, a fugue in fourths by Hindemith from Ludis Tonalis. The score is written on five systems of two staves each, using treble and bass clefs. The music features complex rhythmic patterns, including eighth and sixteenth notes, and various rests. The key signature is one flat (B-flat). The score ends with a double bar line and repeat dots.

b. Hindemith,

179

Sonata in C for Violin and Piano

37

Sub2

Two Voice Framework

Harmonic Reduction

Guide Tones and
Degree Progression

Handwritten musical score on page 180, featuring three systems of staves. The notation includes notes, rests, and various musical symbols.

System 1 (Top): The first staff contains a series of notes and rests, with a key signature change indicated by a sharp sign. The second staff contains a series of notes and rests, with a key signature change indicated by a sharp sign. The third staff contains a series of notes and rests, with a key signature change indicated by a sharp sign.

System 2 (Middle): The first staff contains a series of notes and rests, with a key signature change indicated by a sharp sign. The second staff contains a series of notes and rests, with a key signature change indicated by a sharp sign. The third staff contains a series of notes and rests, with a key signature change indicated by a sharp sign.

System 3 (Bottom): The first staff contains a series of notes and rests, with a key signature change indicated by a sharp sign. The second staff contains a series of notes and rests, with a key signature change indicated by a sharp sign. The third staff contains a series of notes and rests, with a key signature change indicated by a sharp sign.

Chord symbols and other markings are present throughout the score, including:

- syB_1
- III, III_2
- IV_1
- IV
- III_2
- IV_2
- III_2
- III_2
- I_1

The closing entries of double and triple fugues sometimes combine their subjects in multiple counterpoint. A notable example occurs at the end of fuga prima of the Ludis Tonalis, where the last four entries contain all three subjects in various combination of triple counterpoint at the octave. The last entry in this group appears below.

Example 98

Hindemith, Ludis Tonalis, fuga prima

The musical score for Example 98, Hindemith's Ludis Tonalis, fuga prima, shows three staves. The top staff is labeled 'Sub. 3', the middle staff 'Sub. 2', and the bottom staff 'Sub. 1'. The notation includes various musical symbols such as notes, rests, and accidentals, illustrating the combination of three subjects in triple counterpoint at the octave.

The final entries are frequently followed by a coda which may be of varying length. Sometimes these codas are the size of an episode, sometimes they are larger. Bach used this kind of close in the fugues in D major and F major of the first volume of the Well Tempered Clavier. A typical contemporary illustration of this kind of close appears in the fugue in Szymanowski's String Quartet, Op. 56.

One, then, can make the following observations concerning the characteristics and function of closing entries in contemporary fugues:

1. Closing entries are usually from pitches used in the exposition.
2. Fugues which function as a development section in the middle of a movement usually end in a transition, rather than in closing entries.
3. Closing entries frequently contain strettii or pedal points.
4. Double and triple fugues usually show their subjects combined in canon or invertible counterpoint.
5. Contemporary composers more frequently use such homophonic devices as the harmonization of the subject and the use of chordal melodies in the closing entries.

F. The Episode

An episode is a passage in which the subject does not appear in its entirety. In the Baroque period it offered a relief from repeated entrances of the subject, and also effected a smooth modulation from one key to another. The episode was generally in contrapuntal style rather than in the style galant and was derived from material appearing in the subject, countersubject, or the codetta after the answer. It was not necessary that the episode involve all the voices participating in the fugue; one part would sometimes rest and then enter with a statement of the subject. The first episode usually appeared immediately after the exposition or counter-exposition; and occasionally the codetta after the answer was the length of an episode.

The harmonic function of the episode was to carry entrances of the subject from key to key through smooth and convincing modulations. Since statements of the subject tended to remain in one key, composers found it was necessary to intersperse modulatory passages between successive expositions of the subject. Generally the cadential arrival of the new key coincided with the next statement of the subject, and composers constructed the episode so that it was easily interrupted by the next entrance of the subject. Oldroyd, in his primer for classroom examinations in fugue, suggests that episodes be related to each other, that they be in invertible counterpoint, that they be sequential and/or canonic, and that they be either in one continuous unit (single pronged) or divisible into two sections (double pronged).⁷³

⁷³ Oldroyd, The Technique and Spirit of Fugue

Bach used a variety of fugal plans which placed varying degrees of emphasis on the episode. In the first volume of the Well Tempered Clavier, for instance, the fugues in C minor, D major, Eb major, and E minor contain episodes which balance and separate various middle entries of the subject. The fugues in D# minor and E major contain fewer, but relatively longer episodes. Bach occasionally used an episodic passage to end the fugue, as in the fugues in C# major and D minor; he also used the stretto type fugue which contained no episodes in his fugue in C major. Dickinson notes a reversal of emphasis on the episodic-type of fugue in the second volume of the Well Tempered Clavier. He says, "As fugues accumulated once more the thorough-going episodic type was favoured less, and the 'subject' type more, the proportion being four to eight in each half of the book, a direct reversal of previous trends."⁷⁴ He also divides episodes into the following classifications:

1. extension of an entry
2. sequential
 - a. with a false entry of the subject
 - b. upon a fresh contrapuntal figure
 - c. on a chordal figure
3. development of another episode
4. development of the countersubject
5. extemporaneous
6. harmonically sequential leading to,
or from, another entry.

⁷⁴ Dickinson, Bach's Fugal Works, p. 75

Thus Dickinson's classifications cover the style, harmonic nature, and material of the episodes, as well as their relation to each other.

One of Beethoven's formal achievements was his ability to create hybrid forms which showed the characteristics of relatively distinct and separate forms. In his Piano Sonata Op. 111 he blends elements of the sonata form with those of the theme and variations. He similarly combines elements of the sonata form with the minuet (Op. 54), the fantasia (Op. 26), and the rondo, as in many of the closing movements of his sonatas and symphonies. He also treats the fugue in this unique fashion. The episodes in Beethoven's fugues tend to be longer than their Baroque counterparts, and frequently contain extensive passages in a homophonic-polyphonic style, as well as an intensive motivic development and sequential elaboration associated with the development section of the sonata-allegro form. Two illustrations, from his Piano Sonata, Op. 110, are quoted below. The second, which is from the concluding section of the movement, illustrates the subject in a homophonic setting.

Example 99

Beethoven, Sonata for Piano, Op. 110 (3rd movement, fugue)

The image displays a handwritten musical score for Example 99, which is the 3rd movement (fugue) of Beethoven's Sonata for Piano, Op. 110. The score is organized into three systems, each consisting of two staves. The first system shows a complex fugue texture with multiple voices. The second system continues the fugue with various musical notations including slurs, ties, and dynamic markings. The third system features a prominent bass line with sixteenth-note patterns and a treble line with chords and single notes. The score is handwritten and includes various musical symbols such as clefs, notes, rests, and bar lines.

The composers of the Romantic period added little in the nature of elaboration to the two basic types of episodic treatment developed by Bach and Beethoven. Developments which occurred were harmonic in nature and were generally associated with the entire romantic movement rather than with fugue alone. Liszt, Schumann, and Mendelssohn used both types of episodes, and Brahms followed in the tradition of Beethoven by frequently using the larger sonata-type episode.

The degree to which fugues are subject-centered or episodic varies in the twentieth century. Many contemporary fugues contain episodic passages which are of varying length and importance. In all, about one-third of the fugues examined are subject-centered, while the others display varying degrees of emphasis upon episodic development. Double and triple fugues also tend to be subject-centered, rather than episodic.

The fugues in Bartok's Music for Strings, Percussion and Celesta, Berg's Wozzeck, Britten's Young Persons Guide to the Orchestra and Variations on a Theme by Frank Bridge, and fugues prima and quarta of Hindemith's Ludis Tonalis exemplify subject-centered fugues. The fugues in Bliss' Colour Symphony, Harris' String Quartet No. 3, (first fugue), Shostakovich's 24 Preludes and Fugues (Fugue 14), and fugues tertia and nona of the Ludis Tonalis exemplify quasi-episodic development. And the fugues in Piston's Prelude and Fugue, Honegger's Prelude, Fugue, and Postlude, Schuman's Symphony No. 3, Bloch's Concerto Grosso, and Szymanowski's String Quartet, Op. 56 are clearly episodic.

Shorter episodic passages generally perform a coda function, or act as a transition between successive entrances of the subject. Most episodes are nominal in length and do not eclipse the subject in size or

importance, even though there are instances where an episode assumes the proportions of a large development section. Such passages occurred in Schuman's Symphony No. 3 and Quartet No. 3, and Vaughan-Williams' Prelude and Fugue in C for Organ.

Contemporary fugues contain both the double pronged and singled pronged episode. Single pronged episodes are based on one continuous idea, while double pronged episodes are clearly divisible into two distinct sections. Illustrations of the single and double pronged episodes appear below. The first, from Riegger's Woodwind Quintet, is single pronged; while the second, from Schuman's Symphony No. 3, is double pronged.

Example 100

a. Riegger, Woodwind Quintet



The first system of musical notation consists of four staves. The top staff features a melodic line with eighth and sixteenth notes, often beamed together, and includes various accidentals (flats and naturals). The second staff continues the melodic development. The third and fourth staves provide harmonic support with sustained notes and some rhythmic patterns. The system concludes with a double bar line.

The second system of musical notation also consists of four staves. It begins with a double bar line and a repeat sign. The top staff continues the melodic line, showing more complex rhythmic figures. The second staff has a more active role with frequent sixteenth-note passages. The third and fourth staves continue their harmonic and rhythmic functions. The system ends with a double bar line.

The third system of musical notation consists of four staves. The top staff features a series of triplets of eighth notes. The second staff continues with similar triplet patterns. The third and fourth staves provide a steady harmonic background. The system concludes with a double bar line.

Episodic material generally comes from the subject, countersubject, or a codetta. Frequently, the material of the episode can be traced back through a codetta to the countersubject, and ultimately to the subject itself. Emphasis on the countersubject as a generator of episodic material tends to create a separation between entries of the subject; thus the episode offers greater contrast with successive entrances of the subject.

All of the episodes examined fell into one of the following classifications; or displayed characteristics of two, or more, of them.

1. Sequential
2. Canonic or imitative
3. Repetitive
4. Based on multiple counterpoint
5. Motive manipulation
6. Sonata-type elaboration

The first two outnumbered all others combined. An example of the sequential type appears below, and is from Riegger's Nonet. In this episode a triplet figure, grows out of the countersubject and then is treated sequentially in both parts. The lower line is sequenced in descending seconds; no clear-cut intervallic pattern, however, occurs in the upper line.

Example 101

Riegger, Nonet

Numerous examples of the canonic episode were found in the fugues of all contemporary composers. In this type of episode, the composer leads a short motive through imitations on different pitches (Example 102a), or on the same pitch, (Example 102b). The illustration from Harris' Quintet contains imitation in descending minor thirds; and the illustration from Szymanowski's Quartet contains imitation at the octave.

Example 102

a. Harris, Quintet

Musical score for Example 102a, Harris, Quintet. The score is written for four staves, with the first two staves in treble clef and the last two in bass clef. The music is in a key with one flat (B-flat) and a 4/4 time signature. The notation includes various note values, rests, and slurs, with some notes marked with accidentals (sharps and flats). The score is enclosed in a rectangular box.

b. Szymanowski, Quartet. Op. 56

Musical score for Example 102b, Szymanowski, Quartet. Op. 56. The score is written for two staves, with the top staff in treble clef and the bottom staff in bass clef. The music is in a key with one sharp (F-sharp) and a 4/4 time signature. The notation includes various note values, rests, and slurs, with some notes marked with accidentals (sharps and flats). The score is enclosed in a rectangular box.

Another interesting example of the imitative episode appears in Harris' Quintet. The second episode is based upon the first (Example 102a), but now contains one part in contrary motion.

Example 103

Harris, Quintet



As previously mentioned, the pitches of imitative entrances are usually not chosen at random, but serve some structural function in the fugue. This is true of the imitative entrances in episodes as well as of those in canons and strettis. For instance, the exposition of the fugue in Milhaud's String Trio No. 1 contains statements of the subject on the pitches B, G#, and F, forming a pattern of descending minor thirds. The influence of this pattern upon the pitch used in imitative entrances can be seen in the following illustration (G#-B-D). This pattern of pitches also inspires the choice of those used in the last section, which is again B, G#, and F.

Example 104

Milhaud, String Trio No. 1

The musical score for Example 104 from Milhaud's String Trio No. 1 is presented in two systems. Each system contains three measures. The first system features a Violin staff with a melodic line marked *mf*, a Viola staff with a sustained chordal texture marked *mf*, and a Cello/Double Bass staff with a rhythmic accompaniment marked *mp*. The second system continues the melodic development in the Violin staff, introduces a trill in the Viola staff, and maintains the rhythmic accompaniment in the Cello/Double Bass staff. The key signature has one sharp (F#) and the time signature is 3/4.

The canonic episodes usually contain a new shape which is led through a series of close imitative entrances, and a typical illustration appears in Example 102c. The repetitive episode usually contains one or several characteristic motives which become an ostinato. A typical illustration,

appears in Example 100a.

The use of multiple counterpoint in episodes is by no means as important as it was in the Baroque period. In the Baroque, Classical, and Romantic periods the use of multiple counterpoint frequently related episodes to each other. In many instances one episode was the same as another except for the rearrangement of parts. The interchange of parts and modulation to a different key insured variety of surface quality without impairing the thematic unity. While this principle is used with some modification in the twentieth century, most composers prefer to develop episodes canonically or imitatively rather than through the use of multiple counterpoint, so that those composers who most frequently use multiple counterpoint usually follow the Baroque model. Two such composers are Hindemith and Shostakovich. In fugues quarta, quinta, and decima of the Ludis Tonalis one finds illustrations of episodes related to each other through the use of double counterpoint, and the same device may be found in virtually all of Shostakovich's 24 Preludes and Fugues. An episode, from the fugue in Persichetti's Fourth Piano Sonata is quoted below in three shapes (a, b, and c) successively appearing in the bass, demonstrating their invertibility at the octave.

Example 105

Persichetti, Fourth Piano Sonata



Episodes based upon motive manipulation usually contain new and evolving shapes, which are derived from the subject. There is one continuous development in this kind of episode. A typical example occurs in Schuman's Quartet No. 3, and quoted below are some of the new shapes which evolve in the first episode.

Example 106

Schuman, Quartet No. 3

The image displays five staves of handwritten musical notation, labeled 'a.' through 'e.', illustrating variations of a motive. The notation is written on a five-line staff with a treble clef. The key signature is one flat (B-flat). The notation includes various musical symbols such as notes, rests, and accidentals (sharps, flats, naturals). The first staff is labeled 'SUB.' and shows a sequence of notes. The subsequent staves (a-e) show different rhythmic and melodic treatments of the motive, with some staves ending in double bar lines. The notation is handwritten and appears to be a student exercise or a working draft.

An example of the sonata-type development appears in episodes in Dahl's Music For Brasses, and in Bartok's Music For Strings, Percussion and Celesta. Here the episode is long and serves to develop certain thematic

elements along symphonic lines.

As previously mentioned, the episodes within a fugue tend to be related to each other. This relation may be achieved through the choice of material used in the episodes, through the use of similar contrapuntal devices, or through the use of the same formal structure. In the Barber Piano Sonata, for instance, there are two episodes which contain the same material, except that one is transposed a semitone higher (See Section H). The illustration below contains two episodes from fugue nona of the Ludis Tonalis. Notice that they, too, contain the same material, but from different pitches.

Example 107

Hindemith, Ludis Tonalis, fugue nona

The image displays two systems of musical notation for Hindemith's Ludis Tonalis, fugue nona. Each system consists of a treble staff and a bass staff. The first system (top) shows a melody in the treble staff with various intervals and a bass staff with sustained notes and some rhythmic patterns. The second system (bottom) shows a similar structure but with different pitch material, illustrating the concept of related episodes through transposition. The notation includes various accidentals, ties, and dynamic markings.

Episodes are related when the material of each is treated in a similar manner, as in Hindemith's Sonata in C for Violin and Piano. Sometimes the material of one episode appears inverted or rearranged in the following episode. For instance, in the illustration quoted below, the first episode returns in contrary motion and double counterpoint.

Finally, episodes are related when they are similar in structure, such as those in Honegger's Prelude, Fugue, and Postlude, which are all two pronged and treat their respective material in similar contrapuntal devices. Likewise the episodes in fuga secunda of the Ludis Tonalis are related through the use of invertible counterpoint.

Example 108

Hindemith, Ludis Tonalis, fuga secunda

Epis. 1

Handwritten musical score for Epis. 1, consisting of two staves. The top staff begins with a circled 'A' and contains several measures of music with various accidentals (flats and naturals). The bottom staff also begins with a circled 'A' and contains corresponding musical notation. There are additional circled 'A's and 'C's throughout the piece, indicating specific sections or chords.

Ep. 2.

Handwritten musical score for Ep. 2, consisting of two staves. The top staff begins with a circled 'E' and contains several measures of music. The bottom staff also begins with a circled 'E' and contains corresponding musical notation. There are additional circled 'E's and 'D's throughout the piece.

Handwritten musical score for Ep. 3, consisting of two staves. The top staff begins with a circled 'E' and contains several measures of music. The bottom staff also begins with a circled 'E' and contains corresponding musical notation. There are additional circled 'E's and 'D's throughout the piece. A large double arrow (< >) is drawn between the two staves in the middle of the piece.

One, then, can make the following observations concerning the characteristics and function of episodes in contemporary fugues:

1. It offers a respite from successive entries of the subject.
2. It permits a development of shapes other than the subject.
3. It may effect a transition from one tonal area to another.
4. It may perform a coda function.
5. Both the single pronged and double pronged kinds are used.
6. Episodic material is derived from the subject, countersubject, or codetta.
7. It contains no essentially new manner of development.
8. It may either be imitative, as in the Baroque period; or elaborative, as in the Classical and Romantic periods.
9. It relies less frequently upon invertible counterpoint and more frequently upon canon.
10. Episodes may be related to each other through similar content or similar treatment of their material.

The contemporary composers contribution to the development is characterized by his frequent use of pitches in imitations which are structurally related to the main thematic ideas of the fugue.

G. Formal Plans

With few exceptions, the formal plans of most contemporary fugues resemble the plans in the fugues of the eighteenth and nineteenth centuries. While contemporary fugues usually follow the same general pattern of organization, each possesses its own inimitable design, or manner of unfolding. The most common formal plan for self-contained fugues is as follows:

- I. Exposition
- II. Episode
- III. Any number of middle entries
(usually 2 to 4) separated by
episodes
- IV. Final entries and coda

Some fugues are notable for their treatment of the episode. One such fugue occurs in Ingolf Dahl's Music for Brasses. In this fugue Dahl casts the episodes in contrasting character and tempo, accentuating the dissimilarity between episodes and middle entries. Other fugues frequently contain extended, sonata-type developments. The fugue in Vaughan-Williams' Prelude and Fugue in C Minor, for instance, begins with a normal exposition, followed by two middle entries separated by episodes. At this point Vaughan-Williams abandons the plan of separating episodes with middle entries in favor of a larger sonata-type development. This development ultimately leads to a set of closing entries in which the subject appears with harmonic accompaniment. A similar situation occurs in Harris' Symphony No. 3 when he reintroduces material from the second section of the symphony after the first middle entries. Harris follows this section with another set of middle entries and an episode leading

to a long, chorale-type of canonic development. Other illustrations of this manner of development may be found in Riegger's Woodwind Quintet, and Schuman's String Quartet No. 3 and Symphony No. 3.

Stravinsky uses in his Concerto for Two Solo Pianos, a device used by Beethoven in his Piano Sonata, Op. 110. Stravinsky begins his fugue with the common plan of exposition, episode, and middle entries. A coda follows, and leads to a re-exposition of the subject in inversion. He then alters the inverted subject, and combines it in stretto.

While most of the fugues in the Ludis Tonalis follow the typical plan stated above, Hindemith uses several unique plans which merit some discussion. Fuga tertia begins with a normal three-part exposition and is followed by an episode. In the first middle entry the subject is inverted and combined with itself in a canon in inversion. Hindemith then continues the fugue in retrograde through the initial exposition. The final two retrograde entries of the subject are accompanied with free contrapuntal lines. I believe that such a plan is unique in contemporary fugal writing.⁷⁵ Another unusual plan occurs in fuga nona. The fugue begins with a normal exposition followed by three middle entries, separated by three episodes. The middle entries contain numerous and varied contrapuntal devices. Hindemith then returns to the original exposition and uses the first episode as a coda.

Fugues sometimes are not self-contained pieces, but rather serve as a development section or recapitulation of larger movements.

⁷⁵ An interesting illustration of retrogression in non-fugal writing appears in "Der Mondfleck" of Schoenberg's Pierrot Lunaire.

Fugal development in place of, or in conjunction with, sonata-type development usually appears in the middle or toward the end of the movement.

I noted two tendencies after the fugue per se: first, the composer follows the fugue with a free contrapuntal development of shapes found in the fugue; or second, the composer combines from the fugue with important thematic material from earlier sections of the work. Illustrations of the former may be found in Bartok's Concerto for Orchestra and Sonata for Two Pianos and Percussion, Milhaud's Le Creation du Monde, Vaughan-Williams' Symphony No. 6, and Walton's Symphony; illustrations of the latter may be found in Barber's Second Essay for Orchestra, and Riegger's Woodwind Quintet and Nonet.

Occasionally the fugue functions as a recapitulatory development. In such cases the fugue appears near the close of the work, or movement, and exhaustively develops certain established shapes. Notable illustration of the procedure may be found in Schuman's Symphony No. 4, Persichetti's Fourth Piano Sonata, and Britten's Young Person's Guide to the Orchestra. In the Schuman Symphony the fugue appears in the last part of the final movement and consists of an exposition, episode, and single middle entry. Schuman then follows with a free contrapuntal development leading to the head of the subject in close stretto and harmonized in fourth chords, leading to a short coda. Persichetti constructs the fugue subject from melodic material which opens the sonata. He also uses a rhythmic variant of this theme as the theme of the second section of the movement. His idea is to develop the same material in a variety of ways, using fugue for the finale. And in the Britten Young Person's Guide, fugue serves the function of both development and recapitulation. This work is comprised

of a set of variations on a theme by Purcell, with fugue as the final variation and leading to a tutti harmonization of the original theme.

In a fugato the composer uses only the imitative exposition of the fugue, and dispenses with middle entries and episodes. Fugato is differentiated from fughetto in that the latter is a diminutive fugue, while the former is merely the initial portion of a fugue. Using the above denotation, I labelled as fugatos pieces which contained normal fugal exposition but no middle entries or episodes. Examples of fugato may be found in Copland's First Symphony, Barber's Prayers of Kierkegaard, and Foss' A Parable of Death, the latter using a duplex subject.

The same intervallic and rhythmic compatibility displayed by subject and countersubject in simple fugues is essential between the various subjects in double and triple fugues. While harmonic compatibility was once one of the essential difficulties in polyphonic writing, the relaxation of intervallic restriction in the twentieth century permits rhythm to rise to the fore as a determinant of subject compatibility. The composer chooses his harmonic reference, not on the basis of notions of admissability, but rather, on the basis of intervallic consistency.

The ability of all subjects to be fully invertible is a prime requisite in double and triple fugue. A subject which cannot serve as bass, or is not able to participate in the manifold number of contrapuntal situations used in contemporary fugues, is an unnecessary liability. A typical illustration of subject compatibility appears below. The rhythm of each subject is clearly defined and none interferes with that of other lines. In fact, the addition of two extra contrapuntal parts does not seem to hamper the combination of the three subject at all. Relatively simple harmonic logic, in addition to suspension of traditional attitudes

of dissonance, renders each line capable of functioning as the bass.

Example 109

Harris, Prelude and Fugue

Each subject in a double fugue usually receives its own exposition, accompanied or not. The simultaneous exposition of two subjects is more logically defined as a duplex subject, rather than a double fugue. The composer creates drama in the double fugue through the listener's expectation of the ultimate combination of the subjects, and the effect can be lost if the subjects are combined prematurely. In fugues with duplex subjects the opposite seems to be true: the composer tends to separate the subjects and treat them individually.

Most double and triple fugues follow one of two basic formal plans, which I call type "A" and type "B". In type "A" the composer exposes and develops the individual subjects, with their combination occurring later in the fugue, while in type "B" the composer exposes each subject in rapid succession and then follows with a large development section which displays various contrapuntal combinations and devices. The climax of the fugue in type "A" coincides with the combination of the subjects; the climax of the fugue in type "B" does not necessarily coincide with the combination of the subjects, but in the development section which follows. In both types the initial statement of the first subject is usually unaccompanied. This may not be true of second and third subjects. Hindemith uses type "A" in his Sonata in C for Violin and Piano. Illustrations of type "B" appear in Stravinsky's Symphony of Psalms, Barber's Piano Sonata, Op. 26, and fuga prima of Hindemith's Ludis Tonalis. In the latter fugue Hindemith successively exposes subjects one, two, and three in quick order. The remainder of the fugue occupies itself with various combinations of these subjects, and ends with four simultaneous entrances of the three subjects, demonstrating their complete invertibility. The plan of this fugue is as follows:

1. Exposition of subject 1 (three entrances)
2. Exposition of subject 2 (three entrances)
3. Exposition of subject 3 (three entrances, the first of which is accompanied by a statement of subject 2)
4. Statement of subject 2
5. Subject 2 and 3 combined to demonstrate the invertibility of 3 above.
6. Four entrances of all three subjects in triple counterpoint at the octave.

A fugue showing the characteristics of both types appears in fuga quarta of the Ludis. Its plan is as follows:

- I. Exposition of subject 1
 - First middle entry - subject in inversion and in free triple counterpoint
 - First Episode
 - Second middle entry-
 - a. subject in canon in contrary motion
 - b. close canon in two and three parts
 - c. subject in original and contrary motion simultaneously
- II. Exposition of subject 2
Episode
- III.
 1. Combination of subjects 1 and 2 in double counterpoint
 2. Subjects 1 and 2 combined with subject 1 in canon
 3. Subjects 1 and 2 in various types of canons

The plans of some other contemporary double and triple fugues appear below.

Double Fugues

Bliss, Colour Symphony

- I.
 - A. Exposition of subject 1
 - B. Imitative episode
 - C. First middle entries
 1. subject combined with harmonic parts
 2. subject in a false entry
 - D. Episode on material from episode 1
 - E. Second middle entry of subject in mock stretto
 - F. Episode on material from episode 2
- II.
 - G. Exposition of subject 2
 - H. Episode
 - I. First middle entry of subject 2
 - J. Large development
- III.
 - K. Subjects combined in various combinations, stretti, and in harmony

Tippett, Symphony No. 1

- I. A. Exposition of subject 1
 B. First episode - imitative and canonic
 C. First middle entries (three entrances)
 D. Second episode - imitative

- II. E. Exposition of subject 2
 F. First episode on subject 2 - imitative
 G. Subject 1 combined with a variant of
 Countersubject 2
 H. Second episode

- III. I. Subjects 1 and 2 combined in canon
 J. Episode - on episode of H
 K. Subjects 1 and 2 combined simul-
 taneously and in canon
 L. Combination of the heads of each
 subject
 M. Coda

Stravinsky, Symphony of Psalms

- I. A. Exposition of subject 1
 B. Episode

- II. C. Exposition of subject 2 combined
 with two middle entries and two
 episodes of subject 1
 D. First episode of subject 2 combined
 with third middle entry of subject 1

- III. E. Free contrapuntal development
 F. Coda

Triple FuguesHarris, Quintet for Piano and Strings

- I. A. Exposition of subject 1
 B. First episode - imitative
 C. First middle entries (four entrances)
 D. Second episode - imitative
 E. Second middle entries (three entrances
 of subject in fifths)
 F. Third episode - imitative
 G. Third middle entry - subject rhythmically
 altered

- II. H. Exposition of subject 2
 I. Fourth episode - imitative
 J. Fourth middle entries - subject 2
 (four entrances)
 K. Fifth episode - long imitative type

- III. L. Exposition of subject 3 (combined with
 entries of subject 2)
 M. Sixth episode - imitative
 N. Fifth middle entry - subject 2 in stretto
 O. Seventh episode - imitative
 P. Sixth middle entry - subject 1 in free
 augmentation and in fifths
 Q. Eighth episode - imitative
 R. Subjects combined rather freely
 S. Coda

Hindemith, Sonata in C for Violin and Piano

- I. A. Exposition of subject 1
 B. Episode
 C. Subject 1 in canon, 2 in 1 and 3 in 1

- II. D. Exposition of subject 2
 E. Episode
 F. Subject 2 in various canons
 G. Combination of subject 1 and subject 2

- III. H. Exposition of subject 3
 I. Episode
 J. Subject 3 in various canons

- IV. K. All three subjects combined in
 various canons and triple counterpoint

H. The synthesis of Materials and Devices (Inner Form)

Some musicians are sometimes unmindful of advantages contemporary composers possess over their Classical and Romantic counterparts. The collapse of the major-minor tonal system seemed, for some, to end an epoch characterized by orderliness and unity, and usher in a period characterized by disorganization, and incomprehensibility. However, while the contemporary composer no longer possesses the advantage of a well organized system of harmonic relations arranged in a hierarchy of proximity to a tonic; he is, nonetheless, able to integrate the various dimensions (harmonic and melodic) of his music to a degree previously unknown in the history of music. Thus, rather than an advantage lost, one advantage has been exchanged for another.

In the traditional period, composers limited chordal structure to a relatively small group of low tension tertian harmonies. Composers permitted the use of more dissonant intervals in the vertical dimension if they were followed by appropriate resolutions or if they were understood to be one of the so-called nonchordal tones. In the traditional period, then, manifestations of the structural ideas could freely unfold on the horizontal level but could not unfold on the vertical level unless the structural idea was compatible with the then existent concepts of chordal structure. The illustration below, from Beethoven's String Quartet Op. 59, No. 3, corroborates this observation. The quartet opens with a diminished seventh chord suggesting a resolution to the key of G. The next chord, however, is a German augmented-sixth chord in A minor (spelled as a dominant seventh chord on F) leading to a cadential six-four chord in A minor. Thus the opening chords clearly suggest two keys separated by

a major second (G major-A minor).

Example 110

Beethoven, String Quartet, Op. 59, No. 3

The image shows a musical score for a string quartet, specifically a section from Beethoven's String Quartet, Op. 59, No. 3. The score is written on two staves. The top staff contains the musical notation, including notes, rests, and dynamic markings like 'f' and 'p'. The bottom staff contains handwritten annotations in ink. These annotations include 'G: V⁰⁹' under the first measure, 'a: x⁶/₃' under the second measure, and a bracketed chord symbol 'I₆ 4' under the third measure. To the right of the bracketed symbol, there is a sequence of Roman numerals: 'V₇ 4 I₆ V₄ 3', with a '2' written below the '4' between V₇ and I₆.

How this structural idea affects the various dimensions of the piece may be seen in Example 111. Notice that the principle theme of this movement is composed almost entirely of seconds, and that it is immediately sequenced from C into the key of D minor (the second relation). One can also see the influence of this idea on key relations (Example 111b) and chordal progression (Example 111c). Notice, however, that Beethoven made little attempt to use this structural idea on a purely vertical level.

Example 111

a. Beethoven, String Quartet, Op. 59. No. 3

Handwritten musical score for Example 111, a. Beethoven, String Quartet, Op. 59. No. 3. The score is written on three systems of staves. The first system shows a treble and bass staff with a key signature of one flat (B-flat) and a common time signature. The second system shows a treble and bass staff with a key signature of two flats (B-flat and E-flat) and a common time signature. The third system shows a treble and bass staff with a key signature of two flats (B-flat and E-flat) and a common time signature. The score includes various musical notations such as notes, rests, and bar lines. Below the staves, there are handwritten annotations including 'C: I', 'V 1/2', 'd: I', 'I7', and a sequence of Roman numerals: 'C: { I II V7/IV I I'.

b. Key Plan of first movement

Introduction: G-a-Eb-F-G

Exposition: C-d-C-G-a-C-G

Development: Eb-F-e-F-g-F

Recapitulation: G-Db-C-d-C-d-C

c. Beethoven, String Quartet, Op. 59, No. 3

The musical score shows the key plan of the first movement of Beethoven's String Quartet, Op. 59, No. 3. The key plan is indicated by Roman numerals and letters below the notes. The sequence of chords is: C: (C), I (C), I (C), I/ii (C), ii (d), I/iii (C), iii (e), IV (F), I/I (C), I (C), I/vi (C), vi (a), I (G).

In the twentieth century, chordal structure and harmonic relations are no longer governed by the axioms of the major-minor tonal system, but are sometimes based upon a variety of intervallic arrangements. For this reason composers now may allow their structural ideas to permeate the total organization, possibly achieving even greater unity than in the traditional period. The purpose of this section, therefore, is to illustrate to what degree contemporary composers have been able to integrate the various dimensions of their work. For this purpose I have chosen to discuss two fugues which I believe excel in this type of integration: the fugue in Samuel Barber's Piano Sonata, Op. 26 and the fugue in Bela Bartok's Music for Strings, Percussion and Celesta.

The fugue subject of Barber's Piano Sonata is clearly tonal and resides in the key of Eb minor (Example 112). It can be divided into three segments, henceforth called head, tail, and codetta. The head is based upon two broken chords: the first is a broken ninth chord in Eb minor; the second is either an Eb diminished triad with an added note^{or}. Both relationships are chromatic and form one of the basic structural ideas of the fugue. The tail and codetta are based upon a series of sequentially related added-note triads. The added note in each case is a ninth and shows the opening ninth chord in a new arrangement. Notice that each pair of chords, sequential in themselves, are sequenced in descending seconds, producing sequence within sequence. The subject, then, contains the following structural ideas: the chromatic relationship (Eb-E and Eb-D), various combinations of seconds and thirds, and sequence.

Example 112

The musical score for Example 112 consists of two staves. The top staff is a single melodic line in treble clef, featuring various intervals and accidentals. It is divided into sections labeled a1, a2, a3, B, C, D, E, F, G. The bottom staff shows harmonic support with chords and figured bass notation. The first measure of the bottom staff is labeled 'Eb: I 9'. The second measure is labeled 'E: V 9 D: I'. The third measure is labeled 'Add 9th 2nd'. The fourth measure is labeled '2nd'. The fifth measure is labeled '2nd'. The sixth measure is labeled '2nd'. The seventh measure is labeled '2nd'. The eighth measure is labeled '2nd'. The ninth measure is labeled '2nd'. The tenth measure is labeled '2nd'. The eleventh measure is labeled '2nd'. The twelfth measure is labeled '2nd'. The thirteenth measure is labeled '2nd'. The fourteenth measure is labeled '2nd'. The fifteenth measure is labeled '2nd'. The sixteenth measure is labeled '2nd'. The seventeenth measure is labeled '2nd'. The eighteenth measure is labeled '2nd'. The nineteenth measure is labeled '2nd'. The twentieth measure is labeled '2nd'. The twenty-first measure is labeled '2nd'. The twenty-second measure is labeled '2nd'. The twenty-third measure is labeled '2nd'. The twenty-fourth measure is labeled '2nd'. The twenty-fifth measure is labeled '2nd'. The twenty-sixth measure is labeled '2nd'. The twenty-seventh measure is labeled '2nd'. The twenty-eighth measure is labeled '2nd'. The twenty-ninth measure is labeled '2nd'. The thirtieth measure is labeled '2nd'. The thirty-first measure is labeled '2nd'. The thirty-second measure is labeled '2nd'. The thirty-third measure is labeled '2nd'. The thirty-fourth measure is labeled '2nd'. The thirty-fifth measure is labeled '2nd'. The thirty-sixth measure is labeled '2nd'. The thirty-seventh measure is labeled '2nd'. The thirty-eighth measure is labeled '2nd'. The thirty-ninth measure is labeled '2nd'. The fortieth measure is labeled '2nd'. The forty-first measure is labeled '2nd'. The forty-second measure is labeled '2nd'. The forty-third measure is labeled '2nd'. The forty-fourth measure is labeled '2nd'. The forty-fifth measure is labeled '2nd'. The forty-sixth measure is labeled '2nd'. The forty-seventh measure is labeled '2nd'. The forty-eighth measure is labeled '2nd'. The forty-ninth measure is labeled '2nd'. The fiftieth measure is labeled '2nd'. The fifty-first measure is labeled '2nd'. The fifty-second measure is labeled '2nd'. The fifty-third measure is labeled '2nd'. The fifty-fourth measure is labeled '2nd'. The fifty-fifth measure is labeled '2nd'. The fifty-sixth measure is labeled '2nd'. The fifty-seventh measure is labeled '2nd'. The fifty-eighth measure is labeled '2nd'. The fifty-ninth measure is labeled '2nd'. The sixtieth measure is labeled '2nd'. The sixty-first measure is labeled '2nd'. The sixty-second measure is labeled '2nd'. The sixty-third measure is labeled '2nd'. The sixty-fourth measure is labeled '2nd'. The sixty-fifth measure is labeled '2nd'. The sixty-sixth measure is labeled '2nd'. The sixty-seventh measure is labeled '2nd'. The sixty-eighth measure is labeled '2nd'. The sixty-ninth measure is labeled '2nd'. The seventieth measure is labeled '2nd'. The seventy-first measure is labeled '2nd'. The seventy-second measure is labeled '2nd'. The seventy-third measure is labeled '2nd'. The seventy-fourth measure is labeled '2nd'. The seventy-fifth measure is labeled '2nd'. The seventy-sixth measure is labeled '2nd'. The seventy-seventh measure is labeled '2nd'. The seventy-eighth measure is labeled '2nd'. The seventy-ninth measure is labeled '2nd'. The eightieth measure is labeled '2nd'. The eighty-first measure is labeled '2nd'. The eighty-second measure is labeled '2nd'. The eighty-third measure is labeled '2nd'. The eighty-fourth measure is labeled '2nd'. The eighty-fifth measure is labeled '2nd'. The eighty-sixth measure is labeled '2nd'. The eighty-seventh measure is labeled '2nd'. The eighty-eighth measure is labeled '2nd'. The eighty-ninth measure is labeled '2nd'. The ninetieth measure is labeled '2nd'. The ninety-first measure is labeled '2nd'. The ninety-second measure is labeled '2nd'. The ninety-third measure is labeled '2nd'. The ninety-fourth measure is labeled '2nd'. The ninety-fifth measure is labeled '2nd'. The ninety-sixth measure is labeled '2nd'. The ninety-seventh measure is labeled '2nd'. The ninety-eighth measure is labeled '2nd'. The ninety-ninth measure is labeled '2nd'. The hundredth measure is labeled '2nd'.

In the next three entries of the subject, the counterpoints suggest the devices of stretto, augmentation, and the splitting of a single line into two counterpoints. These devices, in addition to inversion, are the essential manners of contrapuntal development in the fugue.

Example 113

2ND Entry

Handwritten musical notation for the 2ND Entry. The notation is written on a treble and bass staff. The treble staff contains several measures of music, including notes with slurs and rests. The bass staff contains notes and rests. The notation is in a key with two flats (B-flat and E-flat) and a 4/4 time signature. The notes are mostly eighth and sixteenth notes. There are slurs over some groups of notes. The rests are indicated by a 'y' symbol. The notation is handwritten and appears to be a sketch or a working draft.

3rd Entry

Handwritten musical notation for the 3rd Entry. The notation is written on a treble and bass staff. The treble staff contains several measures of music, including notes with slurs and rests. The bass staff contains notes and rests. The notation is in a key with two flats (B-flat and E-flat) and a 4/4 time signature. The notes are mostly eighth and sixteenth notes. There are slurs over some groups of notes. The rests are indicated by a 'y' symbol. The notation is handwritten and appears to be a sketch or a working draft. There is a label "Avg of Sea 4THs from C.S." above the treble staff. There is a label "A3" below the bass staff.

4TH Entry

Handwritten musical notation for the 4TH Entry. The notation is written on a treble and bass staff. The treble staff contains several measures of music, including notes with slurs and rests. The bass staff contains notes and rests. The notation is in a key with two flats (B-flat and E-flat) and a 4/4 time signature. The notes are mostly eighth and sixteenth notes. There are slurs over some groups of notes. The rests are indicated by a 'y' symbol. The notation is handwritten and appears to be a sketch or a working draft.



To see how these materials and devices affect the organization of the fugue, let us turn first to melody. Many of the linear shapes result from various combinations of seconds and thirds, and are phrased in a manner to project this organization to the fore. They are frequently sequential and imply intervallic arrangements suggested in the head of the subject. In the first of the two illustrations quoted below a characteristic motive composed of seconds and thirds is sequentially imitated in the original and in inversion. In the third and fourth measures of the illustration the seconds and thirds appear in a new arrangement and are sequentially imitated in free inversion. Notice that the sequences are in descending thirds, and that the entire passage is phrased in order to project this structural content. The second illustration shows how the chromatic element, originally suggested by the head, manifests itself on the linear level.

Example 114

a.

Handwritten musical score for Example 114, part a. The score is written on two systems of staves. The first system consists of two staves, and the second system also consists of two staves. The music is written in a key signature of one flat (B-flat) and a 2/4 time signature. The notation includes various rhythmic values, including eighth and sixteenth notes, and rests. There are several slurs and ties. Above the first staff of the first system, there is a bracket labeled 'H' over a group of notes. Above the second staff of the first system, there is a bracket labeled 'H1' over a group of notes. Below the first staff of the first system, there are three brackets labeled 'H' under groups of notes. Below the first staff of the second system, there is a bracket labeled 'H' under a group of notes. The score ends with a double bar line.

b.

Handwritten musical score for Example 114, part b. The score is written on two systems of staves. The first system consists of two staves, and the second system also consists of two staves. The music is written in a key signature of one flat (B-flat) and a 2/4 time signature. The notation includes various rhythmic values, including eighth and sixteenth notes, and rests. There are several slurs and ties. Above the first staff of the first system, there is a bracket labeled 'DI' over a group of notes. Above the second staff of the first system, there is a bracket labeled 'DI' over a group of notes. Below the first staff of the first system, there is a bracket labeled 'DI' under a group of notes. Below the first staff of the second system, there is a bracket labeled 'DI' under a group of notes. The score ends with a double bar line.

The same structural ideas also manifest themselves on the vertical level and govern the choice of contrapuntal intervals, harmonic structure and chordal progression. Most contrapuntal intervals reduce themselves to structures which are characteristic arrangements of seconds and thirds; and these structures, moreover, are usually related to each other in seconds and thirds. Examples of three and four part counterpoint appear below. In the first passage the individual counterpoints develop the main structural ideas on the linear plane. A reduction of the contrapuntal intervals suggests that the main structural ideas also influence this dimension. Notice the numerous suggestions of seventh and ninth chords with the implied fifth of these chords missing, thereby accentuating their arrangement in seconds and thirds. One can see this manner of organization even to a greater extent in the second illustration. On the linear level a motive again showing a unique arrangement of seconds and thirds is imitated in inversion and augmentation. As in the first illustration, the contrapuntal intervals display various arrangements of seconds and thirds. In many cases Barber fills in the missing fifth, or adds a tone, to the structures suggested in Example 115a.

Example 115

a.

Handwritten musical score for Example 115, section a. The score is written on three systems of staves, each system containing a grand staff (treble and bass clef). The music is in a key with three flats (B-flat, E-flat, A-flat) and a common time signature. The notation includes various rhythmic values, including eighth and sixteenth notes, and rests. The first system shows a complex melodic line in the treble clef and a more rhythmic accompaniment in the bass clef. The second system continues the melodic development with some ledger lines in the treble clef. The third system shows a continuation of the melodic and harmonic material, with some notes written below the bass staff.

b.



Barber also creates a group of unique compound harmonies from the intervallic ideas suggested by the subject. He connects them to similar kinds of structures in second or third relationship, or to other chromatically related harmonies. In Example 116a below, Barber develops a linear idea suggesting seconds and thirds in imitation and sequence. Again, the sequences are in second and third relations. The chordal structure and contrapuntal intervals suggest the same kind of harmonies appearing in Example 115b with another device added to intensify the structural content of the passage: the upper parts begin with alternate F \flat and E \flat harmonies, which are a manifestation of the opening chromatic relation

(Eb-E and Eb-D), and then continue in descending seconds, thus illustrating the influence of the opening thematic material on chordal structure and progression. In Example 116b the tail, sequenced in descending seconds, is accompanied by a series of compound chords sequenced in ascending seconds. The intervals in each two-beat unit reduce themselves to large tertian chords with obvious structural implications. The same kind of harmonic reference can be seen in Example 116c. In Example 116d the opening chromatic relation appears in a harmonic version through the alternation of a misspelled dominant seventh chord in the key of E with a tonic chord in the key of Eb. Thus one sees in these illustrations the degree to which thematic ideas influence both chordal structure and progression.

Example 116

a.

The musical score for Example 116a consists of three staves. The top staff is in treble clef, the middle in bass clef, and the bottom in bass clef. The music is in 4/4 time. The top staff features a series of chords and melodic lines, with a key signature of two flats (Bb and Eb). The middle staff has a more active melodic line with many accidentals. The bottom staff has a large bracket under the first two measures, with a '3' and '12' written below it, indicating a 12-measure phrase. The notation includes various accidentals and dynamic markings.

b.



c.



in the overall organization of the fugue. Of these ideas, the chromatic relation between Eb and E, and Eb and D is most important. For instance, the fugue begins in Eb, moves to E (and sometimes C), and returns to Eb: an episode in Eb returns in E (meas. 26-30 and 80-85); the exposition of the subject is in Eb and the exposition of the tail suggests E: and the final entry of the subject is in E, accompanied by a bass line which suggests alternate departures to E and D from Eb! As in Classical and Romantic compositions the development works toward a gradual reduction of the structural idea to its essential nature, somewhat like the peeling of petals from a flower and leaving the pod exposed. Through these successive developments the ^ggrundestalt finally emerges in the coda in its most concentrated form, and is repeated until it liquidates itself. Thus the cycle is completed: creation and destruction.

Example 117



To sum up, then, the devices used throughout the fugue are suggested in the exposition or early in the fugue. The subject suggests certain structural ideas which influence melody and thematic treatment, contrapuntal intervals, chordal structure and progression, the pitches of imitations and strettis, and overall tonal relations. Thus the absence of harmonic tonality is, to some extent, counterbalanced through a greater synthesis of various dimensions of the development and organization.

Now let us turn to the fugue in the Music for Strings, Percussion and Celesta. The subject of the fugue appears in Example 118, and can be divided into four small sections. The first contains a chromatically filled in major third, the second a chromatically filled in tritone, and the third and fourth chromatically filled in fourths, henceforth called "cells" A (third), B (tritone), and C (fourth). The term "cell" seems particularly appropriate since Bartok usually keeps each unit intact but varies the order of elements within the unit, thus resembling the rearrangements of elements in living cells.

Example 118

The musical notation for Example 118 is presented on two staves. The first staff contains the first two sections of the subject, and the second staff contains the last two sections. The notation is in G major (one sharp, F#) and 4/4 time. The first section (A1) is a chromatically filled-in major third (G-A-B-A-G). The second section (A2) is a chromatically filled-in tritone (G-A-B-A-G). The third section (A3) is a chromatically filled-in fourth (G-A-B-A-G). The fourth section (A3) is a chromatically filled-in fourth (G-A-B-A-G). The sections are labeled A, B, and C. The first section is labeled A1, A2, and A3. The second section is labeled A3. The third section is labeled C. The fourth section is labeled C. The notation includes various accidentals (sharps, flats, naturals) and rests.

Several important motives are A1 (the ascending minor second), A2 (the leap of a third), and A3 (two consecutive minor seconds). A comparison of motive A3 in the first two cells (first two phrases) indicates that they are the inversion of each other; the second two A3 motives (second phrase) are chromatically related inversions of each other; and the last two A3 motives (third and fourth phrase) are the chromatic transposition of each other. The subject, then, contains the following structural ideas: 1), three different chromatically filled-in intervals; 2), a strong sense of chromaticism, which manifests itself not only on the linear level but, also, through the transposition and inversion of motives; 3), chromatic sequence; 4), simple and chromatically related inversion; and 5), interval expansion and contraction, suggested by the order of cells (third, tritone, and fourth). There is also no clear sense of tonality, owing to the extensive use of chromaticism and the lack of a definitive melodic cadence.

A cursory examination of the linear aspect seems to suggest that melodies evolve with little thematic or rhythmic logic, that all accompanying counterpoints bear no clear structural relations to the subject, or to each other. A closer examination, however, reveals that Bartok creates thematic unity, not through the relation of surface contours but, through the relations of various cells to each other (See score at end of this section). The main structural organization is not governed so much by the way the cell is organized as by the relation of the cell to similar cells in the same line, to similar cells in other lines of the same entry, and to similar cells in other entries. Further, the structural organization manifests itself through the pitches of the cells, and not the

manner of their unfolding. This accounts for the considerable development and variation in surface contour with no commensurate loss in structural unity. Needless to say, almost all of the cells are either A, B, or C cells, and the entire organization is clearly projected by a delineating kind of phrasing which, in the absence of this structural logic, would otherwise seem incomprehensible.

A typical illustration of this manner of organization appears in the fifth entrance of the subject in measure 16 (See score at the end of this section). Notice that similar cells are related to each other in the same manners that motives are related to each other in the subject. For instance, the line in the second violins consists of Cells A, C, A, and B. The two A cells involve the same pitches (B-G), showing this cell to unfold in contrary motion. In the third and fourth violins there are three A cells, and a hybrid cell labelled cell D. (It is interesting that out of the fifty-six cells in the exposition there are only four cells which are neither an A, B or C cell. These hybrid cells seem to be the combination of A, B, or C cells.) The second A cell in the third and fourth violin part is the chromatic inversion of the first and is related to the third and fourth A cells through chromatically related mirror inversion, and simple inversion, respectively. The viola line contains cells A, B, and A, with the A cells chromatic transpositions of each other; and the 'cello line contains cells B, A, A, and D, with the two A cells the expansion and contraction of each other. Thus a comparison of the similar cells in the various lines indicates that they are structurally related in accordance with the devices found in the subject. For instance, the diagram below shows the relation of the A cells, in this entry.

The B cells are also structurally related, their roots forming the symmetrical pattern E G A C. There is only one C cell in this entry, except for those which occur in the subject.

The same kind of structural relations appear in the other counterpoints accompanying each entry of the subject. A comparison of similar cells in all entries of the exposition also indicates the presence of some interesting symmetrical relationships. For instance, in the chart below, all of the cells of the exposition are arranged according to entrances. (The tones given are the "roots" of the cells.) Notice the symmetrical organization of B and C cells.

A Cells

First entrance:	A
Second entrance:	E B
Third entrance:	A F# D
Fourth entrance:	B E G# D# F#
Fifth entrance:	G G Eb G G# A G# F F G

B Cells

First entrance:	A
Second entrance:	A E
Third entrance:	E D
Fourth entrance:	E D B
Fifth entrance:	A E

C Cells

First entrance:	B	Bb		
Second entrance:	B	C	F	F#
Third entrance:	Eb	E	F	F#
Fourth entrance:	F#	Ab	A	

The episode and development sections contain the same kind of thematic treatment with some variations. The first episode (beginning in measure 21) contains a development of a broken triadal figure. Bartok arranges the A, B, and C cells in order to blend with the other broken chordal shapes in the passage. In the development which follows, he then imitatively develops short phrases which are most frequently based upon A and B cells. The counterpoints which accompany the canons on the inverted subject (beginning in measure 69) also contain the same kind of cellular organization.

How the structural ideas influence the choice of contrapuntal intervals may be seen in the following illustration. Notice that the structures contain numerous thirds (cell A), tritones (cell B), fourths and fifths (cell C), and augmented fifths (enharmonic cell A).

Example 119



The contrapuntal devices suggested in the subject, not only influence cellular relationships but, also influence the devices applied to motive on the contrapuntal level. Two typical illustrations appear below.

One can make the following observations concerning the use of structurally related devices in Example 120a:

1. B is the chromatic transposition of A, the chromatic mirror of D, and the interval contraction of C.
2. C is the interval expansion of B, and the transposition of F.
3. D is the mirror of E.
4. F is the chromatic transposition of A.
5. F is the interval expansion of both E and A.

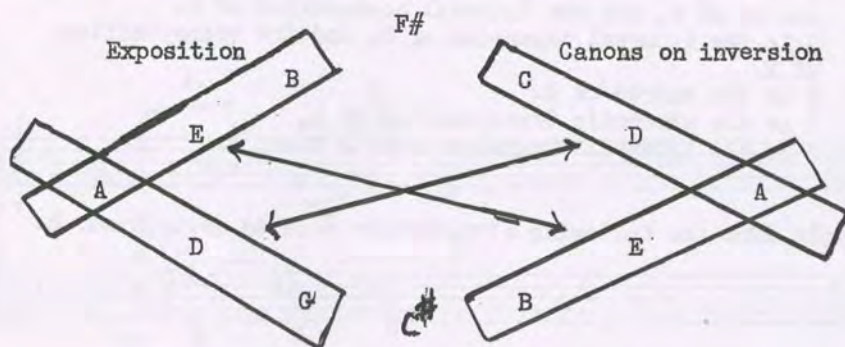
And in Example 120b the following structurally related devices may be noted:

1. A is related to H, W, and G through chromatic transposition and interval expansion.
2. H1 is the contraction of G, and W is the interval inversion of G.
3. A2 is the interval contraction of G and the chromatic transposition of H.
4. K is a mirror chord from C#.
5. N and O are chords containing major and minor thirds, and each is the chromatic mirror of the other.
6. The chords at V1 are chromatically interlocked mirrors of each other.
7. V2 is a transposition of V1.

As in Barber's Piano Sonata, the structural ideas and devices suggested in the subject also influence the larger aspects of the organization. The devices of inversion, transposition, interval contraction and expansion not only influence motive development and cellular relations but also, influence the pitches of episodes, strettii, and entrances of the subject. For instance, the pitches used for imitative entrances in the first episode show both transposition (E - A - D) and interval expansion (E - C# - C). The four strettii of the subject are arranged in a pattern of intervals which contract from the tritone to the unison:

first stretto: subject at the tritone
 second stretto: inverted subject at the sixth below
 third stretto: inverted subject at the seventh below
 fourth stretto: subject and inverted subject simultaneously

And all entries fall into the following symmetrical pattern:



The pattern clearly shows the influence of cells A, B, and C and is based upon interval expansion and contraction. In the first section the subject is developed in its original and in the final section it is developed in inversion. Notice that these two sections contain the same pitches but in mirror inversion, and that they are related through the use of a device clearly foreshadowed in the subject!

In summary, then, it seems that the subject contains certain intervallic material and suggests certain devices which influence all aspects of the fugue's organization and development. Motives and counterpoints are structurally related to these ideas and developed through the use of devices suggested in the subject. The cells of these counterpoints are related to similar cells in the same line, similar cells in other lines of the same entry, and similar cells in other entries. Thus they maintain structural unity and permit surface contours to freely evolve. The contrapuntal intervals and the treatment of vertical structures also seem

to be influenced by the structural ideas of the subject. And finally, these ideas clearly affect such larger dimensions of the organization as the pitches of imitations, stretti, entrances of the subject, and overall tonal logic.

The two preceding fugues, then, illustrate the degree to which composers can integrate the various dimensions of their contrapuntal writing. They illustrate how melody, counterpoint, harmony, and the pitches of entrances in imitations and stretti may be based upon a clear architectural logic even though this logic is not governed by the major-minor tonal system. They also illustrate how devices may be structurally related to the basic ideas in the subject, and how all may contribute to a sense of unity and organization.

Summary of the Contributions of Each Period

I. Medieval and Renaissance

- A. The establishment of basic contrapuntal principles.
- B. The introduction of the imitative exposition.
- C. The development of such devices as augmentation, diminution, inversion, retrogression, and canon.

II. Baroque

- A. A greater use of strettì.
- B. The creation of the monothematic fugue.
- C. The expansion of fugue from a device within a piece to a self-contained composition.
- D. The casting of fugue in an essentially ternary harmonic plan.

III. Classic

- A. The introduction and development of homophonic devices.
- B. A more rapid thematic development.
- C. The expansion of the size and importance of the episode.
- D. The use of developmental devices associated with the sonata-allegro form such as harmonic elaborations and sequential development combined with modulation.

IV. Romantic

- A. The extension of chordal structure and the expansion of harmonic relations.
- B. The increased use of dissonance.
- C. The expansion of the scale from seven to twelve notes.

V. Contemporary

- A. A greater choice in melodic intervals which are sometimes arranged to suggest non-tertian types of harmonies.
- B. The use of asymmetrical meters, polyrhythms, polymeters, multiple time signatures, and new uses of hemiola and hemiola-like devices.
- C. A greater use and freer treatment of dissonance, the expansion of the harmonic reference of contrapuntal intervals to include parallel or non-parallel tertian, quartal, compound, or added-note harmonies.
- D. A greater use of large strettì, duplex and triplex canons, chordal ostinati, and chordal melodies.
- E. A greater possible synthesis of the vertical and horizontal dimensions owing to a more liberal attitude toward chordal structure and the treatment of the dissonance.

Counterpoint is based upon the device of imitation, and presupposes a texture which contains a relatively greater degree of linear independence than passages which are described as being harmonic. This independence is primarily produced by rhythmic dissimilarity, and contrast in shape and placement of climax. Each voice in the design should have its own identity, yet each must also be in agreement with the other voices in the texture. Development within this contrapuntal style is characterized by the combining of various melodic shapes in graduated degrees of contrapuntal complexity.

If the foregoing may serve to summarize the contrapuntal style, what of fugue? Fugue means, literally, "to chase", "to flee", or "to run"; however, it seems as though musical "fugue" can be described more concretely than this. Current definitions of fugue center around the opinion that fugue is one of several possible things: a texture, a procedure, or a form. Tovey, for instance, believes that fugue is a texture, suggesting that he considers fugue and counterpoint nearly synonymous.⁷⁶ Vaughan-Williams agrees with Tovey that fugue is "a question of texture rather than design".⁷⁷ He admits, however, that "From the time of Bach the word 'fugue' has connoted a very definite musical form. . . ."⁷⁸ Oldroyd also agrees that fugue is a texture, which ". . . is a weaving of some kind whether we think in terms of a Harris tweed or music. The weaving

⁷⁶ Tovey, The Forms of Music, ". . . the only technical rules of fugue are those which refer to its texture." p. 25

⁷⁷ Vaughan-Williams, "Fugue", Grove's Dictionary of Music and Musicians, 3rd Ed., Vol. II, p. 320

⁷⁸ Ibid., pp. 320 - 321

idea is its very character; so it is that fugal writing must be dominated by the textural habit of thought."⁷⁹ It seems, however, that while one of the characteristics of fugue is its contrapuntal texture, every kind of contrapuntal writing possessing this texture need not necessarily be a fugue. For instance, a piece such as a motet may frequently meet all of the textural requirements implied above without being a fugue.

There are those who go further than Vaughan-Williams in maintaining that fugue is a form. One such writer is A. E. F. Dickinson who has said,

"Fugue originates as a method of beginning or continuing a piece, namely, by releasing a phrase in various points of the harmony -- top, bottom, or middle -- usually by a process of weaving two or three strands cumulatively around the first, which has given rise to the fallacy that fugue is merely a texture. By the time of Bach, fugue has extended to a complete composition, and its structure, although entirely elastic in size and shape, admits of broad definition."⁸⁰

It seems that Dickinson believes there is a general formal plan to a fugue, even though this plan defies exact definition.

While many authorities seem to be at odds over a proper definition of fugue, some of these divergent positions actually may be reconciled. The definition of fugue as a texture seems to be based upon the fact that it is written in a contrapuntal style. The belief that fugue is a procedure stems from the varied number of contrapuntal devices which may be applied to the subject. And the belief that fugue is a form is based upon the great similarity of fugal formal plans, in which the fugue

⁷⁹ Oldroyd, The Technique and Spirit of Fugue, p. 2

⁸⁰ Dickinson, Bach's Fugal Works, p. 8

begins with an exposition, then continues to episodes and middle entries, and finally concludes with entrances of the subject or episodic codas.

So, there seems to be some merit in all of these positions. It seems that a proper definition of fugue must make some comment upon its texture, ^{its} procedures, and ^{its} form. This writer offers the following definition: *

A fugue is a composition, or part of a composition, whose texture is primarily contrapuntal. Its form is characterized by a plan which begins with an exposition, in which the subject is successively stated by each entering voice, followed by the periodic or successive development of the subject through certain contrapuntal procedures which, for the most part, never render the subject unrecognizable.

One of the goals of this dissertation has been to show that fugue, from its inceptions, has been in a constant state of evolution, and that composers of each period have made contributions to this development through the use of new materials, devices, or manners of organization. The composers of the Medieval period established the basic contrapuntal principles of parallel, oblique, and contrary motion, rhythmic individuality of participating counterpoints, and such devices as imitation and canon. Renaissance composers developed these devices along with such devices as augmentation, diminution, inversion, retrogression, the duplex subject, and the alteration of the subject in a tonal answer.

In the Baroque period composers expanded the size and scope of fugue so that it became a self-contained piece rather than a device withⁿ a piece. The form was based both upon thematic and harmonic logic, as manifested in the major-minor system of tonality. This period was characterized by the expansion and the organization of fugue, rather than the development

of new devices.

The composers of the Classical period accepted a time-proven palette of contrapuntal devices and procedures, as well as an overall tonal organization root in the cycle of fifths and the major-minor diatonic system; and contributed to the development of fugue by introducing new devices associated with the homophonic music of the day. Counterpoint was frequently more chordal, and lines were sometimes thickened to thirds or sixths. More intense and remote types of development were applied to motives, and episodes were frequently treated in the style of the elaborate development sections associated with the sonata-allegro form.

Romantic composers contributed little to the development of fugue. The fugues of this period very often were curious "throwbacks" to Bach, giving testimony to their admiration of his genius but doing little to further the development of his contrapuntal art. These composers also modelled their fugues after Beethoven, in what seems to be a similar attempt to pay homage to his contrapuntal skill. Fugue did, however, partake in the harmonic developments of the period, which were characterized by an extension of harmonic structure, an expansion of tonal relations, an increase in the use and treatment of dissonance, and the growth of the scale from seven to twelve notes.

In the twentieth century, fugue has participated in a general revitalization and extension of contrapuntal thought. Developments in melody, harmony, rhythm, and form have had considerable impact on fugue even though some of the most startling innovations in these areas may have occurred in non-fugal, but possibly contrapuntal, music. It is possible that while fugue has broadened in the twentieth century, it

has done so because of these developments, and not because of the discovery of new devices or procedures associated with fugue alone.

In the twentieth-century fugue, subjects still rely considerably on the innovations of previous periods. They still tend to have an overall range in the neighborhood of an octave, and may be in one continuous unit, or broken into any number of smaller sections. They are usually tonal, even though this tonality may sometimes be chromatic rather than diatonic. The absence of major-minor tonality as a form-building force is replaced, to some extent, by a new and fresh use of modes, in addition to a structural logic based upon the use of meaningful intervallic relationships. Broken-chord~~d~~ melodies and the harmonic implications of the melody are expanded to include large tertian, quartal, compound, or added-note harmonies.

The liberation of rhythm from its subordinate position⁸¹ to tonality^{into a more dominant position} permits it to play a more decisive role in the overall development. While there have been some attempts to organize, or serialize,⁸¹ rhythm in some contemporary contrapuntal music, this writer found no examples in fugues which do anymore than show a negligible influence of this device. Composers do, however, use more asymmetrical types of rhythmic organization in addition to polymeters and polyrhythms. Some composers also resort to the use of two time signatures simultaneously in order to exploit hemiola, or hemiola-like devices.

Contemporary composers have made several noteworthy contributions to the harmonic aspect of counterpoint. They have increased the use of dissonance and liberalized its treatment. The harmonic basis of counterpoint has also expanded to include vertical structures suggesting

⁸¹ See page 91

various types of harmonic structure common in the non-fugal music of the twentieth century, so that some contemporary composers, owing to this distension in harmonic structure, are able to integrate the vertical and horizontal dimensions to a degree unknown in the past.

No new types of contrapuntal devices have been discovered which rank in importance with such devices as augmentation, diminution, inversion, or canon. There is, however, a greater use of large strettis, and duplex and triplex canons, in addition to chordal ostinati, and melodies thickened to various intervals and chords.

Contemporary composers have expanded the treatment of the exposition to include the use of a variety of pitch schemes which are not based primarily upon tonic and dominant entrances, but are based rather upon patterns which possess a thematic logic, or show a symmetrical intervallic organization. The exposition, and fugue, also need no longer be composed for a fixed number of voices, and various non-contrapuntal parts may be freely added. The same type of intervallic logic applied to the exposition is also frequently adopted for the middle and closing entries.

There are no essentially new manners of episodic treatment; both the Baroque and Classical kinds suffice. Episodes still serve to lessen the monotony of successive entries of the subject and serve to develop shapes associated with counterpoints other than the subject, and rely less frequently upon invertible counterpoint and more frequently upon canon and stretto. As in former periods, episodes tend to be related to each other, and develop their material in successively more concentrated manners of contrapuntal treatment.

The greatest contribution of the Contemporary period to the evolution of fugue is a greater synthesis of structural ideas on both the horizontal and vertical levels, and is based upon a more liberal attitude toward harmonic structure.^x In their search for new form-building forces, contemporary composers have made a considerable effort to unify materials on these two levels and, thereby, have enhanced the structural organization in fugue. In a sense the use of this type of organization serves to minimize, if not replace, the form-building function of the major-minor tonal system. The grundgestalt is now free to control such various aspects of the texture as melody, counterpoint, harmony, the pitches of imitative entrance and stretti, and the overall tonal organization. Contrapuntal devices may also achieve added meaning through their relation to the basic structural ideas inherent in the subject.

It seems as though the twentieth century will be a crucial period in the evolution of fugue. With the renewed interest in counterpoint and the notable developments in non-fugal contrapuntal techniques, it seems that fugue may be passed by and be condemned to extinction, as some of the early contrapuntal forms were. If fugue is not to be passed by in this way, it will probably be due to its capacity, as before, to assimilate the developments of this period and to partake of the general development of musical thought.

Selected Bibliography

List of Abbreviations

<u>Groves</u>	<u>Grove's Dictionary of Music and Musicians</u> , 3rd Edition edited by H. C. Colles, Macmillan Co., New York, 1947; 5th Edition edited by Eric Blom, St. Martin's Press, New York, 1955.
<u>HAM</u>	<u>Historical Anthology of Music</u> , 2 vols., edited A. T. Davison & W. Apel, Harvard University Press, Cambridge, Mass. 1959.
<u>ML</u>	<u>Music and Letters</u>
<u>MM</u>	<u>Modern Music</u>
<u>MR</u>	<u>The Music Review</u>
<u>OxH</u>	<u>The Oxford History of Music</u> , edited by D. A. Hughes and G. Abraham, Oxford University Press, London, 1960.

Books and Articles

- Apel, W. The Harvard Dictionary of Music, Harvard U. Press, Cambridge, Mass., 1947.
- Bach, C.P.E. Essay on the True Art of Playing keyboard Instruments, Trans. & Ed. by W. J. Mitchell, W.W.Norton & Co., New York, 1949
- Bridgman, N. "The Age of Ockeghem and Josquin", OxH, Vol. III.
- Buofzer, M. Music in the Baroque Era, W.W. Norton & Co., New York, 1947.
- Carner, M. A Study of Twentieth-Century Harmony, Vol. 2, Joseph Williams, Ltd., London, 1942.
- Carter, E. "Shop Talk by an American Composer", Problems of Modern Music, Ed. by P. H. Lang, W.W. Norton & Co., New York, 1960.
- Cazden, N. "Hindemith and Nature", MR, Vol. 15, No. 4, Nov. 1954.
- Davidson, A. & Apel, W. Historical Anthology of Music, 2 Vols., Harvard U. Press, Cambridge, Mass., 1959.

- Dickinson, A. E. F. Bach's Fugal Works, Sir Isaac Pitman & Co., Ltd., London, 1956.
- Forte, A. Contemporary Tone-Structures, Columbia U. Press, New York, 1955.
- Graves, W. Twentieth Century Fugue, Mus. D. diss. submitted to Philadelphia Conservatory of Music, Phila., Pa., 1958.
- Hawthorne, R. "The Fugal Technique of Bela Bartok", MR, Vol. 10, Nov., 1949.
- Hindemith, P. The Craft of Musical Composition, 2 Vols., Trans. A. Mendel, Associated Music Publishers, Inc., New York, 1945.
- Jeppeson, K. The Style of Palestrina and the Dissonance, Oxford U. Press, London, 1957.
- Keenan, K. Counterpoint Based on Eighteenth Century Practice, Prentice-Hall Inc., Englewood Cliffs, N. J., 1959.
- Krenek, E. "Extents and Limits of Serial Techniques", Problems In Modern Music, Ed. by P. Lang, W.W. Norton & Co., New York, 1960.
- _____. Studies in Counterpoint, G. Schirmer & Co., New York, 1940.
- Lang, P. Music in Western Civilization, W.W. Norton & Co., New York, 1941.
- Lenormand, R. A Study of Twentieth-Century Harmony, Vol. 1, Trans. by H. Antcliffe, Joseph Williams, Ltd., London, 1915.
- Mann, A. The Study of Fugue, Rutgers U. Press, New Brunswick, N. J., 1958.
- Oldroyd, G. The Technique and Spirit of Fugue, Oxford U. Press, London, 1948.
- Parrish, C. & Ohl, J. Masterpieces of Music Before 1750, W.W. Norton & Co., New York, 1951.
- Persichetti, V. Twentieth-Century Harmony, W. W. Norton & Co., New York, 1961.
- Piston, W. Counterpoint, W. W. Norton & Co., New York, 1947.
- _____. Harmony, W. W. Norton & Co., New York, 1941.
- Prout, E. Double Counterpoint and Canon, Augener Ltd., London, 1891.
- Reese, G. Music in the Renaissance, W.W. Norton & Co., New York, 1954.
- Reti, R. The Thematic Process in Music, The Macmillan Co., New York, 1951.
- _____. Tonality -- Atonality -- Pantonality, Rockliff Co., London, 1958.
- Rufer, J. Composition With Twelve Notes, Trans. by H. Searle, The Macmillan Co., New York, 1952.

- Sachs, C. Rhythm and Tempo, W.W. Norton & Co., New York, 1953.
- Salzer, F. Structural Hearing: Tonal Coherence in Music, 2 Vols., Charles Boni, New York, 1952.
- Seeger, C. "On Dissonant Counterpoint", MM, Vol. 7, June-July, 1930.
- Schenker, H. Harmony, Ed. by Oswald Jonas, Trans. by E. Borgese, University of Chicago Press, Chicago, 1954.
- Schoenberg, A. Structural Functions of Harmony, W.W. Norton & Co., New York, 1954.
- _____. Style and Idea, Philosophical Library, New York, 1950
- Searle, H. Twentieth-Century Counterpoint, Ernest Benn Ltd., London, 1954.
- Spitta, P. "Schumann", Groves, Vol. 5
- Stravinsky, I. Craft, R. Conversations with Igor Stravinsky, Doubleday & Co., Inc., Garden City, New York, 1959.
- _____. Poetics of Music in the Form of Six Lessons, Trans. by A. Knodel & I. Dahl, Vintage Books, New York, 1956.
- Tansman, A. Igor Stravinsky, Trans. by T. & C. Bleefield, G. P. Putnam's Sons, New York, 1949.
- Tischler, H. "Barber's Piano Sonata, Opus 26", ML, Vol. 33, October, 1952.
- Toch, E. The Shaping Forces in Music, Criterion Music Corp., New York, 1958.
- Vaughan-Williams, R. "Fugue", Groves, Vol. 2.
- Van den Borren, C. "dufay and His School", Oxh, Vol. 3.

Music

- Anonymous, "Alle, psallite-Alleluya", HAM, Vol. 1, No. 33a
- Bach, J. C. "Preludium und fuge ex tis", HAM, Vol. 2, No. 237
- Bach, J. S. The Well Tempered Clavier, Ed. by H. Bischoff, Edwin Kalmus, New York, 1942
- _____ The Art of the Fugue, Edited by Hans Gal, Boosey and Hawkes, London, 1951.
- Barber, S. Piano Sonata, Op. 26, G. Shirmer, Inc., New York 1950.
- _____ Prayers of Kierkegaard, G. Shirmer, Inc., New York, 1954.
- _____ Second Essay for Orchestra, G. Shirmer, Inc., New York, 1945.
- Bartok, B. Concerto for Orchestra, Boosey and Hawkes, London, 1946.
- _____ Music for Strings, Percussion and Celesta, Boosey and Hawkes, London, 1939.
- _____ Piano Concerto No. 3, Boosey and Hawkes, London, 1947.
- _____ Sonata for Two Pianos and Percussion, Boosey and Hawkes, London, 1942.
- _____ String Quartet No. 3, Universal Ed., Leipzig, 1929.
- _____ String Quartet No. 5, Boosey and Hawkes, London 1939.
- Beethoven, L. van, Piano Sonata Op. 2, No. 3, Carl Fischer, New York, 1917.
- _____ Piano Sonata Op. 101, Carl Fischer, New York, 1917.
- _____ Piano Sonata Op. 106, Carl Fischer, New York, 1917.
- _____ Piano Sonata, Op. 110, Carl Fischer, New York, 1917.
- _____ Piano Sonata, Op. 111, Carl Fischer, New York, 1917.
- _____ String Quartet Op. 59, No. 3, G. Ricordi & Co., Milan, 1901.
- _____ String Quartet Op. 131, Longmans, Green and Co., New York, 1940.
- _____ String Quartet Op. 133, Longmans, Green and Co., New York, 1940.
- Berg, A. Wozzeck, Op. 7, Universal-Edition, Vienna-Leipzig, 1926.
- Bliss, A. Colour Symphony, Boosey and Hawkes, London, 1939.

- Hindemith, P. String Quartet in Eb, Associated Music Publishers, Inc., New York, 1944.
- _____ Symphonic Metamorphosis on Themes by C. M. von Weber, Associated Music Publishers, New York, 1945.
- Honegger, A. Prelude, Fugue and Postlude for Orchestra, Editions Salabert, Paris, 1948.
- Hovhaness, A. Prelude and Quadruple Fugue, Associated Music Publishers, New York, 1956.
- Josquin des Pres, "Faute d'argent", HAM, Vol. 1, No. 91.
- Karg-Elert, S. Fuge, Kanzone und Epilog, Op. 85, No. 3, F.E.C. Leuckart, Leipzig, 1911.
- Liszt, F. Fantasie on the Name of Bach, Editions Salabert, Paris, 1949.
- _____ Sonata in B Minor, Werke fur Klavier, Ed. by E. von Sauer, C. F. Peters, Leipzig, no date.
- Milhaud, D. Le Creation du Monde, Editions Max Eschig, Paris, 1929.
- _____ String Trio for Violin, Viola and Violoncello, Heugel & Co., Paris, 1948.
- Pachelbel, J. "Magnificat Fuga", HAM, Vol. 2, No. 251.
- Persichetti, V. Piano Sonata No. 4, Elkan-Vogel Co., Phila., 1951.
- Pierre de la Rue, "Kyrie I", Missa L'Homme arme, HAM, Vol. 1, No. 92.
- Piston, W. Concerto for Orchestra, Cos Cobb Press, Inc., New York, 1934.
- _____ Prelude and Fugue for Orchestra, Cos Cobb Press, Inc., New York, 1937.
- Ravel, M. Le Tombeau de Couperin, Durand & Co., Paris, 1918.
- Riegger, W. Canon and Fugue for Strings, Harold Flammer, Inc., New York, 1943.
- _____ Nonet for Brass, Associated Music Publishers, Inc., New York, 1951.
- _____ Quintet for Winds, Op. 51, Ars Viva Verlag (Hermann Scherchen), Wien-Zurich-Milano, 1952.
- Schoenberg, A. Suite for String Orchestra, G. Schirmer, Inc., New York, 1935.
- Schubert, F. Phantasy, Op. 15, Shirmer's Library of Musical Classics, Vol. 75, G. Schirmer, Inc., New York, 1897.

- Bloch, E. Concerto Grosso for String Orchestra and Piano Obligato, C. C. Birchard & Co., Boston, 1925.
- Brahms, J. "Choral Prelude and Fugue", The Organ Works of Johannes Brahms, Vol. II, Marks Music Corp., New York, 1948.
- _____ "Fugue in Ab Minor", The Organ Works of Johannes Brahms, Vol. II, Marks Music Corp., New York, 1948.
- _____ "Prelude and Fugue in A Minor", The Organ Works of Johannes Brahms, Vol. II, Marks Music Corp., New York, 1948.
- _____ "Prelude and Fugue in G Minor", The Organ Works of Johannes Brahms, Vol. II, Marks Music Corp., New York, 1948.
- Britten, B. Variations on a Theme of Frank Bridge, Op. 10, Hawkes & Son, London, 1938.
- _____ Young Person's Guide to the Orchestra, Op. 34, Boosey and Hawkes, London, 1947.
- Cavazzoni, G. "Chirle quartus", Missa Apostolorum, HAM, Vol. 1, No. 117.
- Copland, A. Symphony No. 1, Cos Cob Press, Inc., New York, 1931.
- Dahl, I. Music for Brasses, M. Witmark & Sons, New York, 1944.
- Dufay, G. "Agnus Dei", Missa L'Homme arme, HAM, Vol. 1, No. 66.
- Fischer, J. "Prelude and Fugue", HAM, Vol. 2, No. 247.
- Fogliano, G. Ave Maria, HAM, Vol. 1, No. 94.
- Foss, L. A Parable of Death, Carl Fischer, New York, 1953.
- Frescobaldi-Casella, "Tre fuga", Compositions for Organ and Cembalo, Istituto Editoriale Italiano, Milano, 1919.
- Ghirardello da Firenze, "Tosto che l'alba", HAM, Vol. 1, No. 52.
- Harris, R. Prelude and Fugue for Strings, G. Schirmer, New York, 1936.
- _____ Quintet for Piano and Strings, G. Schirmer, New York, 1940.
- _____ String Quartet No. 3, Mills Music, Inc., New York, 1948.
- _____ Symphony No. 3, G. Schirmer, New York, 1939.
- Hindemith, P. Ludis Tonalis, Schott & Co., Ltd., London, 1943.
- _____ Sonata in C for Piano and Violin, Associated Music Publishers, Inc., New York, 1940.

- Schuman, W. American Festival Overture, G. Schirmer, Inc., New York, 1941

String Quartet No. 3, Boosey and Hawkes, London, 1942.

Symphony No. 3, G. Schirmer, Inc., New York, 1942.

Symphony No. 4, G. Schirmer, Inc., New York, 1950.

Symphony for Strings, G. Schirmer, Inc., New York, 1943.
- Schumann, R. Quatre Fugues Op. 72, Revised by Gabriel Faure, A. Durand & Co., Paris, 1924.

Six Fugues on B-A-C-H, Revised by Robert L. Bedell, Marks Music Corp., no date.
- Shostakovich, D. Quintet for Piano and Strings, Leeds Music Corp., New York, 1948.

Twenty-four Preludes and Fugues for Piano, Leeds Music Corp., New York, 1955.
- Strauss, R. Also Spracht Zarathustra, J. Aibl-Verlag, Munich, 1904.
- Stravinsky, I. Concerto for Two Solo Pianos, B. Schott & Sons, Mainz, 1936.

Octet for Wind Instruments, Boosey and Hawkes, London, 1947.

Mass for Mixed Chorus and Double Wind Quintet, Boosey and Hawkes, London, 1948.

Symphony of Psalms, Revised Edition, Boosey and Hawkes, London, 1948.
- Sweelinck, J. Fantasia in echo, HAM, Vol. 1, No. 181
- Szymanowski, K. String Quartet Op. 56, Polskie Wydawnictwo Muzyczne, Krakow, 1956.
- Tippett, M. Symphony No. 1, Schott & Co., Ltd., London, 1948.
- Toch, E. Fuga aus der Geographie, Mills Music Corp., New York, 1954.

Die Princessin auf der Erbse, B. Schott & Sons, Mainz, no date.
- Vaughan-Williams, R. Introduction and Fugue for Two Pianos, Oxford U. Press, London, 1947.

Prelude and Fugue in C Minor, Oxford U. Press, London, 1930.

Symphony No. 4, Oxford U. Press, London, 1935.

Symphony No. 6, Oxford U. Press, London, 1948.
- Villa-Lobos, H. Bachianas Brasileiras No. 1, Associated Music Publishers, Inc., New York, 1948.

Walton, W. Symphony (1935), Oxford U. Press, London, 1936.