A COMPARATIVE ANALYSIS OF THE EXPOSITIONS IN THE FUGUES
OF J. S. BACH IN THE WELL-TEMPERED CLAVIER AND
THOSE OF PAUL HINDEMITH IN LUDUS TONALIS

THESIS

Presented to the Graduate Council of the
North Texas State University in Partial
Fulfillment of the Requirements

For the Degree of

MASTER OF MUSIC

By

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Denton, Texas
August, 1973

The problem with which this thesis is concerned is that of analyzing and comparing the fugal writing and contrapuntal style of J. S. Bach in the fugue expositions of The Well-Tempered Clavier and that of Paul Hindemith in the fugue expositions of the Ludus Tonalis. This comparison is made on the basis of a comprehensive analysis of the fugal expositions in both collections of fugues mentioned (The Well-Tempered Clavier by Bach and the Ludus Tonalis by Hindemith).

Chapter I includes a discussion of the careers and compositional techniques of Bach and Hindemith. An emphasis is placed on a comparison of Bach's fugal writing with that of his immediate predecessors (composers of the seventeenth and early eighteenth centuries who were writing in the fugal style) and on a comparison of Hindemith's theory of tonality, as expressed in The Craft of Musical Composition, with that of the traditional harmonic concept of Bach's day.

Chapter II deals with the evolution of the fugal concept. In this chapter, imitative forms of composition which gradually evolved toward the fugue are traced from their very early beginnings through the sixteenth, seventeenth, eighteenth, nineteenth,
and twentieth centuries. Emphasis is placed on the fugal form that Bach used and on Hindemith's neo-Baroque approach to fugal writing in the twentieth century.

In Chapters III and IV, analyses are made of the expositions in the forty-eight fugues of Bach's Well-Tempered Clavier and Hindemith's Ludus Tonalis. There is a discussion of the number of voices, order of entries, order of statements of the theme, key relationships, and redundant entries. Also discussed in these chapters are the beginning and ending notes of the subject, a change in tonality of the subject, range and length of the subjects. There is, further, a discussion of the real and tonal answers and the reasons for the use of a tonal answer, recurring countersubject, invertible counterpoint, interludes, length of the exposition, and the cadences at the end of the fugue expositions.

In Chapter V the fugal writing of Bach, as demonstrated in the fugue expositions of The Well-Tempered Clavier, and that of Hindemith, as demonstrated in the fugue expositions of the Ludus Tonalis, are compared. This comparison of these two styles of fugal writing shows the two composers' techniques and procedures to be very much alike except in Hindemith's expanded concept of tonality. Although Bach's set of fugues has set a standard for this type of writing, Hindemith has shown that this old form is still capable of being used with originality when adapted to twentieth-century practices.
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CHAPTER I

BACH AND HINDEMITH—A DISCUSSION OF CAREERS AND OF COMPOSITIONAL TECHNIQUES

Johann Sebastian Bach

In the year 1685, Johann Sebastian Bach was born in Eisenach, Germany. The name Bach belonged to a long line of musicians who strove to elevate the art of music. For nearly two hundred years there had been organists and composers in the family. Johann Sebastian Bach's student life ended when he was eighteen, and he began his career as a musician. Until the year of 1703, Bach had composed very little, but he then began to teach himself the art of composition. He chiefly derived his knowledge from studying the works of the greatest masters of his time, some of whom were Brühms, Reinken, Buxtehude, Frescobaldi, Froberger, Kerll, Pachelbel, Strunk, Böhm, and Fischer. He studied this music by copying their scores, in this way becoming familiar with the styles of the foremost composers of France, Germany, Austria, and Italy.¹ Being well acquainted with the fugal writing of his predecessors, Bach combined their styles of writing and techniques and was able to present the fugue as

a perfected art form. In his fugues, Bach "revealed the ideal towards which all previous efforts had been tending."²

During the seventeenth century, the harmonic basis of music had changed. Tonality rather than modality had become the basis of music.³ Before Bach's time, the terms imitation, canon, and fugue were many times the source of confusion, the three terms often being indiscriminately applied to all imitative compositions. But with the establishment of harmonic theory, the terms imitation, canon, and fugue found their final distinction. The casual application of the imitative manner was termed imitation, and the strict application of this manner was called canon. The term fugue represented the combination of procedures by which the imitative manner was used in order to state and restate, tonally establish, develop, and re-establish thematic material.⁴

The final perfection of the fugue, as well as of all the other large musical forms characteristic of the late Baroque, was inseparable from the full development of the major-minor system of tonality with its hierarchy of keys, which made possible a systematic use of key relationships in the musical design of long movements.⁵

Equal temperament, a method of keyboard tuning better suited to key changes than the meantone tuning of the modes,


⁵Grout, op. cit., p. 344.
began to gain wider acceptance. By the end of the seventeenth century the idea of a fugue which was thematically unified, richer in episodic development, and based on clear key relationships had almost entirely replaced the old ricercare, which was the immediate forerunner of the fugue as Bach knew it.

The definition of fugue at the time of Bach, as stated by Bukofzer, is as follows: the fugue was a contrapuntal procedure in which the subject and answer were stated in tonic and dominant respectively. It comprised a number of contrapuntal devices, such as double counterpoint, augmentation, diminution, inversion, stretto, canorizans motion, mirroring, etc., which were, however, optional. The one formal feature that all fugues had in common was continuous expansion, realized in a chain of fugal exposition. However, the number of departures and their tonal order varied. This is the reason why there is such variety of fugue form, and why none of the Bach fugues follows exactly the same pattern.6

Bach is often said to have developed a unique style of his own, even though it is known that he employed the techniques and styles of his predecessors. "He attained an eminence in eighteenth-century harmonic polyphony equal to that achieved by Palestrina in modal counterpoint."7 Bach took the fugal technique of his day and developed it into the highest contrapuntal form possible. The British theorist and writer,

7Maurice Lieberman, Creative Counterpoint (Boston, 1966), p. 4.
Edward Bairstow, outlines what he feels are the outstanding features in the fugues of Bach which put them into a class of their own.

He saw that to use a countersubject throughout a fugue, or even to introduce it in the course of a fugue, so long as it continues to have a prominent place in the structure to the end, gives a double interest, and provides more material to work upon.

His economy, that is, his amazing power of making use of every bit of his original material, binds his structure into one indivisible whole. Every single note contributes to the coherence and unity of the work.

He discovered that the episode could lengthen and broaden out the form and avoid monotony, and his great imagination helped him to write episodes, not so long that his hearers would forget the subject, but long enough to whet their appetites for it when it reappears.

Finally, and most important of all, his technique was so subconscious that his mind could dwell undisttracted on the main object of all music—the expression of human feeling. His fugues are amazing in the variety of their emotions.

Bach did not adhere exactly to the same pattern of writing in any of his fugues. He made The Well-Tempered Clavier the culmination of all previous types of fugue. Bach strongly emphasized the monothematic fugue in his writing. The combination of a prelude (or toccata, fantasia) and a fugue was a characteristic practice of the late Baroque.

One of Bach's first acts of composition was to select a number of concertos written for the violin by Vivaldi and set them for the harpsichord. This exercise made him understand how ideas are worked out, their connection with each other, the sequence of modulations, and several other points, better than he had understood before. Then he turned to the works of

the best composers for the clavier and organ of that time. The
diligent study and imitation of them gradually sharpened his
understanding and his judgment.9

Bach soon began to find that his life at Arnstadt was too
small and confined for his desires. He was therefore glad to
accept the post of organist at St. Blasius, Mühlhausen, near
Eisenach, when it was offered to him in 1707. When he had been
in Mühlhausen for one year, Bach received an invitation to play
before Duke Wilhelm Ernst of Saxe-Weimar. Duke Wilhelm was so
much impressed with Bach's ability that he immediately offered
him the post of Court organist. A wider opportunity now came
to Johann Sebastian Bach. He was now able to devote a great
deal of time to composition, and he at once began to write
those masterpieces for the organ which have made his name so
famous.10

In 1714 Duke Wilhelm raised Bach to the position of con-
ductor of the orchestra. Bach visited the principal towns to
give performances on the organ and clavier, and in a few years
he gained a great reputation both as player and composer. In
1717 Bach was appointed Kapellmeister to Prince Leopold of
Anhalt-Cöthen.

Perhaps no man ever led a more crowded life, though out-
wardly it was uneventful and similar to that of many successful

9Johann Nicolaus Forkel, "On Johann Sebastian Bach's Life,
Genius, and Works," The Bach Reader, edited by Hans T. David

10Ibid., p. 303.
musicians of his time in Germany. He never had an idle moment. "Bach was not only a colossus of a composer; he was the musician's highest example of a teacher, for he was a clear-minded scholar, a progressive thinker." After he had spent six years at the Court in Gothen, Bach began to realize that although he had plenty of leisure for studying, he did not have the scope he desires for his art. Because Bach was so poorly known, he never obtained the positions he really wanted. However, a wider opportunity came to Bach when he was appointed director of music in the churches of St. Thomas and St. Nicholas in Leipzig, and cantor of the Thomasschule in the same town. This marks the last stage of his career, for he retained these posts until the time of his death.

The Art of Fugue, composed in 1749-50 and left unfinished at Bach's death, is a demonstration of all types of fugal writing, in which the most difficult contrapuntal devices are handled with masterful ease. Before the Art of Fugue could be finished, Bach became totally blind. This misfortune was due in part to the great strain which he had always imposed upon his eyes in writing out his own music and in copying out large works of the older masters. But Bach continued to work to the very last, in spite of his affliction. On July 28, 1750, Bach died.

11Grout, op. cit., p. 382.
12Oldroyd, op. cit., p. 7.
13Grout, op. cit., p. 393.
At its best Bach's music is at the summit of the art. Bach could use formulae of the day and make them sound fresh and original, because they were his formulae. The forty-eight preludes and fugues of The Well-Tempered Clavier are as different from one another as are the Chopin Etudes.\textsuperscript{14}

The continuing vitality of his music is . . . due to . . . the qualities of the music itself: the concentrated and individual themes, the . . . musical invention, the balance between harmonic and contrapuntal forces, the strength of rhythm, the clarity of form, . . . the intensity of expression always controlled by a ruling architectural idea, and the technical perfection of every detail.\textsuperscript{15}

There were only a few of Bach's works that were in printed form which served to influence the late eighteenth and early nineteenth-century composers. Most of Bach's organ and harpsichord music remained unknown until the appearance of the \textit{Bachgesellschaft} edition in the second half of the nineteenth century. The most important collection of his works that had been printed earlier was the first book of \textit{The Well-Tempered Clavier}, which alone served to establish Bach as the model for fugue writing.\textsuperscript{16}

It often happens in the history of the arts that a genius far in advance of his time is given recognition only after his death. In Bach's case the picture is somewhat different. In his own time his music was frequently considered not overly modern, but antiquated. Yet to later generations it has proved


\textsuperscript{15}Grout, \textit{op. cit.}, p. 400.

to be an inexhaustible source of inspiration, a vital force within man's musical heritage.

Paul Hindemith

The early years of the twentieth century saw a few composers deliberately look back rather than forward. One of these was Paul Hindemith and his evocation of the Baroque. If there ever was a musician's musician it was Paul Hindemith. He had perfect pitch, was a professional violinist and violist, a good pianist, could play almost every instrument in the orchestra, was a good musicologist, could compose with great facility, and had an overwhelming knowledge of music.\textsuperscript{17}

Hindemith was born in Hanau, Germany, on November 16, 1895, and he lived a richly productive life until he died in Berlin December 28, 1963. Hindemith represented the neo-Baroque approach,\textsuperscript{18} both in his music and in his life style.

He worked in old classic forms--fugue, sonata, suite--and produced an enormous quantity of music, just as the Baroque composers did. . . . Like the Baroque composers, he adopted a utilitarian, practical view toward music, which had its roots in the great German tradition of Bach through Beethoven.\textsuperscript{19}

Hindemith was not only a typically German composer who recreated his heritage in twentieth-century terms, but also one who added to his heritage with a synthesis of many aspects of it, so that he emerges as the last great bearer of a tradition

\textsuperscript{17}S\textsuperscript{cho}nberg, \textit{op. cit.}, p. 528.
\textsuperscript{18}I\textsuperscript{bid.}, p. 529.
\textsuperscript{19}I\textsuperscript{bid.}
stretching back to the days of the early Baroque. "The spirit of eighteenth-century music is often evoked in Hindemith's work, particularly in its insistence upon strong metric drive, its feeling for tonal center, and its heavy reliance upon contrapuntal technique."\textsuperscript{20}

In his youth, Hindemith was an avant-gardist, and his severe, dissonant music was never really close to the public's heart, even though his great talent was recognized almost immediately. On the whole, he was more admired by professionals than by the public, for professionals respond to craft, and Hindemith was one of the century's greatest craftsmen and most learned musicians.

Hindemith's music was a model of workmanship in the mainstream of Baroque and Classic German music. Bach was probably the composer to whom Hindemith was closest. Hindemith was an academician and, working academically, he put his mark on the music of the twentieth century. He showed that the German tradition was not exhausted and that it had vitality when properly approached. The old forms were generally Hindemith's means of expression. But those forms did not sound old as treated by Hindemith. In his \textit{Craft of Musical Composition}, Hindemith explains his theory of music. "The intervals embedded in the tonal raw material which nature has made ready for musical use consist of an infinite number of tones."\textsuperscript{21} Into this tonal

\ \ \ \ \ \textsuperscript{20}Barney Childs and Elliot Schwartz, editors, \textit{Contemporary Composers on Contemporary Music} (New York, 1967), p. 80.

mass a certain order can be introduced by the use of the un-
changeable measures of the octave and the fifth. Nature has
put at our disposal a whole series of intervals. These are
represented in the overtone series. Hindemith believes that
music will always take its departure from the major triad and
return to it. How great the span can be between triads is
left up to the composer. Hindemith's method is founded upon
the twelve-note chromatic scale, and it is his belief that
certain notes of the chromatic scale are paramount in all
combinations. The order in which the twelve tones of the
chromatic scale diminish in degree of relationship to the
given tone is shown in what Hindemith calls Series I (Figure
1). "The values of the relationships established in that
series will be the basis for the understanding of the con-
nection of tones and chords, the ordering of harmonic pro-
gressions, and accordingly the tonal progress of compositions."

To a given tone, the tone an octave higher stands in
so close a relationship that one can hardly maintain a
distinction between the two. The tone which is only a
fifth higher than the given tone is the next most closely
related, and there follow in order the fourth, the major
sixth, the major third, the minor third, and so on. As
the distance from the given tone increases in this series,
the relationship diminishes, until, in the tones that stand
at the interval of the augmented fourth or diminished fifth,
it can hardly be felt at all. This value-order of the
relationships is valid under all circumstances.

\[\text{Ibid.}\]
\[\text{Marion M. Scott, "Paul Hindemith," Grove's Dictionary of}
\text{Music and Musicians, Vol. IV, 5th ed., edited by Eric Blom}
\text{(New York, 1954), p. 288.}\]
\[\text{Hindemith, op. cit., p. 56.}\]
\[\text{Ibid., p. 54.}\]
Fig. 1--Series I, Hindemith, The Craft of Musical Composition.

Just as the tone-relations are arranged in descending order of value in Series I, Hindemith also believes that the intervals have a natural order, which he calls Series II (Figure 2). Series II evaluates the distances between the various tones, and not the relationship of each tone to the tonal center, as does Series I. Series II is an attempt to establish the roots of intervals. Hindemith believes that all intervals have roots except the tritone. In Series II, "harmonic force is strongest in the intervals at the beginning of the series, and diminishes towards the end, while melodic force is distributed in just the opposite order." The octave and the tritone come at the beginning and end of this series. There is an essential difference between chords containing a tritone and those not containing one. Therefore, Series II is divided into two groups: Group A includes all chords that have no tritone and Group B includes all chords containing a tritone. Hindemith believes that every chord, with only a few exceptions, has a root. To find the root, the best interval of the chord must be found and evaluated according to the values of Series II.

26 Ibid., p. 88.
Hindemith's Table of Chord-Groups (Figure 3) classifies all chords according to their importance. He places all possible chords into one of six groups in order of their diminishing value. A chord of Group I will always try to act as a tonal center for chords of lower value.

Table of Chord-Groups

<table>
<thead>
<tr>
<th>A</th>
<th>Chords without Tritone</th>
<th>B</th>
<th>Chords containing Tritone</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Without seconds or sevenths</td>
<td>II</td>
<td>Without minor seconds or major sevenths</td>
</tr>
<tr>
<td></td>
<td>1. Root and lead tone are identical</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><img src="image1.png" alt="Diagram" /></td>
<td></td>
<td><img src="image2.png" alt="Diagram" /></td>
</tr>
<tr>
<td></td>
<td>2. Root lies above the lead tone</td>
<td></td>
<td><img src="image3.png" alt="Diagram" /></td>
</tr>
<tr>
<td>II</td>
<td>Containing a tritone</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Root and lead tone are identical</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><img src="image4.png" alt="Diagram" /></td>
<td></td>
<td><img src="image5.png" alt="Diagram" /></td>
</tr>
<tr>
<td></td>
<td>2. Root lies above the lead tone</td>
<td></td>
<td><img src="image6.png" alt="Diagram" /></td>
</tr>
<tr>
<td></td>
<td>3. Containing two tritone axes</td>
<td></td>
<td><img src="image7.png" alt="Diagram" /></td>
</tr>
<tr>
<td>III</td>
<td>Containing seconds or sevenths or both</td>
<td>IV</td>
<td>Containing minor seconds or major sevenths or both</td>
</tr>
<tr>
<td></td>
<td>1. Root and lead tone are identical</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><img src="image8.png" alt="Diagram" /></td>
<td></td>
<td><img src="image9.png" alt="Diagram" /></td>
</tr>
<tr>
<td></td>
<td>2. Root lies above the lead tone</td>
<td></td>
<td><img src="image10.png" alt="Diagram" /></td>
</tr>
<tr>
<td>IV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Root and lead tone are identical</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><img src="image11.png" alt="Diagram" /></td>
<td></td>
<td><img src="image12.png" alt="Diagram" /></td>
</tr>
<tr>
<td></td>
<td>2. Root lies above the lead tone</td>
<td></td>
<td><img src="image13.png" alt="Diagram" /></td>
</tr>
<tr>
<td>V</td>
<td>Indeterminate</td>
<td>VI</td>
<td>Indeterminate, Tritone predominating</td>
</tr>
<tr>
<td></td>
<td><img src="image14.png" alt="Diagram" /></td>
<td></td>
<td><img src="image15.png" alt="Diagram" /></td>
</tr>
</tbody>
</table>

Fig. 3--Table of Chord-Groups, Hindemith, The Craft of Musical Composition.
The intensification of the root-relations of a cadence progression determines the tonal center, and Hindemith emphasizes the importance of the final chord in the cadence. "Even in root-successions which would ordinarily be indeterminate, the final tone in the cadence is so strong that it becomes the tonal center." The repetition of a root or the surrounding tones determines a tonal center. It is only when these two factors do not offer a possible solution that the interval values determine the tonal center. According to Hindemith, "the tone-groups contained in a melodic line are governed by the same laws that rule tonal combinations of primarily harmonic significance."

As is demonstrated in *The Craft of Musical Composition*, Hindemith evolved a harmonic and melodic language of his own. Any phrase that he wrote can instantly be recognized as his. "He evolved a tonal system based on the natural laws of sound, on the fundamental note and its overtone series." When Hindemith’s studies at the Frankfort Conservatory had ended, he joined the orchestra of the Frankfort Opera, and became its concertmaster in 1915, retaining that post for the next eight years. During this period he distinguished himself in another direction. In 1921 Hindemith helped found the Amar Quartet, which made a specialty of performing the works

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27Ibid., p. 138.
28Ibid., p. 183.
of modern composers, propagandizing for this music throughout Germany. He remained its violist and guiding spirit until 1929, and for it he wrote the first of his important chamber-music works. The winning of the Mendelssohn Prize for his First String Quartet first drew attention to his creative talent.

The performance of two insignificant one-act operas in Stuttgart in June, 1921, marked his debut as a composer.\textsuperscript{30} These operas did not make much of an impression, but performances of other works were more successful. In August, 1921, Hindemith's Second String Quartet, written for the Amar Quartet, was introduced by that organization at the Donaueschingen Festival. The work was very well received. His music continued to be performed with mounting success. "With the triumph of his opera Cardillac at the Dresden Opera in November, 1926, he became the most important composer to emerge in Germany after World War I."\textsuperscript{31}

"Hindemith became one of the most celebrated musical figures in pre-Hitler Germany, second in fame only to ... Richard Strauss."\textsuperscript{32} His fame did not save him from the Nazis, however, as he would not dance to their tune. Hindemith was rejected because he was married to a Jewess, had made recordings with Jews, and had refused to break his associations with

\hspace{1cm}\textsuperscript{30}Milton Cross and David Ewen, \textit{Encyclopedia of the Great Composers and Their Music} (Garden City, New Jersey, 1953), p. 387.

\hspace{1cm}\textsuperscript{31}\textit{Ibid.}

\hspace{1cm}\textsuperscript{32}\textit{Ibid.}, p. 388.
famous Jewish musicians. The Nazis also found Hindemith's music unacceptable, since progressive tendencies in all art were undesirable. There were also some specific objections to Hindemith's works in particular.

In the upheaval that took place in 1933 with the assumption of power by the Nazis, an upheaval which overturned all existing values of the civilized world, Hindemith suddenly became persona non grata. The new rules regarded him as a degenerate influence. Hindemith could stay in Germany no longer. In an atmosphere charged with malice and hate, the first phase of his career came to a close. It had been a richly productive phase.

After Hindemith had left his native land he went to Turkey, where he had been invited by the government to assist in the rehabilitation of musical life. That assignment took him more than a year and was completed with skill and success. Then, in 1939, on an invitation from Elizabeth Sprague Coolidge, Hindemith came to America. He became head of the music department at Yale University in 1942 and an American citizen in 1946.

Hindemith entered the second phase of his career, and it proved to be no less successful and productive than the first. He made America his permanent home, enriching its musical life with his activities as composer, teacher (at Yale University), theorist, historian, conductor, and violist. The emotional upheaval in changing his country, language, and environment was not reflected in his music.

As a theoretician, Hindemith was the author of some valuable and provocative books. The same intelligence that

33Ibid., p. 386.
made Hindemith one of the finest teachers and theoreticians of our day is present in his music. It was Hindemith's philosophy that a composer should function as a complete musician, including performing, conducting, writing and teaching.  

In 1949 Hindemith paid a brief visit to Germany. He was then acclaimed by the press and was honored by having a street named after him. The leading German musicians urged him to return permanently, but Hindemith refused. In 1953, however, he did return to Europe to accept a post at the University of Zurich. This remained his principal residence until his death.

Like many other twentieth-century composers, Hindemith went through various stages of development in his music. He arrived at his individual style in the series of seven works called Kammermusik, written between 1922 and 1930. Stylistically these works looked backward and forward at the same time: backward to the contrapuntal music of Bach, and forward to the freedom of tonality of the twentieth century.

Hindemith was a composer who, without rejecting the past, was a spokesman for the present. While writing contrapuntally Hindemith felt that all tone combinations are possible as a new conception of "key" is realized. He wanted melody to be freed from its dependence on harmony, to achieve for the different voices of polyphony a complete freedom of movement.

Of great significance is Hindemith's championship of a tonal harmonic language. Hindemith's authority undoubtedly

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34 Childs and Schwartz, *op. cit.*, p. 80.
helped to create a climate in which a second generation of twentieth-century composers could confidently draw new life from that language. Like Bach, Hindemith was considered an antiquated irrelevance during his lifetime. But his masterly music remains.

One might be tempted to suppose that, like Stravinsky, Hindemith might eventually have come to terms with Schönbergian methods. But at the same time he retained his allegiance to the balanced melodic paragraph, and was still able, as in the final bars of his last work, the Mass for unaccompanied chorus, to draw poignant beauty from a triadic tonal language. Such ambiguity is part of the distinctive character of the last works. Their essentially introspective flavor makes it plain that had he attempted to include serialism in his conception of the tonality of musical experience he would have fought a losing battle with his better self. Although he may secretly have come to regret his conservatism, it was inescapable.36

Perhaps the extreme case of Hindemith's almost geometrical approach to form is Ludus Tonalis for piano (1942). This work consists of twelve carefully contrasted three-part fugues (he believed that the ear could distinguish no more than three parts), linked by interludes, which branch out from C to F sharp in the order of Series I, a scheme which provides the complete range of tonalities. This built-in unity is reinforced by framing the whole with a Praeludium and a Postludium which are mirror inversions of each other, and by applying the mirror technique itself on a large scale.

"According to Hindemith, the Ludus Tonalis is designed to offer instruction in counterpoint, tonal organization and piano playing. In addition, however, it should be said that these

instructional pieces are of high musical quality.⁷ The constantly changing moods in the Ludus Tonalis show the versatility of the composer. The interlude is usually in direct contrast to the fugue which it follows, and the collection seems to run the gamut of satire, pathos, passion, gaiety, and humility.⁸ The fugues are more conservative in the variety of moods, probably because of the limitation of form. Ludus Tonalis encompasses the whole range of Hindemith's expressive resources at the time that it was written.


⁸Ibid., p. 4.
CHAPTER II

EVOLUTION OF THE FUGAL CONCEPT

Counterpoint and imitation found their way into church music as early as the first quarter of the twelfth century. One of the devices practiced by composers even as early as the first half of the thirteenth century was canon, a piece in which every part sings the same music one after the other. In its first meaning, the word fugue identified the canon, because each voice flew or retreated before the ensuing voice which never caught it.

The word canon is from the Greek kanon, a rule. The word fugue is from the Latin fuga, a flight. The word canon referred to the rules which governed the composition. At first these terms, fugue and canon, were applied indiscriminately to what we should call a canon. Later the word canon was reserved for the type of piece in which every part sings the same music one after the other, and the title of fugue was given to more extended movements.

The technique of imitation had existed in the improvisations of popular music for many centuries. This was not notated, however, and therefore did not survive. As the technique of imitation began to be cultivated, the linear

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strength of monophony received a new meaning as different voices performed the same melodic line, since, through spaced entrances, they were more clearly distinguished.  

The first known use of the term *fuga* in theoretical writings occurred in the *Speculum musicae* by Jacobus. This work, written about 1330, holds a significant place as "... the last great medieval treatise on music." Although *fuga* is listed here among the chief vocal forms of the time, the mention of the term remains relatively isolated. In the course of the fourteenth century, however, imitation gained prominence and recognition in secular music in the form of the *caccia* (a strict canon in two parts) and the *rondellus* (a canonic form similar to the round). The term *fuga* seems to have served for either of these two forms.  

"Whereas the term *fuga* served in its earliest use as a title for the accompanied canon and the round, it emerged in its first precise definition as the technique common to both." This explanation is found in the *Diffinitorium musicae*, the first music dictionary, written about 1475 by Johannes Tinctoris. Then, in 1477, Tinctoris groups *fuga* with other devices that a composer could use in order to achieve variety in his music. Thus, for the first time, fugue is acknowledged as a principle of composition.

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2 Ibid., p. 4.
3 Ibid., p. 9.
4 Ibid.
5 Ibid., p. 10.
From the earliest time of its use, the term fugue had a double meaning of texture and form.

Medieval polyphony was characterized by the use of narrow voice ranges which made necessary frequent crossing of the voices. This resulted in a need for a differentiation of the individual parts (melodically, rhythmically, or in timbre). In the early Renaissance, a wider voice range came into use and there was less need for this differentiation. "The growing homogeneity of the voices eventually resulted in the establishment of imitation as a standard technique of the late Renaissance."7

The fusion of imitative style and sacred music was completed by the generation after Dufay (Ockeghem and Obrecht) and carried on by Josquin des Prez and Palestrina. The principle of imitative counterpoint, which is the basis of fugue, was used for the first time with consistency in Josquin's motets, around 1500. The style and form of Josquin's motet was imitated later in the ricercare, but with some modifications: (1) reduction of the number of themes, and (2) expansion of each theme into a well-defined section including a greater number of statements of the subject.8


7Ibid.

The earliest meaning of *fuga*—the canon—came to be interpreted by the theory of the Renaissance as a procedure of musical composition by which a theme is stated and restated. In the progress of Renaissance theory, the rules for the thematic statements were more carefully defined and treated with increasing strictness. Statement and restatement had to be spaced by the intervals of perfect consonances and a new distinction separated this, the fugal exposition, from imitation. Thus, the fugal exposition gradually gained a thematic as well as a harmonic meaning which was to extend over the entire structure of a musical work.9

The technique of imitation became the outstanding characteristic of the Renaissance style of composition. The fifteenth-century theorist Bartolomeo Ramos de Pareja described it in his *Musica practica* as the best manner of part writing and added, "This manner is called *fuga* by practicing musicians."10 Ramos is the first to recommend the choice of perfect intervals (the fourth, fifth, and octave) for imitative entrances. He introduces the musical usage of the verb *imitari* and applies it to both the strict and free repetition of interval progressions. In his musical treatise, Ramos also suggests that free writing be introduced in the imitative style whenever consistent imitation would result in difficulty.11

The discussion of fugue is brief in all the early theoretical sources, but by the middle of the sixteenth century it becomes much more extensive. In Don Nicola Vicentino's work, *L'Antica Musica ridotta alla moderna prattica* (1555), Vicentino

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9 Mann, *op. cit.*, p. 72.
relates free imitative writing to the majority of known musical forms. Among them were the instrumental forms of the fantasia and canzona, which were beginning to assume an important role in the development of fugal technique. The fantasia was based on one theme, which was modified by ornamentation, inversion, and other devices. Some of the earliest canzonas had a single theme, treated contrapuntally, but others were based on several contrasting themes and the canzona was divided into several sections. "Vicentino not only crystallizes the cantus firmus technique of the High Renaissance and the Baroque, but he also introduces with his term *punto* the modern concept of the theme."  

The term *punto* meant "point" and was applied to "the point of imitation," denoting a section in which a single subject is treated in imitation.  

The most important point in Vicentino's discussion of fugue is that the composer is asked to make a definite choice of a mode and to remain aware of the limitations of this mode throughout. "Each mode was defined by its octave range, the fifth and fourth into which the octave is divided, and its final and dominant notes."  

Modality was a very old practice, but Vicentino attempted to keep fugal writing within the confines of an individual mode. Here the Renaissance theorist acknowledges a complete break with the theoretical views of...

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12Ibid., p. 15.


the Middle Ages. "Vincentino's theory of adapting the fugal technique to the modal system has thus become known in our terminology as the tonal answer."\textsuperscript{15}

The increased use of the tonal answer in the late sixteenth century may well be indicative of a growing feeling for tonal unity, but the use of the tonal answer was even then not habitual. Its use was a matter of convenience rather than conviction.\textsuperscript{16}

In Vicentino's writing, invertible counterpoint is mentioned for the first time. During this period the freer type of inversion was used, "since the intervals at which the answers enter are governed primarily by the initial notes allowed in the mode rather than by the intervals at which exact inverted imitation might take place."\textsuperscript{17}

Three years after Vicentino's writing, Gioseffo Zarlino, in his \textit{Istitutioni harmoniche}, designates the melodic line which is repeated in a carefully planned and varied manner as the term \textit{thema}. In this work, Zarlino was the first to distinguish between fugue and imitation.

According to Zarlino, the essential difference between fugue and imitation lies in the degree of accuracy with which interval progressions are maintained. If the sequence of intervals in one part is only generally followed in another part, Zarlino speaks of imitation; if the repetition of interval progressions is exact, Zarlino speaks of fugue.\textsuperscript{18}

Zarlino did not recognize the tonal answer as having a place in fugues. However, Zarlino does establish a distinction

\textsuperscript{15}Mann, \textit{op. cit.}, p. 18.
\textsuperscript{16}Horsley, \textit{op. cit.}, p. 73.
\textsuperscript{17}Ibid., p. 75.
\textsuperscript{18}Mann, \textit{op. cit.}, p. 23.
between strict and free species (ligate and sciolte) in both fugue and imitation. During the Renaissance the word fuga designated the imitative manner as well as the compositions in which this manner was applied. In its strictest sense, during this period the term fuga referred to a fugal exposition within a work.19

Pietro Ponzio's Raggiornamenti di musica (1588) is the first work which mentions the ricercare and its recurring use of the fugal principle. The earliest keyboard ricercares appear in a publication by Marcantonio da Bologna in 1523. These ricercares are more in the form of the prelude than in the strict contrapuntal form that is later called a ricercare.20 The first keyboard ricercares that were written in imitative counterpoint appeared in 1543 in Intavolatura per organo by Girolamo Cavazzoni. Here, "the rather free form used by Marcantonio is replaced by the systematic application of imitative counterpoint."21

Thomas Morley's Plain and Easy Introduction to Practical Music (1597) is an account of the changes in the concept of fugal writing during the course of the sixteenth century. This work is a summation of the fugal theory of the sixteenth century: "... the fugal theory of the Renaissance, ... traces techniques of composition from the strict canonic to

19Ibid., p. 31.
21Ibid., p. 46.
the free imitative manner and finally to the harmonically oriented fugal treatment of a theme."22

A great amount of freedom was allowed in the sixteenth-century fugal works, but during the seventeenth century there was a movement toward regularity in the exposition. As a result of Vicentino's work, there had been a gradual limiting of the possible notes allowed in each mode during the sixteenth century. The result of this was that by the beginning of the seventeenth century the regular initial notes of the subject were the tonic and dominant notes in each mode.23 Contrapuntal devices such as strettos, inversions, augmentations, and diminutions were all known and practiced by composers of the seventeenth century. Before this time stretto had been used extensively during the beginning part of fugal works, but by the late seventeenth century the device of stretto began to be saved until later in the fugue. There were two reasons for this: (1) so the listener could be well acquainted with the subject before the stretto came, and (2) the realization that because stretto was capable of being the climax of the fugue, it should come toward the end.

The fugal forms that led up to the fugue of Bach originated in the imitation of vocal forms. These forms were the source for the future development of both the fugue and sonata. The motet and the French chanson had served as prototypes for the ricercare and the canzona respectively. Both forms finally

22 Mann, op. cit., p. 31.
23 Horsley, op. cit., p. 158.
merged in the fugue of Bach's day, after the fugal procedure had crystallized in the late Baroque music. Another fore-runner of the fugue which flourished during the early and middle Baroque was the fantasia.

In general it may be said that the ricercare and fantasia were built on a theme or themes of sustained legato character. These themes were developed in continuous imitative counterpoint. . . [F]uga was the name used for pieces of this sort in Germany from the earliest years of the seventeenth century.

The strictly fugal ricercare, which was characterized by concise themes in long note values as used in the motet, could be either polythematic or monothematic. The first type consisted. . . of as many sections as there were themes; each one was stated in a short fugal exposition, but with occasional recurrences of the first theme in augmentation or diminution. . . . The second type. . . was the variation ricercare which subjected its theme to extensive variation in two distinct manners. In the first, the theme itself was modified rhythmically and melodically and stated in as many fugal expositions as there were variations. In the second, the theme was kept relatively constant, but was combined successively with new counter-subjects. The latter type came closest to the monothematic fugue of the Bach era.

"The canzona had livelier, more markedly rhythmic melodic material and composers tended to emphasize division of this material into sections." There were two types of canzonas: the keyboard canzona and the canzona for instrumental ensemble. The keyboard canzona and the ricercare gradually evolved toward the fugue, and the instrumental ensemble canzona evolved toward

26 Bukofzer, op. cit., p. 49.
27 Grout, op. cit.
the Baroque sonata. The keyboard canzona was less rigidly contrapuntal than the ricercare. It contained several contrasted sections of imitative and chordal texture. "The organ canzonas were forerunners of the fugue; these two terms were used synonymously in Germany as early as 1608. The ensemble canzonas eventually developed into the sonata da chiesa of the seventeenth century." Girolamo Frescobaldi, in the seventeenth century, "established the variation-canzona consisting of various fugal sections, each based on a free rhythmic variation of one theme and interspersed with transitional passages. His example was followed by Froberger, Kerll, Poglietti, and many other German composers, including Bach." The forerunners of the fugue, which were the keyboard canzona and the ricercare, continued their development and gradually changes were made, leading up to the fugue of the eighteenth century.

The restless discontinuity of the early Baroque canzona and ricercare gave way to...[an] evenly flowing polyphony which unified the individually contrasted parts. The themes...assumed a characteristic shape that remained valid for the entire part. Although usually differentiated by contrasting meters, the parts were bound together by the idea of variation.

28Ibid., p. 300.
29Ibid., p. 252.
By the end of the seventeenth century, it had become evident that the terms fugue and imitation needed redefining. Henry Purcell assumed this task of redefining these two terms. In his revision of John Playford's *Introduction to the Skill of Music*, there is a concise study of fugue: a summary of the ideas with which fugal writing was viewed as the music of the Baroque entered its final phase. Purcell recognized that fugue and imitation no longer held equal importance. Therefore, he subordinated one term to the other, calling imitation a "diminutive sort of Fugeing."  

As the seventeenth century progressed, the fugue gradually began to replace the ricercare. The essential differences between the fugue and the ricercare are apparent in late seventeenth-century works.

The fugue subject has a more definite melodic character and a livelier rhythm than the ricercare subject; the ricercare develops... without much variety or any marked climax, but the fugue drives ahead energetically to its close; the fugue has some short episodes... which are set off by a lightening of the texture and sometimes also by the use of sequences; whereas the ricercare has fewer such passages and those few were not sequential nor in any way different in texture from the rest of the piece. Moreover, the fugue has a tonal organization with a clear dominant-tonic relationship, while the conservative ricercare tends to stay closer to the old modal system.  

Among the centers for fugue writing between the first quarter of the seventeenth century and the time of Bach were Germany and Austria. In Vienna, Johann Jacob Froberger...  

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32 Mann, *op. cit.*, p. 46.  
33 Grout, *op. cit.*, p. 344.
(b. early seventeenth century, d. 1667) and Johann Kasper Kerll (1627-1693), and in central and northern Germany, Johann Pachelbel (1653-1706) and Dietrich Buxtehude (1637-1707), all helped to advance the art of fugal writing.

It was during this time that the concept of major-minor tonality was developing. This had a great effect on contrapuntal writing. "The absorption of tonality into counterpoint gave the melodic design and the contrapuntal texture unprecedented harmonic support."  

Much dissonance in the early seventeenth century was experimental; toward the middle of the century dissonance almost disappeared; then, in the last part of the Baroque, it returned, incorporated in a complex system of tonal organization.

With the establishment of the major-minor tonality, melodic dissonances could then be incorporated into the tonal system. The combining of harmony and counterpoint resulted in the harmonically saturated counterpoint of the late Baroque. In the relation between melody and chord progression, chord progression began to become more important. Tonality also provided a framework of harmony which made possible the extended forms of the late Baroque. These were put together "with temporary modulations to other keys allowed without sacrificing the supremacy of the principal key." The major-minor tonality

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34 Bukofzer, op. cit., p. 221.
35 Grout, op. cit., p. 274.
36 Bukofzer, op. cit.
37 Grout, op. cit.
established a system of chord relations between a tonal center and the other triads of the diatonic scale. This made possible the fugue of Bach's day, which was based on the principle of the supremacy of tonic and dominant relationship. The advent of the major-minor system had long been foreshadowed. The tendencies of a major-minor tonality may be found in music that was written in the latter half of the sixteenth century. "Rameau's Treatise on Harmony (1722) completed the theoretical formulation of the system, but it had existed in practice for at least forty years before." The rules which Rameau set up "outline a strict correspondence of tonic and dominant functions for theme and answer and thus reinterpret the melodic inaccuracy of the tonal answer as harmonic accuracy and logic."

The system of well-tempered tuning came into being during the period just before Bach. "The harmonic territory, which seventeenth-century fugal practice and theory explored, was fully conquered once the invention of equal temperament had been generally adopted." Several composers before Bach explored the use of equal temperament in their works. One of Pachelbel's sets of suites employs seventeen of the twenty-four keys that were available in the well-tempered system. At the advent of the establishment of the well-tempered tuning system, the pairing

38 Ibid.
39 Mann, op. cit., p. 50.
40 Ibid., p. 42.
of the prelude and fugue began to appear. Johann Krieger's *Anmutige Clavierübungen* is a collection of ricercares, preludes, and fugues. J. C. F. Fischer's *Ariadne musica Neo-organoedum* (1715) consists of twenty preludes and fugues in twenty different keys. This work is an immediate forerunner to Bach's *Well-Tempered Clavier*. There is also an earlier work by B. C. Weber which is constructed along the same lines as Bach's *Well-Tempered Clavier* and bears the same title.

A music theorist who influenced Bach as well as many other composers was Johann Josef Fux. In his *Gradus ad Parnassum* (1725), Fux presented a comprehensive summation of fugal teaching. In this work, Fux "confirmed the victory of the tonal fugue yet reconciled it with the traditional theoretical concepts that had guided the study of fugue from its beginning." His rules of counterpoint prevailed for two centuries. Although during two centuries of use there were some changes, "the original, in modern translation, still served Richard Strauss and Paul Hindemith in their teaching."

At a time in history when major-minor tonality had been established and equal temperament had been generally adopted, the development of counterpoint reached its zenith in Bach.

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42 Mann, op. cit., p. 53.
43 Ibid., p. 75.
The movement toward the major-minor tonal system caused changes in the subject-answer pair of the fugue.

Once the tonic and dominant keys were established as the basis of subject and answer, the subject could begin on any note of the scale without losing the feeling of the key, and, by the eighteenth century, the exposition was conceived as contrasting the subject and answer forms rather than as establishing mode by proper entry notes.45

"Coming on the scene at a crucial time in music history—that period when contrapuntal style began to merge with a predominantly harmonic style—Bach and his art reflect the image of that moment."46 Bach's contrapuntal writings form a crossroad at which influences from the north (Sweelinck, Buxtehude), the south (Pachelbel, Froberger, Vivaldi, Corelli), and the west (Couperin, Grigny) were gathered.47 "His masterful assimilation of these historical and geographical influences is total. Nevertheless, his own originality is ever present."48 Bach did not invent any new type of fugue, but he made the fugue "a contrapuntal form of the highest concentration in which a single characteristic subject in continuous expansion pervades a thoroughly unified whole."49 In his fugues, Bach achieves "variety in unity, the aim of all construction."50

45Horsley, op. cit., p. 159.
46Gillespie, op. cit., p. 130.
47Ibid.
48Ibid., p. 131.
49Bukofzer, op. cit., p. 287.
Although fugue achieved its ultimate in Bach, it did not end with Bach. "Since the fugue was a procedure, it has been used in different styles. The Classic fugues observed the procedure of the Baroque fugue, but not its style."51 The great master of the fugue after Bach is Beethoven, who in his works has shown that the potentialities of this form were not exhausted by the Baroque composers. By this time, however, fugue was no longer a dominant form. "Although fugues were still being written, there was not a strong, living tradition of fugue writing."52

Beethoven was greatly influenced by the Viennese Classical school, mainly Haydn and Mozart. "The Viennese composers, ... while for the most part no longer writing independent fugues, did not abandon the fugal style completely."53 The fugue was usually used for one movement in a composition or appeared in the shorter form of a fugato within a movement. "Quite frequently, the general homophony was relieved by a set of imitative entries for a few bars."54 Beethoven uses entries of this sort often in his piano music. In Beethoven's fugues, there are often longer modulating episodes than were used by the Baroque composers. There is only one of Beethoven's fugues that used stretto to any considerable degree; that is

51 Bukofzer, op. cit., p. 362.
54 Ibid., p. 180.
the finale of the Sonata in B flat, Op. 106. Stretto also occurs briefly in the finale of the Sonata in A flat, Op. 110. The device of diminution and augmentation is also used in the fugal section as a climax to a work, as in the Piano Sonata Op. 110 or in the String Quartet Op. 59, No. 3. There is one two-part Organ Fugue in D major which is an independent composition. This was composed in 1783. "Altogether Beethoven wrote about twenty-five fugues. The works of his master years contained many more strict fugues than during any other period."55 Beethoven was apt to treat a fugue theme in three ways that Bach did not. These were syncopation, retrograde motion, and interruption. These devices had been used by early fugue writers but had fallen out of use by Bach's time. In fact, among the standard examples of fugue form, it is clear that these devices were never considered as important as augmentation, diminution, and inversion.56 After Beethoven, composers rarely used the fugue as a serious art form.57

In Schubert's "Gloria" of the Mass music in A flat, completed at the same time as Beethoven's Mass in D, a dramatic "Quoniam" leads to a fugal Cum Sancto Spiritu on a lively subject. One of his most elaborate compositions is the Fantasia in C, called Der Wanderer, which has a concluding Allegro section with a fugal beginning. Here the fugue subject is stated in octaves.

57 Apel, "Fugue," p. 287.
Mendelssohn admired and performed Bach. Mendelssohn's fugues, however, are more melodic than contrapuntal. In the Variations sérieuses in d (Op. 54) of 1841, there is a chromatic fughetta. In the Characteristic Pieces, Op. 7, the Kraftig und feurig in D is a fugue with a long subject which makes use of stretto. The fifth of these Characteristic Pieces is Ernst und mit steigender Lebhaftigkeit, also called Fuga, which has a ricercare-like subject and a fully-developed countersubject. Diminution and augmentation are both employed here. Mendelssohn's Preludes and Fugues (Op. 35) of 1837 show an indebtedness to Bach. There is the use of fugue in the finales of Sonatas No. 2 and No. 6, as well as several individual sections of movements. But the fugal writing so important in the Beethoven sonata is not present very often in Mendelssohn.

Brahms also holds a place in the continuation of fugue after Bach. His twenty-five Variations for Piano (Op. 24) on a theme already varied by Handel eventually break into an extended fugue on a subject derived from the opening bars. Like Schubert, Brahms also sometimes writes fugue subjects in octaves. There is a fugue which ends the Sixth Chorus in the German Requiem, and the end of the Third Chorus is a double fugue. Two gigues and two sarabandes (1855), following eighteenth-century practice, are fugal and employ the use of inversion. There are also several fugues in Brahms' organ works. Two of these are sets of Preludes and Fugues.
In the music of Max Reger, there is an emphasis placed on Neo-Classicism or Neo-Baroque. Like the Baroque composers, he often pairs preludes and fugues. Reger's fugues resemble those of Bach. "In Reger's fugue composition, the influence of Bach can be seen, most immediately in the types of themes that are employed; two of Bach's favorite types are prominent: the fast figural kind, and the slow, frequently chromatic, ricercare type." Among Reger's works are the Fantasy and Fugue on B. A. C. H. (Op. 46) for organ and the Variations and Fugue on an Original Theme (Op. 73), also for organ. There is also a Passacaglia and Fugue (Op. 86) for two pianos. Reger's "upholding of the great traditions in composition, based mainly on a study of Bach's art," has earned him lasting respect.

From the middle of the sixteenth century to the early twentieth century, fugue was based on tonality and governed by the conventions of tonal structure. In the twentieth century, music was no longer necessarily organized within a fixed tonal system. "The only necessary limitation on the composer was the technique itself, the use of a short melodic theme, exact imitation, and whatever limitations the composer himself might impose." The work of Debussy "is distinctly a bridge between Classical and twentieth-century conceptions of tonality."

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58 Kirby, op. cit., p. 353.


60 Horsley, op. cit., p. 361.

61 Grout, op. cit., p. 604.
"The tendency of one tone to emerge and assert itself as the
tonal center is a phenomenon observable in music from a wide
variety of styles and periods. . . . Twentieth-century practices
have led to broader and freer concepts."62 "In much of the
music written during this century there is a perceptible tonal
center which, however weak by conventional standards, serves in
some degree to orient the flow of the sounds."63

Two of the major tendencies in twentieth-century music are
(1) the work of Schoenberg and his school, and (2) Neo-Classicism.
"Romanticism favored an increase in tension and in the number
of dissonances. Schoenberg went still further and suppressed
all relaxation of tension and all consonance."64 Schoenberg's
music has generally been called atonal, which means literally
"not tonal." However, Schoenberg's own term pantonal, meaning
"inclusive of all tonalities," seems to be a much more correct
description of his music.

Neo-Classical, or more correctly Neo-Baroque, tendencies
of present-day music such as are found in Hindemith's Ludus
Tonalis (1943), have stimulated a new creative interest in
fugue as a form of composition. Unlike Schoenberg, in
Hindemith's music there is a preference for mild dissonance.
"His control of the fluctuation of dissonance is a detail of
his technique, perfected by his systematic classification of

62 Leon Dallin, Techniques of Twentieth Century Composition

63 Ibid., p. 116.

64 Fred Goldbeck, "Twentieth-Century Composers and Tradition,"
Twentieth-Century Music, edited by Hollo H. Myers (New York,
all possible chords with respect to the intervals they contain." Hindemith considered tonality in music completely necessary. "In Book I of his *Craft of Musical Composition* (1937) Hindemith has made the most important attempt so far in the present century to establish a system of tonality intended to be generally valid for contemporary use." Speaking of the student of composition in the twentieth century, Hindemith, in *The Craft of Musical Composition*, Book I, says:

To the harmony and counterpoint he has already learned—which have been purely studies in the history of style: the one based on the vocal style of the sixteenth and seventeenth centuries, the other on the instrumental style of the eighteenth—he must now add a new technique, which, proceeding from the firm foundation of the laws of nature, will enable him to make expeditions into domains of composition which have not hitherto been open to orderly penetration.

Hindemith's *Ludus Tonalis* for piano consists of twelve fugues, one in each possible tonality, with eleven interludes, a prelude, and a postlude. As in *The Well-Tempered Clavier* by Bach, there is a plan in the arrangements of the tonalities, but the *Ludus Tonalis* is based on Hindemith's own ranking of tonalities as explained in his *Craft of Musical Composition*. The interludes in the *Ludus Tonalis* serve to modulate from one

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68Kirby, *op. cit.*, p. 403.
tonality to the next. The twelve fugues of the Ludus Tonalis resemble in many ways the forty-eight fugues of Bach's Well-Tempered Clavier, but Hindemith's counterpoint is dissonant as compared with Bach. As compared with the traditional fugue of the eighteenth century, Hindemith's contrapuntal technique employs new chords, new methods of using non-harmonic tones, new melodic idiosyncrasies, and the use of polytonality. But even with these differences in the contrapuntal styles of Hindemith and Bach, the twelve fugues of Hindemith's Ludus Tonalis have had a definite influence in the continuation of fugue since Bach.

CHAPTER III

THE EXPOSITIONS OF THE FUGUES IN THE WELL-TEMPERED CLAVIER

BY J. S. BACH

Undoubtedly the best known of Bach's keyboard works is the set of preludes and fugues called The Well-Tempered Clavier. Part I was completed at Göthen in 1722, and Part II was collected at Leipzig in 1744. Each part consists of twenty-four preludes and fugues, one prelude and one fugue in each of the twelve major and minor keys. "Part I is more unified in style and purpose than Part II, which includes compositions from many different periods of Bach's life."¹ In Part I, there seems to be a definite logic in the sequence of the numbers, for didactic purposes. Part II appears more to be a collection of pieces which were not conceived in relation to each other.²

Part II, which was composed over a span of years and collected later, seems to be a collection of the best clavier fugues from different periods of his life. There are a few differences of style between the two sets of preludes and fugues. The second set of preludes and fugues is more consistently diatonic than

the first. The first set contains more chromatic and experimental writing. There are not as many contrapuntal devices used in the fugues of the second set as in the first set. The fugues of the second set are written in a freer style than those in the first set. In the first set, eighteen fugues have recurring countersubjects and six do not; in the second set, there are twelve of each type. Another difference between the two sets is that the fugues in the first book of *The Well-Tempered Clavier* are more instrumental in character, whereas the second book contains several fugues that are vocal in character. There are exceptions to these differences in the two sets of preludes and fugues, but, on the whole, these observations hold true.

In addition to demonstrating the possibility, with the then novel tempered tuning, of using all the keys, Bach had particular didactic intentions. The teaching aims of *The Well-Tempered Clavier* go beyond mere technique, however, for the preludes exemplify different types of keyboard composition of the late Baroque. "The fugues, wonderfully varied in subjects, texture, form, and treatment, constitute a compendium of all the possibilities of concentrated, monothematic fugal writing."\(^3\) Each subject in Bach's clavier fugues is clearly defined and the entire fugue is felt to be a logical development.

"In most cases, the fugues of *The Well-Tempered Clavier* employ one subject and one countersubject."\(^4\) However, there

\(^3\)Grout, *op. cit.*, p. 390.

are some fugues in The Well-Tempered Clavier which have more than one recurring countersubject. There are also instances of the double and triple fugue, where two or three different subjects are presented independently and then combined contrapuntally later in the fugue. There are also instances of the opposite, in which there is no recurring countersubject, or in which the countersubject is the inversion or continuation of the subject, so that the whole piece is rigidly monothematic.\(^5\)

Noteworthy from the historical standpoint are the subjects in long, slow notes in the tradition of the ricercare (Part I: c-sharp, e-flat, f, f-sharp, and b-flat; Part II: E-flat, E, and b-flat). Themes related specifically to the old canzona are rare; an example is the Fugue in D (Part II).\(^6\)

The name Bach chose for his collection was inspired by the development of the well-tempered system which took place at the turn of the seventeenth century. Bach was not the first composer to profit from the improved method of tuning, but his work surpasses the achievements of his predecessors. Bach explored all the possibilities of the new system with a thoroughness no other composer had attempted.\(^7\) Only the first set of preludes and fugues originally bore the title The Well-Tempered Clavier, which has since been applied to both; the second set was merely designated as "Twenty-four new Preludes and Fugues" by the composer.

\(^5\)Ibid.
\(^6\)Ibid.
There are several technical procedures employed by Bach in constructing a fugue. The more important of these technical devices are augmentation, diminution, inversion, stretto, and the use of invertible counterpoint. Augmentation signifies the presentation of the subject in longer note values, and diminution in shorter note values. In inversion the theme is turned upside down, for example, going up a third where the original went down a third, and so on. Stretto occurs when the subject and answer are brought closer together, canonically (the combination of a theme with itself at one, two, or more measures of distance, and in different intervallic relationships). Stretto usually provides the moment of highest tension and climax, both structurally and emotionally. When the device of stretto is used, the theme of the fugue must be built especially to allow the use of stretto later in the fugue. When using the device of stretto, every note of the melody must make harmonic sense with others preceding it by a predetermined number of beats. Therefore, there is the difficulty of constructing a theme that will adhere to this condition several times; for example, beats three, four, and five must all fit one, harmonically, and each such relation must hold true for all subsequent notes. In invertible counterpoint, two voices are written so that either voice may be the upper or lower and still form good two-part writing. Triple counterpoint is also sometimes used in a fugue. In triple counterpoint, three voices are written so that any of the three voices may be in
any of the three positions (upper, middle, or lower) and still form good three-part writing.

A fugue exposition is the beginning section of the fugue during which each voice makes its first statement of the theme. Sometimes (usually when the first statement of the subject is made by an outer voice, soprano or bass), the exposition is extended to include one or more redundant entries for the purpose of showing the invertible counterpoint between the subject and countersubject. An exposition is considered "regular" or "normal" when invertible counterpoint is shown during the exposition. In some fugues, a brief codetta or extension of the exposition is necessary after the end of the last entry to bring the exposition to a closing cadence on the tonic or dominant, thus concluding the exposition on a strong cadence point and retaining the feeling of the key in which the fugue is written.

In Part I of The Well-Tempered Clavier, the formal construction of the fugues displays a great variety. There are fugues with three voices (Nos. 2, 3, 6, 7, 8, 9, 11, 13, 15, 19, and 21), four voices (Nos. 1, 5, 12, 14, 16, 17, 18, 20, 23, and 24), two voices (No. 10), and five voices (Nos. 4 and 22).

Bach's first fugue in Book One of The Well-Tempered Clavier is probably, of all the forty-eight fugues, the one richest in strettos, and in this respect, is a show piece of contrapuntal
This first fugue is a four-voice fugue in C major. The answer is real. The order of entries is alto, soprano, tenor, bass. There is no recurring countersubject in this fugue. For this first fugue, Bach starts off with an irregular exposition (Figure 4). The subject in the alto and its answer in the soprano are followed first by the answer in the tenor and then by the subject in the bass. The order of entries (alto, soprano, tenor, bass) is irregular. The tenor begins on the dominant as it would if it made its normal fourth entry. The key relationships (tonic, dominant, dominant, tonic) are irregular, but this is caused by the irregular order of entry of the voices. The subject of this fugue is fourteen notes long, and covers a span of one and a half measures. In studying the first and second countersubjects (not recurring ones) in the exposition, it may be observed that part of the second countersubject is an inverted form of the first. There are no interludes in the exposition. The exposition of this fugue would normally end on the first beat of measure seven. However, because the fourth entry ends in C instead of G, there are three redundant entries. An ending in the dominant is not achieved until the third beat of measure ten. Therefore, the exposition can be analyzed in two ways: (1) ending after four entries, but in the "wrong" key, the three additional entries being considered an episode modulating to the dominant, or (2) ending after seven entries, three of which are redundant, and in the "correct" key of the 

dominant. The first two of the redundant entries form a stretto at the fourth below. The subject of this fugue was built around the possibility of using it in stretto. There are six stretto sections in the fugue (three complete and three incomplete). A complete stretto occurs when all the voices take part and an incomplete stretto occurs when fewer voices take part.

Fig. 4--Bach, The *Well-Tempered Clavier*. Book One, Fuga I, measures 1-10.

The second fugue in Book One has been greatly praised for its contrapuntal skill. This fugue is a three-voice fugue in

C minor. The subject of this fugue requires a tonal answer. The order of voices is alto, soprano, bass. The regular countersubject of this fugue recurs constantly throughout the fugue. The exposition of the fugue is regular (Figure 5). The subject of this fugue does not permit the use of stretto. Therefore, more importance is laid on the recurring countersubject. The episodes are also of importance in this fugue, since they are built exclusively upon motives of the theme. These episodes occur frequently, and the first of them makes its appearance between the second and third entries in the exposition. This episode is required to modulate from G minor to C minor and is formed from the first part of the subject and from the first few notes of the countersubject in inversion, with both voices moving in an ascending sequence. An interlude of this nature is usually necessary for the purposes of modulating back to the tonic key when the answer ends in the minor dominant key. After this interlude, the subject is then stated by the bass. The exposition ends on the first beat of measure nine. Invertible and triple counterpoint are used several times in this fugue. The possibilities of this device had to be taken into consideration when the fugue subject was devised.
Fig. 5--Bach, The Well-Tempered Clavier, Book One, Fuga II, measures 1-9.

The third fugue in Book One is also a three-voice fugue. It is in the key of C sharp major. The subject of this fugue requires a tonal answer. The order of entries is soprano, alto, bass. There are two regular, recurring countersubjects in the exposition (Figure 6). The first countersubject is used regularly throughout the fugue, but the second countersubject is absent on four occasions. The subject of the fugue is two measures long and does not modulate. At measure five in the exposition, the third voice creates triple counterpoint which is expected to be used later in different order. After the statement of the subject in the bass voice, there is no redundant entry here which normally would occur (for the purpose of using the recurring countersubject to show the invertible
counterpoint in the exposition). The exposition ends on the first beat of measure seven. There is no stretto in this fugue, but invertible and triple counterpoint are used frequently. Bach often heightens the effect of the transposition of voices by additions and deviations of the subject and countersubject.

![FUGA III.](image)

Fig. 6—Bach, The Well-Tempered Clavier, Book One, Fuga III, measures 1-7.

Fugue Number Four in Book One is a five-voice fugue in C sharp minor. The answer to the subject in this fugue is real. In the exposition (Figure 7), the five voices enter in order, beginning with the bass voice, and then answered by the tenor voice. The subject is then stated by the alto voice, followed by an interlude. This is followed by the answer in the second soprano voice and then the subject in the first soprano. The countersubjects in the exposition are not recurring ones. The exposition ends on the first beat of measure eighteen. Later in the fugue the subject is accompanied by two recurring countersubjects. An important feature of this fugue is the deferred and therefore all-the-more-effective appearance of the two recurring countersubjects, their melodic independence, and
their treatment in stretto. The subject of this fugue is only five notes long. In the course of the fugue, the first and last notes of the subject are often changed in length, but the characteristic interval of the diminished fourth is always in its right place. This fugue is one of the longest in the whole collection of the forty-eight fugues, and one of the only two which are written in five voices. Although the fugue is written for five voices, the greater portion of the texture is in four and three voices because Bach chooses to save the full weight of his resources for crucial moments.

**FUGA IV.**

![Fugue IV](image)

*Fig. 7—Bach, The Well-Tempered Clavier, Book One, Fuga IV, measures 1-18.*

Fugue Number Five in Book One is a four-voice fugue in D major. This fugue has a real answer. The order of entries of the voices is bass, tenor, alto, soprano. There is no regular, recurring countersubject in this fugue. In the exposition (Figure 8), the subject is stated in the bass, followed by the answer in the tenor. This is followed by an interlude in measure three. Then the alto voice states the subject and is answered in the soprano. After all four voices have made their entry, there is an interlude in measure six,
which is followed by a redundant entry in the bass voice in the tonic key. The exposition ends on the first beat of measure eight. This fugue is one of the least contrapuntal of all the forty-eight fugues in The Well-Tempered Clavier. The harmonic implications of the combination of the voices are of greater importance than their independent roles. The fugue appears almost homophonic because two or three voices move almost continually in dotted rhythm in chord fashion. There are none of the usual contrapuntal devices used. The beginning part of the subject dominates the fugue from beginning to end, being found in every measure except measure three and the three concluding measures.

Fig. 8--Bach, The Well-Tempered Clavier, Book One, Fuga V, measures 1-8.
Fugue Number Six in Book One is a three-voice fugue in D minor. The answer in this fugue is a real answer. The order of entries is soprano, alto, bass. There is a regular, recurring countersubject in this fugue. In the exposition (Figure 9), the subject is stated by the soprano and then the answer in the alto is followed by an interlude in measure five, founded on the countersubject. The subject is then again stated by the bass voice. At measure seven in the exposition, something unusual occurs: the countersubject is transferred from the soprano to the alto voice half way through by reversing the leap on the first beat of the measure. The exposition ends on the first beat of measure eight. There would normally be a redundant entry here on the dominant. There is a redundant entry, but it is on E (the dominant of the dominant) instead of A (the dominant). This redundant entry is found in measures eight and nine, ending on the first beat of measure ten. This fugue contains strettos and inversions of the theme. The fugue subject yields itself easily to various devices. In using the device of inversion of the subject and answer, there are several instances of free (not strict) inversion of the subject and answer. There are six stretti in this fugue: one complete and five incomplete. The countersubject in this fugue is almost as important as the subject; there are not many measures in which the countersubject does not appear. The four episodes in this fugue are constructed from material taken from the countersubject.
Fugue Number Seven in Book One of *The Well-Tempered Clavier* is a three-voice fugue in E flat major. The subject of this fugue requires a tonal answer. The order of entries of the three voices is soprano, alto, bass. This fugue has a regular, recurring countersubject. In the exposition (Figure 10), the subject is first stated in the soprano voice and modulates from the tonic to the dominant. The little codetta (an arpeggio figure), with which the subject concludes, modulates back to tonic. This little codetta of the subject later gains independent thematic status and the fugue's five episodes are formed from this material. The answer is then stated in the alto voice, which is followed by a one-measure interlude, and then the subject is stated in the bass voice. Then after an interlude of four measures, there is a redundant entry of the
subject in the soprano voice to show the invertible counter-
point. The exposition ends on the third beat of measure
twelve. Special contrapuntal devices are conspicuous by
their absence in this fugue.

FUGA VII.

Fig. 10—Bach, The Well-Tempered Clavier, Book One,
Fuga VII, measures 1-12.

The fugue in D sharp minor is also a three-voice fugue.
The subject of this fugue requires a tonal answer. The order
of entries in the exposition (Figure 11) is alto, soprano, bass.
This fugue has no regular, recurring countersubject. There is
an interlude between the second and third entries in measures
six and seven. The exposition ends on the third beat of mea-
sure ten. There are strettos, inversions, and augmentations
of the subject in this fugue.
Fugue Number Nine of Book One is another three-voice fugue. It is in the key of E major. This fugue has a real answer. The order of entries is alto, soprano, bass. There is a recurring countersubject in this fugue. In the exposition (Figure 12), the answer in the soprano voice enters slightly before the conclusion of the subject in the alto. The alto voice then continues with the countersubject. The countersubject is very short and is used with only a small part of the subject. When the subject enters in the bass voice, the countersubject is altered somewhat. The exposition of this fugue ends on the first beat of measure six. This fugue is probably the shortest of all the forty-eight fugues in The Well-Tempered Clavier. There are no special contrapuntal devices used in this fugue.
The E minor fugue of Book One is the only two-voice fugue in The Well-Tempered Clavier. The answer in this fugue is real, even though under normal circumstances the answer would be tonal. The order of entries is soprano, bass. There is a recurring countersubject, which together with the subject, forms double counterpoint for almost all of the entire fugue. In the exposition (Figure 13), the subject is stated by the soprano and modulates from tonic to dominant. Although the subject modulates, there is neither a modulatory interlude nor is the answer tonal, by substitution of tonic for dominant and dominant for tonic. Frederick Iliffe states that the exposition of this fugue ends on the first beat of measure five.9 Since the answer is real instead of tonal, on the first beat of measure five there is an F sharp major chord (the dominant of the dominant) instead of what would have been an E minor chord (the tonic) if the answer had been tonal. Cecil Gray states that instead of a redundant entry of the subject, there is a redundant entry of

the countersubject here. This occurs in the bass voice, which has just stated the subject. Because of this unusual occurrence, the exposition is extended, and therefore ends on the first beat of measure seven.\(^\text{10}\)

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FUGA X.
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![Fugue X](image)

Fig. 13--Bach, *The Well-Tempered Clavier*, Book One, Fuga X, measures 1-7.

Fugue Number Eleven in Book One of *The Well-Tempered Clavier* is a three-voice fugue in F major. The subject of this fugue requires a tonal answer. The order of entries is alto, soprano, bass. The subject of this fugue runs smoothly into a recurring countersubject. The exposition (Figure 14) of this fugue ends on the first beat of measure thirteen. After the counter-exposition, the recurring countersubject that is found in the exposition no longer accompanies the subject en-

\(^{10}\)Gray, *op. cit.*, p. 43.
trances. However, this countersubject does provide most of the material for the three episodes in the fugue. This fugue, although it contains four stretto sections, is one of the simplest.

FUGA XI.

Fig. 14--Bach, The Well-Tempered Clavier, Book One, Fuga XI, measures 1-13.

The fugue in F minor is a four-voice fugue. The subject in this fugue requires a tonal answer. The order of entries is tenor, alto, bass, soprano. This fugue has three regular, recurring countersubjects, all of which are used during the exposition (Figure 15). The exposition of this fugue is regular (the invertible counterpoint being shown during the exposition). The subject of this fugue is a chromatic one and the chromatic nature of the theme is preserved in the answer. The tonal alteration in the answer at the beginning of the fugue, however, is not repeated at any of the later entries. In the exposition, the subject is first stated in the tenor, followed by a tonal answer in the alto, which is accompanied by the first countersubject. Then the subject appears in the bass voice, accompanied by the first and second countersubjects. This is followed by an interlude in measures ten, eleven, and
twelve. After the interlude, the subject is stated in the soprano, being accompanied by the first, second, and third countersubjects. The order of subject, answer, subject, subject in this fugue is unusual. The exposition would normally end on the second beat of measure sixteen, but this entry of the subject ends on the tonic instead of the dominant. Therefore, after another three-measure interlude, there is a redundant entry, ending on the dominant at measure twenty-two on the second beat. After the exposition, the theme appears only six times during forty-two measures, leaving a large space allotted to the episodes. There are six episodes in the fugue, employing the use of figures taken from the first countersubject and the first interlude of the exposition. There is no stretto in this fugue; the subject does not permit it.

Fig. 15—Bach, The Well-Tempered Clavier, Book One, Fuga XII, measures 1-22.
The F sharp major fugue has three voices. The subject of this fugue requires a tonal answer. The subject of the fugue has a downward motion melodically, and the order of entries is soprano, alto, bass. This fugue has a regular, recurring countersubject. In the exposition (Figure 16), after each of the three voices have entered, there is an interlude of four and a half measures in length, which modulates from tonic to dominant. After this interlude there is a redundant entry of the subject in the soprano voice and in the tonic key. The order of entry (soprano, alto, bass) requires a redundant entry. During this redundant entry, the subject is modified very slightly in measure twelve. The exposition ends on the third beat of measure thirteen. In the interlude which begins at measure seven in the exposition, there enters a figure in the soprano voice, which then appears in the alto, and then in the bass. This figure gains importance and almost monopolizes attention up to the end of the fugue. During the redundant entry in the exposition, this figure accompanies the subject and countersubject. There are no elaborate contrapuntal devices used in this fugue.
Fugue Number Fourteen in Book One is a four-voice fugue in F sharp minor. This fugue has a real answer. The order of entries in the exposition (Figure 17) is tenor, alto, bass, soprano. There is a recurring countersubject which faithfully accompanies the theme in the exposition, and is also repeatedly employed in the episodes. The countersubject remains prominent throughout the fugue. In the exposition, after the subject is stated in the tenor and answered in the alto, there is a short interlude in measure seven. Then between the third and fourth entries in the exposition, there is a long interlude (measures eleven through fourteen). Taking into consideration the length of the subject, however, this interlude is not unduly long. The exposition ends on the first beat of measure eighteen. This is an unusually long exposition, largely because of the length of
the subject. The order, subject, answer, subject, subject in the exposition, instead of subject, answer, subject, answer, is unusual. Inversion is used on two occasions in the fugue (but not during the exposition). No augmentation, diminution, or stretto is used in this fugue.

FUGA XIV.

Fig. 17--Bach, The Well-Tempered Clavier, Book One, Fuga XIV, measures 1-18.

Fugue Number Fifteen in Book One is a three-voice fugue in G major. A real answer is used in this fugue. The order of entries in the exposition (Figure 18) is soprano, alto, bass. There is a recurring countersubject, but it appears somewhat late, not until the second half of the second measure of the answer. There is an interlude in measures nine and ten between the second and third entries. The exposition ends on the first beat of measure fifteen. There are several instances of inversion in the fugue and three strettos.
Fig. 18—Bach, The Well-Tempered Clavier, Book One, Fuga XV, measures 1-15.

Fugue Number Sixteen in G minor is a four-voice fugue, requiring the use of a tonal answer. The order of entries is alto, soprano, bass, tenor, each accompanied by a regularly recurring countersubject. The countersubject is made up of the second half of the subject inverted, followed by the first half of the subject inverted. There is an interlude in measure four, between the second and third entries of the theme. The exposition (Figure 19) ends on the first beat of measure eight. There are two stretto sections in the fugue (both incomplete).
Fig. 19--Bach, *The Well-Tempered Clavier*, Book One, Fuga XVI, measures 1-8.

The seventeenth fugue in Book One is a four-voice fugue in A flat major. The subject of this fugue requires a tonal answer. The order of entries in the exposition (Figure 20) is tenor, bass, soprano, alto. This fugue has a recurring countersubject, but only twice in the fugue does it appear exactly the same way as it does when it makes its appearance the first time in the exposition. Most of the time the countersubject is altered and sometimes even absent. Many times the only way an appearance of the countersubject resembles its first appearance in the exposition is the rhythmic characteristic of the flowing groups of sixteenth notes.\(^{11}\) When the subject is stated in the soprano voice in the exposition, the countersubject is altered; and during the last statement in the exposition of the answer by the alto voice,

\(^{11}\)Gray, p. 61.
the countersubject is absent. The five episodes in the fugue are, for the most part, founded upon the free countersubject. The answer in this fugue, which is tonal, with the tonic replying to the dominant, and vice versa, seems to remain in the same key, instead of being in the dominant. However, the final note of the subject is the fifth of the tonic, and the final note of the answer is the fifth of the dominant. There is an interlude between the second and third entries in the exposition. The exposition ends on the second beat of measure seven. There are some instances of triple counterpoint in this fugue.

**FUGA XVII.**

![Fugue XVII](image)

**Fig. 20—Bach, The Well-Tempered Clavier, Book One, Fuga XVII, measures 1-7.**

Fugue Number Eighteen in Book One is a four-voice fugue in G sharp minor. The subject of this fugue requires a tonal answer. The order of entries in the exposition (Figure 21) is tenor, alto, soprano, bass. The recurring countersubject is a derivative of the opening notes of the subject, and it is treated as a continuation of the subject. The countersubject is absent
on three occasions during the fugue (but not during the exposition). The exposition ends on the first beat of measure nine.

The most outstanding characteristic of the subject of this fugue is its concluding six-note phrase, with its drop of a fifth at the end. This motive sometimes becomes detached from the rest of the subject and is treated as a subject in itself later in the fugue. There are no stretto sections in this fugue or other special contrapuntal devices.

Fugue Number Nineteen in Book One is a three-voice fugue in the key of A major. The subject of this fugue requires a tonal answer. The order of entries in the exposition (Figure 22) is soprano, alto, bass. There is no recurring countersubject in the exposition. However, a recurring countersubject does appear later in the fugue. There are several unusual characteristics of this fugue. The subject of the fugue is very different from that of any other of the forty-eight fugues, beginning with an isolated note before it continues. The subject ends on the next-to-the-last note of the second measure. One unusual feature of the exposition is that the tonal answer (in the alto voice) enters before the subject (in the soprano voice) is
completed. Therefore, the fugue actually begins with a stretto. Another unusual feature of this fugue is that after the three voices have made their entries (subject in the soprano, answer in the alto, subject in the bass), the bass appears to make another entry, giving the answer to the subject it has just stated. The exposition of the fugue then ends on the last beat of measure seven. Still another unusual feature of this fugue is that there is no regular, recurring countersubject until halfway through the fugue (in measure twenty-three). This countersubject dominates the second part of the fugue. During the fugue, the subject is found only twice in the soprano voice (measures one and nine). After that it disappears from the soprano voice. There is no stretto in this fugue other than in the beginning of the fugue.

FUGA XIX.

Fig. 22--Bach, The Well-Tempered Clavier, Book One, Fuga XIX, measures 1-7.

Fugue Number Twenty in Book One is a four-voice fugue in A minor. This fugue has a real answer. The order of entries in the exposition (Figure 23) is alto, soprano, bass, tenor. There is no regular countersubject in this fugue, although the first and third measures of the part which accompanies the
answer play a fairly important role. In the exposition, the subject is first stated in the alto voice, and answered in the soprano, followed by a short interlude in measure seven. Then the subject is stated in the bass voice, followed by the answer in the tenor. The exposition ends on the first beat of measure fourteen. This fugue is one of the longest in all of the forty-eight, is rich in contrapuntal devices, and uses extensively the devices of inversion and canonic stretto.

FUGA XX.

Fig. 23—Bach, The Well-Tempered Clavier, Book One, Fuga XX, measures 1-14.

Fugue Number Twenty-One of Book One of The Well-Tempered Clavier is a three-voice fugue in B flat major. This fugue has a tonal answer. The order of entries in the exposition (Figure 24) is soprano, alto, bass. This fugue has two regular, recurring countersubjects, both occurring in the exposition. After the first statement of the subject in the
soprano voice, the answer in the alto is accompanied by the first countersubject in the soprano. The subject is then stated in the bass voice, while being accompanied by the first countersubject in the alto and the second countersubject in the soprano in triple counterpoint. At measure thirteen there is a redundant entry in the soprano voice stating the answer. This statement of the answer is accompanied by the first countersubject in the bass and the second countersubject in the alto voice. The exposition ends on the first beat of measure seventeen. There are many examples of triple counterpoint in this fugue, made possible by combinations of the subject and the two countersubjects. One interesting feature of this fugue is that the second episode is an inversion of the first episode. There is no stretto in this fugue.

FUGA XXI.
Fugue Number Twenty-Two in Book One is a five-voice fugue in the key of B-flat minor. The subject of this fugue requires a tonal answer. The order of entries in the exposition (Figure 25) is first soprano, second soprano, alto, tenor, bass. There is no recurring countersubject in this fugue. In the exposition, the answer in the second soprano voice begins before the subject is completed in the first soprano. There is an interlude at measures five through nine, in which the second soprano imitates the first soprano at a fourth below. Following the interlude, the subject is stated in the alto. Here the ending of the subject is changed slightly. This is followed by the answer in the tenor. The subject is then stated in the bass voice, and is again changed slightly at the end. The sixth note of the subject is on five occasions altered to major instead of minor. Two of these instances occur in the exposition (the last two statements of the theme by the tenor and bass voices). The exposition ends on the first beat of measure seventeen. There are two complete stretto sections in this fugue.
Fugue Number Twenty-Three in B major is a four-voice fugue, requiring the use of a tonal answer. The order of entries is tenor, alto, soprano, bass. There is a regular, recurring countersubject. In the exposition (Figure 26), after the statement of the subject in the tenor and the answer in the alto, the subject is then stated in the soprano. There is a suspension figure at the end of this statement of the subject which delays the last note of the subject slightly. The end of the countersubject is also altered somewhat here. This statement of the subject in the soprano is answered by the bass voice. Here again the end of the countersubject is altered slightly. The exposition ends on the first beat of measure nine. After the exposition, the countersubject is used only once in its entirety, and that is near the end of the fugue. However, the countersubject furnishes the material for the fugue’s two episodes and also the coda at the end of the fugue.
There is no stretto in this fugue. The interest of the fugue centers around the recurrence and inversion of the subject.

FUGA XXIII.

Fig. 26--Bach, *The Well-Tempered Clavier*, Book One, Fuga XXIII, measures 1-9.

The last fugue in Book One of *The Well-Tempered Clavier* is a four-voice fugue in the key of B minor. The answer in this fugue is tonal. The order of entries is alto, tenor, bass, soprano. This fugue has a regular, recurring countersubject which begins with the last note of the subject. In the exposition (Figure 27), the subject is stated first by the alto and answered in the tenor. The answer is accompanied by the regular, recurring countersubject which begins three beats after the subject. There is an interlude in measures seven and eight, modulating from tonic to dominant. Then the subject is stated in the bass voice, accompanied by the countersubject which changes from the alto voice to the tenor voice half way through. The first half of the countersubject is inverted here. This is followed by a short interlude in
measure twelve. The answer is then stated in the soprano. Here again the countersubject changes voices half way through, from the tenor to the bass voice. The first half of the countersubject is also inverted again here. There is an extension of the answer in measure sixteen. The exposition ends here, on the third beat of measure sixteen. The last phrase of the countersubject gains importance during the fugue and becomes almost as important as the subject itself. The countersubject furnishes the material for the four episodes in the fugue. There are three stretti in this fugue (one complete and two incomplete). Considering the slow tempo of this fugue, it is probably the longest of the whole work. The chief interest of this fugue is in its use of the chromatic melody and harmony. “Its emotional chromaticism links it up with the world of Wagner's Tristan, while its harmonic clashes and frequently angular melodic writing have clearly influenced Schönberg.”

\[\text{Gray, p. 75}\]
The fugue which more than any other seems to represent and sum up the first book is the last fugue in the book, the B minor fugue. This B minor fugue looks forward to Wagner and Schönberg. The peak or summit of the second set is the E major fugue. This fugue looks backward into the past, towards Palestrina and his predecessors and even to Gregorian chant. "The first collection exemplifies best the futurist, forward-reaching aspect of Bach's genius, and the second the retrospective."¹³

In Part II of The Well-Tempered Clavier, there is not as great a variety in the number of voices used as in Part I. In Part II, the number of voices are restricted to three (Nos. 1, 3, 4, 6, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, and 24) or four (Nos. 2, 5, 7, 8, 9, 16, 17, 22, and 23). There are five fugues (Nos. 1, 3, 6, 15, and 17) in Part II of The Well-Tempered Clavier that existed in an earlier form.

The first fugue in Book Two of The Well-Tempered Clavier is a three-voice fugue in C major. The subject of this fugue requires a tonal answer and the order of entries of the voices

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¹³Ibid., p. 80.
is alto, soprano, bass. There is no recurring countersubject. This fugue in C major existed in an earlier form, a short version, and in common time instead of two-four time. It may be found in the *Bachgesellschaft*, XXXVI, 224. The subject of this fugue is four measures long. The subject centers around F instead of C, and the first part of the answer seems to be in C instead of G. After the three statements of the theme (subject, answer, subject), the exposition (Figure 28) ends on the first beat of measure thirteen. There is no stretto in this fugue.

![Fig. 28--Bach, The Well-Tempered Clavier, Book Two, Fuga I, measures 1-13.](image)

The second fugue in Book Two is a four-voice fugue in C minor. The subject of this fugue also requires a tonal answer. The order of entries in the exposition (Figure 29) is alto, soprano, tenor, bass. Also like the first fugue in Book Two, there is no recurring countersubject in this fugue. The subject of this fugue is one measure long and is stated first by the alto voice, followed by the answer in the soprano. In measure three there is an interlude which modulates
from G minor to C minor. Then the subject is stated in the tenor voice, followed by an interlude that modulates from C minor, through the harmonies of G minor, F minor, B flat major, and back again to C minor. In measure seven the bass voice enters with the answer. The exposition ends on the first beat of measure eight. The order of entries (alto, soprano, tenor, bass) in the exposition is unusual, but the key relationships of tonic, dominant, tonic, dominant are maintained. The subject of this fugue is constructed with the use of strettos and combinations with itself in augmentation and in inversion in mind.

FUGA II.

Fig. 29--Bach, The Well-Tempered Clavier, Book Two, Fuga II, measures 1-8.

Fugue Number Three in Book Two is a three-voice fugue in the key of C sharp major. A tonal answer is used in this fugue. The order of entries of the voices in the exposition (Figure 30) is bass, soprano, alto. This fugue has no regular, recurring
countersubject. This fugue was originally written in C major. The earlier version may be found in the Bachgesellschaft, XXXVI, 225. This earlier version in C major is only about half the length of the present fugue in C sharp major—nineteen measures as compared with thirty-five. The subject of this fugue is only four notes long. In the exposition, the subject is stated first by the bass voice, followed by the answer in the soprano. Then the subject is stated in the alto voice by inversion. This is followed by a short interlude in measure three. After the interlude, the subject is stated in the soprano, followed by the answer in the alto. Then the answer is stated in the bass voice, but beginning on the tonic note instead of the dominant. The answer then appears in the soprano by diminution, followed by the answer in the alto by diminution. At the beginning of measure six, the subject appears in the bass by diminution and inversion. Then there is a brief interlude modulating from A sharp minor to the dominant, G sharp major, and the exposition ends on the first beat of measure seven. The exposition is immediately followed by a counter-exposition. The exposition of this fugue is unusual in many ways. First of all, the three voices state the subject or answer more than once during the course of the exposition, and some of these statements are in diminution or inversion. Later in the fugue, augmentation of the subject is also used. The order of subject, answer, subject, subject, answer, answer, answer, answer, subject is unusual. The usual order would be to alternate subject and answer each time. The order of voices making the entrances is also unusual
These entrances of the voices represent three different orders of entry and three different combinations of the statements of the subject and answer. The key relationships are: tonic, dominant, tonic; tonic, dominant, tonic; supertonic (dominant of the dominant), submediant (dominant of the dominant of the dominant), dominant. The possibilities of the devices of stretto, inversion, diminution, and augmentation were taken into consideration when the subject of this fugue was devised. In the four stretto sections in the fugue, inversion is always present.

\[ \text{Fig. 30--Bach, The Well-Tempered Clavier, Book Two, Fuga III, measures 1-7.} \]

Fugue Number Four of Book Two is a three-voice fugue in C sharp minor. The subject of this fugue has a real answer. The order of entries in the exposition (Figure 31) is bass, soprano, alto. This fugue has no recurring countersubject. The theme of this fugue is composed entirely of sixteenth
notes running along in an unbroken line. Between the second and third entries in the exposition, there is a brief transition in measure four modulating from the dominant back to tonic. Following the third entry, a statement of the subject by the alto voice, the exposition ends on the third beat (or the seventh sixteenth note in twelve-sixteen time) of measure six with a cadence on the tonic. The episodes in this fugue constitute more than half of the fugue. Besides the theme in its original form, rich use is made of it in inversion. Most of the time the inversions of the theme are free. There is no stretto in this fugue. The interest of the fugue always centers around the subject.

FUGA IV.

Fig. 31—Bach, The Well-Tempered Clavier, Book Two, Fuga IV, measures 1-6.

The fifth fugue in Book Two of The Well-Tempered Clavier is a four-voice fugue in the key of D major. There is a real answer in this fugue. The order of entries in the exposition (Figure 32) is tenor, alto, soprano, bass. There is no recurring countersubject. Instead of a regular, recurring countersubject, the last four notes of the subject accompany the theme during the exposition. There is a short interlude
in measure four between the second and third entries. Then when the subject is stated in the soprano, followed by the answer in the bass, the first stretto occurs. The exposition ends on the third beat of measure seven. This fugue in D major explores over and over again the various possibilities of overlapping entrances of the theme. Rhythmically and melodically, the theme of this fugue is suitable for forming counterpoint to itself in stretto. There are six stretto sections in this fugue. From the first measure to the last the entire fugue evolves from the subject. The subject appears at least once in every measure except two out of fifty. The four episodes in the fugue are all constructed on the last four notes of the subject, the same figure which accompanies the subject during the exposition. This short melodic figure is used many times throughout the fugue.

Fig. 32—Bach, The Well-Tempered Clavier, Book Two, Fuga V, measures 1-7.

The D minor fugue in Book Two is a three-voice fugue. There is a real answer in this fugue. The order of entries is alto, soprano, bass. This fugue does have a regular countersubject. This D minor fugue is another fugue which
existed before in a slightly different version before being incorporated in the present collection. The original version may be found in the *Bachgesellschaft, XXXVI, 226*. The subject of this fugue is characterized by the upward moving triplets, followed by a chromatic line of notes moving in a downward direction. In the exposition (Figure 33), the subject is stated in the alto and followed by the answer in the soprano. There is an interlude in measure five which modulates from A minor to D minor. Inversion of the subject is used in this interlude. Then after the statement of the subject by the bass voice, the exposition ends on the first beat of measure eight. After the exposition, the subject is used only twice in its complete form. The countersubject that accompanies the subject during the exposition disappears after the exposition except on two occasions. There are four examples of stretto in this fugue.

Fig. 33—Bach, *The Well-Tempered Clavier*, Book Two, Fuga VI, measures 1-8.
Fugue Number Seven in Book Two is a four-voice fugue in E flat major. The subject of this fugue requires a tonal answer. The order of entries is bass, tenor, alto, soprano. There is no recurring countersubject in this fugue, the main interest of the fugue consisting in the entries of the subject and its answer, sometimes in stretto. There are two stretto sections in this fugue. The subject of this fugue is very long (more than six measures in length). Because of the length of the subject, the exposition (Figure 34) is unusually long. In the exposition, the statement of the subject by the bass and the answer in the tenor are followed by a short transition modulating from the dominant to tonic at measure thirteen. Then the subject is stated in the alto voice, followed by another short transition in measure twenty. Then the soprano voice states the answer. The exposition would normally end on the first beat of measure twenty-seven, but a strong cadence is not achieved until the first beat of measure thirty. This is a cadence on the dominant.
Fugue Number Eight in Book Two is a four-voice fugue in D sharp minor. There is a real answer in this fugue. The order of entries in the exposition (Figure 35) is alto, tenor, bass, soprano. There is a recurring countersubject in this fugue. Between the second and third entries in the exposition there is an interlude in measures five and six which modulates from A sharp minor to D sharp minor. Then after the statement of the subject by the bass voice and the answer by the soprano voice, the exposition ends on the first beat of measure eleven. Concentration on the subject is the main characteristic of this fugue. The recurring countersubject is sharply differentiated from the subject, but is also very homogeneous in mood with the subject. During the first part of the fugue this countersubject is very prominent, but it is not used regularly throughout the fugue. The last appearance of this countersubject is in measure twenty-one. After this it disappears. There is one stretto section in the fugue.

Fig. 34--Bach, The Well-Tempered Clavier, Book Two, Fuga VII, measures 1-30.
Fugue Number Nine of Book Two is a four-voice fugue in the key of B major. This fugue has a real answer. The order of entries in the exposition (Figure 36) is bass, tenor, alto, soprano. There is a recurring countersubject in this fugue. There is no interlude in the exposition. The subject is stated in the bass voice, followed by the answer in the tenor. Then the subject is stated in the alto, followed by the answer in the soprano. The exposition ends on the second beat of measure seven. The recurring countersubject in this fugue disappears after the exposition until it is resumed again in measure thirty-six in the soprano voice. After this the countersubject accompanies the entry of the theme to the end of the fugue. This fugue employs various types of stretto, including augmentation and diminution of the theme. There are five stretto sections in this fugue. The first two episodes in the fugue are built on the countersubject; the last two are based on the subject.
Fugue Number Ten in Book Two of The Well-Tempered Clavier is a three-voice fugue in E minor. A real answer is used in this fugue. The order of entries is soprano, alto, bass. This fugue has a recurring countersubject. This countersubject can be divided into two clearly defined and contrasted sections, and these tend to function separately in the course of the fugue.

The subject of this fugue is six measures long. In the exposition (Figure 37), the subject is first stated by the soprano, followed by a real answer in the alto, which is accompanied by the countersubject. Then during the statement of the subject by the bass voice, both the alto and soprano voices are used in a combined effort to state the countersubject that accompanies the subject here. The exposition ends on the third beat of measure eighteen. There is not a redundant entry in the soprano voice as would usually be the case in order to show the invertible counterpoint. There are no strettos or other special contrapuntal devices in this fugue, and the order of keys is
the simplest possible. This fugue has the longest subject of any of the forty-eight fugues, so there is less opportunity than usual for the use of contrapuntal devices.

FUGA X.

Fig. 37—Bach, The Well-Tempered Clavier, Book Two, Fuga X, measures 1-18.

Fugue Number Eleven of Book Two is a three-voice fugue in F major. The subject of this fugue requires a tonal answer. The order of entries of the voices is soprano, alto, bass. There is no regular, recurring countersubject in this fugue, yet the absence of it is scarcely noticeable, mainly because
of the nature of the theme itself. The subject is characterized by three upward leaps, each one higher, and then a descent in the line of notes. In the exposition (Figure 38), the statement of the subject in the soprano and the answer in the alto is followed by an interlude of five measures that modulate from C major, through G minor, B flat major, D minor, and back to F major. This modulation is accomplished by the use of sequence, gradually moving upward. This interlude furnishes the material for the episodes later in the fugue. After this interlude, the subject is then stated in the bass voice, ending on the first beat of measure eighteen. Ordinarily, this would be followed by a redundant entry in the soprano to show the invertible counterpoint, but something rather unusual occurs instead. Following the statement of the subject by the bass voice is an interlude of three measures, and then the bass voice states the answer, ending on the first beat of measure twenty-five. Therefore, there are two analyses possible. One may consider the exposition as ending on the first beat of measure eighteen, not including the statement of the answer by the bass voice. Or one may consider the exposition as ending on the first beat of measure twenty-five, including the statement of the answer by the bass voice (taking the place of the usual redundant entry in the soprano voice). There are two interludes in the exposition and three episodes in the fugue. In comparison with each other, the interludes and episodes greatly outweigh (in the number of measures) the thematic work in this fugue. There are thirty-four measures of thematic work and sixty-two measures of
interludes and episodes. There are no strettos, diminutions, augmentations, inversions, or any other usual fugal devices in this fugue.

Fig. 38—Bach, The Well-Tempered Clavier, Book Two, Fuga XI, measures 1-25.

The twelfth fugue in Book Two of The Well-Tempered Clavier is a three-voice fugue in F minor. The subject of this fugue has a tonal answer. The order of entries is soprano, alto, bass. There is no regular, recurring countersubject in this fugue. In the exposition (Figure 39), the statement of the subject by the soprano voice and the answer in the alto voice are followed by an interlude in measures eight, nine, and ten. This interlude modulates from C minor to F minor, and this is accomplished by the use of sequence. After the interlude, the subject is stated in the bass voice. There would normally be a redundant entry in the soprano voice here, but in this fugue there is not. The exposition ends on the first beat of measure
fifteen. There are no stretti or other special contrapuntal devices in this fugue.

Fig. 39--Bach, The Well-Tempered Clavier, Book Two, Fuga XII, measures 1-15.

The F sharp major fugue is a three-voice fugue. A real answer is used in this fugue. In the exposition (Figure 40), the subject is stated first in the alto voice, followed by the real answer in the soprano. Then the subject is stated in the bass voice. There is a recurring countersubject in this fugue which becomes almost as important as the subject. The exposition of the fugue ends at the end of the twelfth measure. This fugue employs triple counterpoint, but this does not occur during the exposition. After the exposition, there is an episode which is based on a portion of the subject combined with two new figures which form a triple counterpoint. This triple counterpoint is also used in the third episode. All six possible positions of the triple counterpoint are employed in the first and third episodes. The second and fourth episodes are formed from the first half of the countersubject. There is no stretto
in this fugue. The main point of interest in this fugue is the triple counterpoint.

FUGA XIII.

Fig. 40—Bach, The Well-Tempered Clavier, Book Two, Fuga XIII, measures 1-12.

Fugue Number Fourteen in Book Two is a three-voice fugue in F sharp minor. In this fugue, the subject requires a tonal answer. The order of entries in the exposition (Figure 41) is alto, soprano, bass. There is no recurring countersubject in this fugue. Between the second and third entries there is an interlude in measures seven and eight modulating from C sharp minor to F sharp minor. Then after the statement of the subject by the bass voice, the exposition ends on the third beat of measure eleven. Triple counterpoint furnishes the climax in this fugue, but this does not occur until near the end of the fugue.
The G major fugue of Book Two is another three-voice fugue. The subject of this fugue requires a tonal answer. The order of entries in the exposition (Figure 42) is soprano, alto, bass. There is no recurring countersubject in this fugue. This fugue in G major is another one of which there was an earlier version. In its original form it was called a "fughetta." This earlier version may be found in the Bach-gesellschaft, XXXVI. In the exposition, the subject is first stated in the soprano voice, followed by an interlude of two measures modulating from G major to D major. Then there is the tonal answer in the alto, after which there is another interlude of two measures which modulates from D major to G major. After this interlude the subject is stated in the bass. The exposition ends on the first beat of measure twenty. There is no redundant entry in the soprano voice here as would normally occur. The interludes in the exposition are of great importance for modulatory purposes. This fugue is constructed in a very concise manner. The first section of the fugue takes the theme regularly through the three voices. The second section
introduces the theme only in the bass and soprano. The third section states the theme only in the alto. The theme of the fugue is very long (five measures in sixteenth notes), and is not suitable for frequent repetition. The subject is not typically fugal, but is of an arpeggio formation.

The fugue in G minor in Book Two is a four-voice fugue. The subject of this fugue requires a tonal answer. The order of entries in the exposition (Figure 43) is tenor, alto, soprano, bass. This fugue does have a recurring countersubject. Following the entry of all four voices in the exposition, there is an interlude modulating from D minor to G minor, after which there is a redundant entry of the tenor in measure twenty to give the tenor an opportunity to appear with the recurring

---

*Fig. 42--Bach, The Well-Tempered Clavier, Book Two, Fuga XV, measures 1-20.*
countersubject. The exposition then ends on the second beat of measure twenty-four. An unusual feature of the subject of this fugue is the repetition of a single note seven times. The rest of the subject tends to pivot around the third of the key. The recurring countersubject is strongly contrasted to the subject. There are many instances of invertible counterpoint in this fugue between the subject and the countersubject. The countersubject is capable of invertible counterpoint at the octave, the tenth, and the twelfth. The six episodes in this fugue are founded upon the countersubject. There is no stretto in the fugue as far as the subject is concerned, but toward the end of the fugue there is a passage of stretto based on the countersubject.

FUGA XVI.
The fugue in A flat major in the Second Book is a four-voice fugue. The subject of this fugue has a tonal answer. The order of entries in the exposition (Figure 44) is alto, soprano, tenor, bass. This fugue has two strongly contrasted, recurring countersubjects, both occurring during the exposition. One of these countersubjects is a smooth, descending chromatic figure and is, for the most part, carried out in a strict manner throughout the fugue and is usually retained in its original form. The second countersubject consists of groups of smoothly running sixteenth notes and is treated in a free manner throughout the fugue. This fugue is another one that existed in an earlier form. It was also a fughetta in its earlier form and was only twenty-four measures in length as compared to the fifty measures of this later version. The original version was written in F major instead of A flat major. In the exposition of the present version of the fugue, the subject is stated in the alto,
followed by the tonal answer in the soprano. There is a short interlude in measure five modulating from E flat major to A flat major. After the interlude, the subject is stated in the tenor, and then answered in the bass. The exposition ends on the first beat of measure ten. The order in which the voices make their entrances in the exposition (alto, soprano, tenor, bass) is unusual, the usual order being alto, soprano, bass, tenor. The key relationships of tonic, dominant, tonic, dominant are still in the usual order. This is a fairly long fugue, and yet there are only two short episodes in the rest of the fugue (after the exposition). This fugue is based upon triple counterpoint formed by the combination of the subject with the two contrasting countersubjects.

Fig. 44--Bach, The Well-Tempered Clavier, Book Two, Fuga XVII, measures 1-10.

Fugue Number Eighteen in Book Two is a three-voice fugue in G sharp minor. The subject of this fugue has a real answer. The order of entries is soprano, alto, bass. There is a recurring countersubject in this fugue. In the exposition (Figure
45), the entrance of the subject in the soprano voice is followed by the real answer in the alto, with the recurring countersubject in the soprano. Then there is an interlude in measures nine through twelve which modulates from D sharp minor, to B major, and then to G sharp minor. The subject is then stated in the bass voice with the recurring countersubject absent on this occasion. Following the statement of the subject by the bass voice, there is an interlude modulating from B major to G sharp minor. Then in measure nineteen, there is a redundant entry of the subject in the alto voice, accompanied by the recurring countersubject in the bass voice. This redundant entry is unusual because it would ordinarily be made in the soprano voice since the soprano voice was the first to enter in the exposition. The exposition ends on the first beat of measure twenty-three. The interludes in the exposition are of great importance as far as modulatory purposes are concerned. There is no stretto in this fugue.
The A major fugue in Book Two is a three-voice fugue. The subject of this fugue has a real answer. The order of entries in the exposition (Figure 46) is bass, alto, soprano. There is no recurring countersubject in this fugue. In the exposition, there is a short interlude in measure four between the second and third entries. Following the third entry, there is a brief transition, after which there is a redundant entry in the bass voice, stating the answer. The exposition ends on the third beat of measure eight. Including the redundant entry, the key relationships of tonic, dominant, tonic, dominant are maintained in the exposition. The order of subject, answer, subject, answer is also maintained. There are no stretto sections or other usual contrapuntal devices in this fugue. This fugue is one of the shortest in all the forty-eight fugues of The Well-Tempered Clavier. This fugue, marked allegro, is twenty-nine measures in length. The subject of this fugue appears only ten times during the fugue.
The A minor fugue in Book Two is also a three-voice fugue. The subject of this fugue requires a tonal answer. The order of entries in the exposition (Figure 47) is bass, alto, soprano. This fugue has a recurring countersubject, which is as important in the fugue as is the subject. After the countersubject has entered for the first time, it is followed by a continuation, which also plays an important part in the fugue. Between the second and third entries in the exposition, there is a brief transition in measure five. There is no redundant entry in this exposition. The exposition ends on the first beat of measure eight. There is no stretto in this fugue.
Fig. 47—Bach, *The Well-Tempered Clavier*, Book Two, Fuga XX, measures 1-8.

Fugue Number Twenty-One in Book Two is a three-voice fugue in B flat major. The subject of this fugue has a tonal answer. The order of entries is alto, soprano, bass. There is no regular, recurring countersubject in this fugue. In the exposition (Figure 48), following the statement of the subject in the alto and the answer in the soprano, there is an interlude at measures nine through twelve. Then the subject is stated in the bass voice. The exposition would normally end on the first beat of measure seventeen, but, following an interlude in measures seventeen through twenty, there is an unusual redundant entry in the bass voice. Here the bass voice states the answer. Although this fugue has a tonal answer, the answer is given in the real form here. This also occurs one more time after the exposition. The exposition then ends at the end of measure twenty-five. In the exposition,
an inverted form of the subject accompanies itself when the bass voice makes its redundant entry stating the answer. Both interludes in the exposition are built on the subject. After the exposition, two short, new themes play an important part in accompanying the subject and answer. These two new themes, with the subject or answer, form triple counterpoint and invertible counterpoint at the tenth and twelfth in the remainder of the fugue.

FUGA XXI.

Fig. 48—Bach, The Well-Tempered Clavier, Book Two, Fuga XXI, measures 1-25.

Fugue Number Twenty-Two in Book Two of The Well-Tempered Clavier is a four-voice fugue in B flat minor. The subject of this fugue has a real answer. The order of entries is alto, soprano, bass, tenor. There is a recurring countersubject in this fugue. In the exposition (Figure 49), the statement of the subject by the alto is followed by the answer in the
soprano, with the countersubject in the alto. There is an interlude of two measures which follows the answer. Then there is the subject entry in the bass voice with the countersubject again in the alto. Normally, the countersubject would be in the soprano voice here instead of in the alto. However, the countersubject here is stated a fourth higher than previously. This is followed by another interlude of two measures. Then there is the answer in the tenor, accompanied by the countersubject in the bass. The exposition ends on the second beat of measure twenty-one. In the exposition of this fugue, the entry of the voices (alto, soprano, bass, tenor), the key relationships (tonic, dominant, tonic, dominant), and the statements of the theme (subject, answer, subject, answer) are all normal and regular. The recurring countersubject that is used in the exposition of this fugue is only used in the first half of the fugue. After this it disappears and the rest of the fugue is concerned mainly with stretti of the subject.

*FUGA XXII.*
Fig. 49--Bach, The Well-Tempered Clavier, Book Two, Fuga XXII, measures 1-21.

Fugue Number Twenty-Three in Book Two is a four-voice fugue in B major. The subject of this fugue has a real answer. The order of entries is bass, tenor, alto, soprano. This fugue has two recurring countersubjects, but only one of these is used during the exposition (Figure 50). In the exposition, the statement of the subject by the bass is followed by a one-measure transition. Then there is the real answer in the tenor, which is accompanied by a recurring countersubject in the bass. After the answer there is an interlude of two measures, modulating from F sharp major to B major. After this interlude the subject is introduced in the alto, which is accompanied by the countersubject in the tenor. This is followed by another one-measure transition. After this there is the answer in the soprano, accompanied by the countersubject in the alto. Following this there is another interlude of two measures, leading up to a redundant entry of the subject in the bass voice. This is accompanied by the countersubject in the soprano. The exposition ends on the first beat of measure twenty-two. The order of voices (bass, tenor, alto, soprano,
and a redundant entry in the bass), the key relationships (tonic, dominant, tonic, dominant, tonic), and the order of the statements of the theme (subject, answer, subject, answer, subject) are all normal. After the redundant entry in the bass voice, the first countersubject that was used in the exposition disappears and a second countersubject is used in invertible counterpoint at the octave. The second countersubject, which is used after the exposition, is capable of invertible counterpoint at the octave and the twelfth. There is no stretto in this fugue.

Fig. 50--Bach, *The Well-Tempered Clavier*, Book Two, Fuga XXIII, measures 1-22.
The last fugue in Book Two of *The Well-Tempered Clavier* is a three-voice fugue in B minor. The subject of this fugue requires a tonal answer. The order of entries in the exposition (Figure 51) is alto, soprano, bass. There is a recurring countersubject in this fugue, but it appears very late in the exposition. In the exposition of this fugue, the statement of the subject by the alto voice is followed by a very short transition. Then the answer in the soprano is followed by a modulatory interlude in measures twelve through fifteen. Following the statement of the subject in the bass voice, there is an interlude of six measures, leading up to a redundant entry in the alto voice stating the answer. This statement of the answer is real instead of tonal. A recurring countersubject appears for the first time during this redundant entry. It does not accompany the theme until the third measure of the answer here. The exposition of this fugue ends on the first beat of measure thirty-two. The order of the statements of the theme in the exposition (subject, answer, subject, answer) and the key relationships (tonic, dominant, tonic, dominant) are normal and regular. When the first statement of the subject is made in the alto voice, there is usually not a redundant entry, but in this fugue a redundant entry in the alto voice does occur. Another unusual feature of this fugue is the very late appearance of a recurring countersubject. The subject of this fugue is capable of stretto. There are two stretto sections in this fugue.
In summing up the information found in studying the expositions of the forty-eight fugues in *The Well-Tempered Clavier* by Bach, the following observations can be made. Of the forty-eight fugues, there is one two-voice fugue, twenty-six three-voice fugues, nineteen four-voice fugues, and two five-voice fugues. As can be seen, there is first a preference for the three-voice fugue, and second, for the four-voice fugue. Five
of the forty-eight fugues existed in an earlier form. All five of these are in Book Two of The Well-Tempered Clavier. The order of entries in the expositions of the fugues is as follows:

Two-voice fugues:

Soprano, Bass (1) I-10

Three-voice fugues:

Soprano, Alto, Bass (12) I-3, 6, 7, 13, 15
II-10, 11, 12, 15, 18

Alto, Soprano, Bass (10) I-2, 8, 9, 11
II-1, 6, 13, 14, 21, 24

Bass, Alto, Soprano (2) II-19, 20

Bass, Soprano, Alto (2)* II-3, 4

Four-voice fugues:

Bass, Tenor, Alto, Soprano (4) I-5
II-7, 9, 23

Tenor, Alto, Soprano, Bass (4) I-18, 23
II-5, 16

Alto, Soprano, Tenor, Bass (3)* I-1
II-2, 17

Alto, Soprano, Bass, Tenor (3) I-16, 20
II-22

Alto, Tenor, Bass, Soprano (2) I-24
II-8

Tenor, Alto, Bass, Soprano (2)* I-12, 14

Tenor, Bass, Soprano, Alto (1) I-17

Five-voice fugues:

Soprano I, Soprano II, Alto, Tenor, Bass (1) I-22

There are seven fugues which do not follow the usual ascending or descending order of the entries in the exposition. These are indicated with an *.

The regular order of statements of the theme in the exposition is subject, answer, subject, answer, etc. Any other order during the exposition may be considered irregular. All but three of the fugal expositions state the theme of the fugue in the regular order. The regular key relationships of the statements of the subject and answer during the exposition are tonic, dominant, tonic, dominant, etc. Any other order during the exposition may be considered irregular. Forty-one of the fugues have the regular alternating tonic, dominant, tonic, dominant, etc. key relationships during the exposition (including the redundant entry, if any). Four of the fugues follow the alternating tonic, dominant, tonic, dominant order during the first entrances of all the voices, but not in the redundant entry of the subject or answer. These fugues are: I-6 (tonic, dominant, tonic; redundant entry, supertonic), I-13 (tonic, dominant, tonic; redundant entry, tonic), II-3. (tonic, dominant, tonic; redundant entries, tonic, dominant, tonic; supertonic, submediant, dominant), and II-18 (tonic, dominant, tonic; redundant entry, tonic). Three of the fugues do not follow the regular alternating order of key relationships of tonic, dominant, tonic, dominant during the exposition. These fugues are: I-1 (tonic, dominant, dominant, tonic; redundant entries, tonic, dominant, dominant), I-12 (tonic, dominant,
tonic, tonic; redundant entry, dominant), and I-14 (tonic, dominant, tonic, tonic).

If the first statement of the subject in the exposition is made by an inside voice (alto or tenor), there is usually no redundant entry. If the first statement of the subject is made by an outside voice (soprano or bass), a redundant entry usually occurs. In the forty-eight fugues, there are thirty-one expositions that do not have a redundant entry. There are seventeen expositions in which a redundant entry does occur. These are: I-1, 5, 6, 7, 10,* 12, 13, 19, 21; II-3, 11, 16, 18, 19, 21, 23, 24. Fugue Number Ten of Book One (indicated by an *) has a very unusual recurrence of the countersubject in the exposition. (Refer to the E minor fugue of Book One, Figure 13).

The beginning and ending note of the subject in the fugue expositions of The Well-Tempered Clavier may be found in Table I.
**Table I**

BEGINNING AND ENDING NOTE OF THE FUGUE SUBJECTS
IN THE WELL-TEMPERED CLAVIER

<table>
<thead>
<tr>
<th>Beginning and Ending Note of the Fugue Subjects</th>
<th>Fugue Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Book One</td>
</tr>
<tr>
<td></td>
<td>Book Two</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>First Note of Subject</th>
<th>Tonic</th>
<th>Dom-</th>
<th>Superno-</th>
<th>Leading Tone</th>
<th>Tonic</th>
<th>Mediant</th>
<th>Dom-</th>
<th>Leading Tone</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>nant</td>
<td>tonic</td>
<td></td>
<td></td>
<td></td>
<td>nant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1, 2, 4, 5, 6, 8, 9, 10, 14, 15, 17, 18, 19, 20, 22, 23</td>
<td>3, 7, 11, 12, 13, 16, 21, 24</td>
<td>0</td>
<td>3, 4, 8, 12, 14, 16, 20, 23</td>
<td>6, 7, 9, 10, 11, 13, 14, 16, 20, 23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1, 2, 5, 9, 11, 13, 19, 21, 22</td>
<td>1, 2, 4, 5, 8, 12, 15, 17, 18, 19, 21, 22, 24</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6, 7, 10, 17, 18, 24</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table I shows that twenty-nine fugue subjects begin on the tonic note, seventeen subjects begin on the dominant note, one begins on the supertonic, and one begins on the leading tone.
Twenty-two fugue subjects end on the mediant, eighteen subjects end on the tonic, seven end on the dominant, and one ends on the leading tone. As can be seen from Table I, there is a preference for beginning the subject on the tonic note, and secondly the dominant. There is an almost equal preference for ending the subject on the mediant or the tonic note.

The ranges of the fugue subjects in The Well-Tempered Clavier are given in Table II.

**TABLE II**

**MELODIC RANGE OF THE FUGUE SUBJECTS IN THE WELL-TEMPERED CLAVIER**

<table>
<thead>
<tr>
<th>Range</th>
<th>Fugue Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Book One</td>
</tr>
<tr>
<td>Minor third</td>
<td>0</td>
</tr>
<tr>
<td>Diminished fourth</td>
<td>4</td>
</tr>
<tr>
<td>Perfect fourth</td>
<td>0</td>
</tr>
<tr>
<td>Perfect fifth</td>
<td>14</td>
</tr>
<tr>
<td>Minor sixth</td>
<td>2, 8, 11</td>
</tr>
<tr>
<td>Major sixth</td>
<td>1, 5, 17</td>
</tr>
<tr>
<td>Diminished seventh</td>
<td>6, 16</td>
</tr>
<tr>
<td>Minor seventh</td>
<td>9, 13</td>
</tr>
<tr>
<td>Octave</td>
<td>7, 12, 18</td>
</tr>
<tr>
<td>Minor ninth</td>
<td>19, 20, 22, 23</td>
</tr>
<tr>
<td>Major ninth</td>
<td>10, 15</td>
</tr>
<tr>
<td>Minor tenth</td>
<td>21, 24</td>
</tr>
<tr>
<td>Major tenth</td>
<td>3</td>
</tr>
<tr>
<td>Perfect eleventh</td>
<td>0</td>
</tr>
</tbody>
</table>
Table II shows that there are seven subjects with a range of a minor seventh and seven subjects with a range of a minor ninth. There are six subjects with a range of a major sixth and six subjects with a range of an octave. Therefore, there is first of all a preference for a melodic range of a minor seventh or minor ninth in the fugue subject, and secondly for a range of a major sixth or an octave in the fugue subject.

Table III shows the length of the fugue subjects in The Well-Tempered Clavier.

<table>
<thead>
<tr>
<th>Number of Measures</th>
<th>Fugue Number</th>
<th>Book One</th>
<th>Book Two</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2</td>
<td>0</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>5, 17</td>
<td>2, 8</td>
<td></td>
</tr>
<tr>
<td>1 1/2</td>
<td>1, 7</td>
<td>9, 19</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2, 3, 6, 13, 16, 18, 19, 22, 23</td>
<td>4, 5, 6, 17, 20</td>
<td></td>
</tr>
<tr>
<td>2 1/2</td>
<td>8, 9, 10</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4, 11, 12, 14, 20, 24</td>
<td>12, 14, 23</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>15, 21</td>
<td>1, 18, 21, 22</td>
<td></td>
</tr>
<tr>
<td>4 1/2</td>
<td>0</td>
<td>11, 16</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>13, 15, 24</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>7, 10</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>2 1/2</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
Table III shows that there is a preference in both volumes for fugue subjects of two measures in length. Fourteen of the fugue subjects are two measures long.

Of the forty-eight fugues, twenty of them have a real answer. In twenty-eight of the fugues, there is a tonal answer. Table IV shows the reasons for the tonal answers in the fugues of The Well-Tempered Clavier.

**TABLE IV**

REASONS FOR TONAL ANSWERS IN THE FUGUES OF THE WELL-TEMPERED CLAVIER

<table>
<thead>
<tr>
<th>Reasons for a Tonal Answer</th>
<th>Fugue Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Book One</td>
</tr>
<tr>
<td></td>
<td>Major</td>
</tr>
<tr>
<td>Subject begins with Tonic-Dominant</td>
<td>17</td>
</tr>
<tr>
<td>Subject begins with Dominant-Tonic</td>
<td>13</td>
</tr>
<tr>
<td>Subject modulates to the Dominant</td>
<td>7</td>
</tr>
<tr>
<td>Subject begins on the Dominant</td>
<td>3, 11, 21</td>
</tr>
<tr>
<td>Leading Tone appears early as a harmonic note</td>
<td>19, 23</td>
</tr>
</tbody>
</table>

Table IV shows that the reasons for having a tonal answer are fairly evenly distributed in Book One, but not in Book Two. In Book Two, there are no fugue subjects that require a tonal answer.
answer for the reason of the subject having modulated to the dominant. Also in Book Two, there is no fugue in a minor key with a subject beginning with tonic-dominant notes, nor in a major key where the leading tone has appeared early in the subject as a harmonic note.

In The Well-Tempered Clavier, there are nineteen fugues that do not have a regular, recurring countersubject during the exposition. Two of these nineteen fugues have a recurring countersubject later in the fugue, but not during the exposition. There are twenty-five fugues with one recurring countersubject in the exposition. One of these twenty-five fugues has a second recurring countersubject later in the fugue, after the exposition. There are three fugues with two recurring countersubjects in the exposition, and one fugue with three recurring countersubjects in the exposition. Table V shows which fugues have one or more recurring countersubject in the exposition and which fugues do not have a recurring countersubject in the exposition.

**TABLE V**

**RECURRING COUNTERSUBJECTS IN THE EXPOSITIONS OF THE FUGUES IN THE WELL-TEMPERED CLAVIER**

<table>
<thead>
<tr>
<th>Countersubject</th>
<th>Fugue Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Book One</td>
</tr>
<tr>
<td>Recurring</td>
<td>2, 3, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 21, 23</td>
</tr>
<tr>
<td>Countersubject</td>
<td></td>
</tr>
<tr>
<td>in the</td>
<td></td>
</tr>
<tr>
<td>Exposition</td>
<td></td>
</tr>
<tr>
<td>No Recurring</td>
<td>1, 4, 5, 8, 19, 20, 22</td>
</tr>
<tr>
<td>Countersubject</td>
<td></td>
</tr>
<tr>
<td>in the</td>
<td></td>
</tr>
<tr>
<td>Exposition</td>
<td></td>
</tr>
</tbody>
</table>
Of the twenty-nine fugues with a recurring countersubject in the exposition, seventeen display invertible counterpoint during the exposition, while twelve do not, since in these latter fugue expositions, no redundant entry is found. The remaining nineteen fugues have no recurring countersubject in the exposition, and therefore display no invertible counterpoint during the exposition.

Thirty-two of the fugues use interludes during the exposition and sixteen fugues do not. An interlude is usually used in a minor key to return to the tonic tonality. The interludes that occur in the fugues in major keys often are there to lead up to a redundant entry. In other instances, the composer probably felt an interlude to be desirable. Table VI shows the fugues which have one or more interludes in the exposition and those which do not.

**TABLE VI**

INTERLUDES IN THE EXPOSITIONS OF THE FUGUES OF THE WELL-tempered CLAVIER

<table>
<thead>
<tr>
<th>Interlude</th>
<th>Book One</th>
<th>Book Two</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Major</td>
<td>Minor</td>
</tr>
<tr>
<td>Expositions with Interlude</td>
<td>5, 7, 13, 15, 17</td>
<td>2, 4, 6, 8, 12, 14, 16, 20, 22, 24</td>
</tr>
<tr>
<td>Expositions with no Interlude</td>
<td>1, 3, 9, 11, 19, 21, 23</td>
<td>10, 18</td>
</tr>
</tbody>
</table>
Table VI shows that in Book One and Book Two, almost all of the minor fugues have an interlude in the exposition. Of all the twenty-four minor fugues, only three do not have an interlude in the exposition. In Book Two, most of the major fugues also have an interlude in the exposition, but this is not true in Book One.

The length of the expositions in the fugues of The Well-Tempered Clavier is shown in Table VII.
TABLE VII
LENGTH OF THE EXPOSITIONS IN THE FUGUES
OF THE WELL-TEMPERED CLAVIER

<table>
<thead>
<tr>
<th>Number of Measures</th>
<th>Fugue Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Book One</td>
</tr>
<tr>
<td>-------------------</td>
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</tr>
<tr>
<td>5</td>
<td>9</td>
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<tr>
<td>6</td>
<td>3, 10</td>
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<tr>
<td>7</td>
<td>5, 16, 17, 19</td>
</tr>
<tr>
<td>8</td>
<td>2, 18, 23</td>
</tr>
<tr>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>10</td>
<td>1, 8</td>
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<td>11</td>
<td>0</td>
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<tr>
<td>12</td>
<td>7, 11</td>
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<tr>
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<td>13, 20</td>
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<td>14</td>
<td>15</td>
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<tr>
<td>16</td>
<td>21, 22, 24</td>
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<tr>
<td>17</td>
<td>4, 14</td>
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<tr>
<td>18</td>
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<tr>
<td>19</td>
<td>0</td>
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<td>21</td>
<td>12</td>
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<td>22</td>
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<td>25</td>
<td>0</td>
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<tr>
<td>29</td>
<td>0</td>
</tr>
<tr>
<td>31</td>
<td>0</td>
</tr>
<tr>
<td>Median</td>
<td>12</td>
</tr>
<tr>
<td>Mean</td>
<td>11</td>
</tr>
</tbody>
</table>
Table VII shows that there is a preference in both volumes of *The Well-Tempered Clavier* for an exposition of approximately seven measures in length. Nine of the fugue expositions are seven measures long.

Twenty-nine of the fugue expositions end with a cadence on the tonic chord. Nineteen of the fugue expositions in *The Well-Tempered Clavier* end with a cadence on the dominant. Table VIII shows which fugue expositions end with a cadence on the tonic and which expositions end with a cadence on the dominant.

**TABLE VIII**

**CADENCE AT THE END OF THE EXPOSITIONS IN THE FUGUES OF THE WELL-TEMPERED CLAVIER**

<table>
<thead>
<tr>
<th>Cadence</th>
<th>Fugue Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Book One</td>
</tr>
<tr>
<td>Expositions that cadence on the Tonic</td>
<td>2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 18, 22, 24</td>
</tr>
<tr>
<td>Expositions that cadence on the Dominant</td>
<td>1, 12, 15, 16, 17, 19, 20, 21, 23</td>
</tr>
</tbody>
</table>

Table VIII shows that in both volumes there is an almost equal number of expositions that cadence on the tonic, with fifteen expositions that end on the tonic in Book One and fourteen expositions that end on the tonic in Book Two. There is also an almost equal number of expositions that cadence on the dominant in both volumes of *The Well-Tempered Clavier*, with
nine expositions that end on the dominant in Book One and ten expositions that end on the dominant in Book Two.
CHAPTER IV

THE EXPOSITIONS OF THE FUGUES IN LUDUS TONALIS

BY PAUL HINDEMITH

The fugues of Frescobaldi, Bach, Handel, Mozart, Beethoven, Brahms, Schumann, and Hindemith (just to mention a few) are all quite different. Each composer is distinctive in his understanding of what a fugue might be, and the various fugues of any single composer often differ radically from each other in style and content. Yet there is a prototype of the fugue, an image which may be somewhat disembodied, but which is recognizable as the norm from which every great fugue derives.¹

As the music of the twentieth century develops, fugue stands much closer to the stylistic spirit of the Baroque than it did in the Romantic period. The challenging technical features of fugal writing are integral parts of contemporary musical style. However, the gulf which separates the musical language of the present day from that of preceding eras is very apparent. Concepts of melodic, harmonic, and rhythmic practice have all changed.

The function of rhythm in the forming of the new melodic style is vital, though occupying a lesser position in contemporary music than that of tone relations.² Fundamentally, rhythmic balance and the rise and fall of pitch stand as basic principles, though the means of realizing this is new.


Consideration of melody in imitative counterpoint, especially fugue, finds its beginning and focus in the subject. "The Baroque style of fugue was mainly founded on melodic line geared to the symmetry of bar, accent, and harmonic impulse. Given both tonal and rhythmic freedom, the new contrapuntal line may evolve from one or both of these resources." The fundamental value of the devices of augmentation, diminution, inversion, stretto, and invertible counterpoint is still mainly that of development and climax. This is basically valid for both old and new styles of fugue writing.

Changing concepts of tonality and the breakdown of scale have had marked effects on established practice. The tonal relation of subject and answer in fugue was formerly an expression of diatonic major or minor scale, and before that, of mode. It would be incorrect, however, to state that contemporary practice has altogether abandoned older usage.

One of the main differences between traditional and contemporary imitative practices is in the stress placed upon harmonic or linear writing. The exposition of the traditional fugue is based on the subject and answer in a strict harmonic relationship of the tonic and dominant keys. The subjects of twentieth-century fugues are not as predictable harmonically. This often results in imitation at intervals determined by vertical convenience at the points of entry.

The difference in compositional style of Bach and Hindemith necessitates the redefining of some traditional terms. The

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3 Ibid., p. 8.
4 Ibid., p. 12.
5 Ibid., p. 13.
term "key" in Hindemith's style means a tonal axis around which the fugue or subject centers, but does not refer to the quality (i.e., major or minor) built upon that keynote. The term "modulation" in Hindemith's style simply means a change from one tonal axis to another, usually melodically and not necessarily harmonically.

In an attempt to unify all twentieth-century developments other than that of serial technique, Hindemith promoted a theory which advocates the free use of the twelve tones of the chromatic scale oriented to a tonal center. It was Hindemith's theory that "the different tonalities through which a piece moves themselves form a succession of roots which shows the construction of the piece as a whole; and the tonal center of this secondary root-succession is thus the tonic of the whole piece."

6 Hindemith demonstrates this theory in his musical compositions. According to Hans Tischler in his "Remarks on Hindemith's Contrapuntal Technique," Hindemith employed counterpoint "as respecting consonance as the fundamental element controlling or guiding the progressions, but used certain techniques which give his polyphony the contemporary flavor of what may be called dissonant counterpoint." 7 In spite of this, Hindemith's fugues have a contrapuntal style typical of Bach, and as the foremost exponent of neo-classic fugue, Hindemith stands close to the Baroque ideal.

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The fugues of Hindemith are models of neo-Baroque clarity. They have a meticulous insistence on separation and independence of lines. The continuity of the parts suggests an archaic purity, as if each were considered a voice in the traditional manner. The fugues for piano in the *Ludus Tonalis* . . . adhere rigidly throughout to the didactic object of demonstrating fugal composition in three voices.⁸

The *Ludus Tonalis* for piano is an excellent illustration of Hindemith's contrapuntal technique. In his use of non-harmonic tones in the *Ludus Tonalis*, their treatment is very free, yet their functions are never in doubt.⁹ "Application of the Hindemith theory of harmonic tension would demonstrate that the principle of the non-harmonic tone remains valid even under conditions of great harmonic complexity."¹⁰ Conceiving the suspension, passing tone, or other non-harmonic tones as manifestation of the principle of harmonic tension-relaxation, a perfect transfer to the new style of composition from the traditional style of composition could be effected.¹¹ As is illustrated in the *Ludus Tonalis*, the way in which Hindemith achieves his cadences differs from traditional writing. Hindemith's cadences are not based on harmonic progressions but on melodic ones.¹² Another feature of Hindemith's style of writing which is demonstrated in the *Ludus Tonalis* is his use of polytonality. Hindemith sometimes uses two different

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⁸Graves, *op. cit.*, p. 11.
⁹Tischler, *op. cit.*, p. 177.
¹⁰Graves, *op. cit.*, p. 35.
¹¹Ibid.
chords simultaneously, or he may use the same chord with both major and minor quality simultaneously. There are some extended passages of polytonality in the Ludus Tonalis where a whole fugue subject may be written in one key against the other fugue subject in a double fugue in another key.  

The Ludus Tonalis, whose title means "Play of Tones," is a contemporary parallel to Bach's Well-Tempered Clavier. It was composed in 1942 and consists of a series of twelve fugues linked together by eleven interludes. These interludes serve as modulations from one fugue to the other through variations in mood and style. The work is framed by a prelude and a postlude, which are mirror inversions of each other. In terms of the overall plan as well as in many of its details, Hindemith constructed the Ludus Tonalis on the tonal scheme of his Series One (Chapter I, Figure 1). "Hindemith's Series One, first expressed in 1937 in The Craft of Musical Composition, evolves from theory to definite application with the publication in 1943 of the Ludus Tonalis." As was mentioned in Chapter I, Hindemith's Series One is derived from the overtone series. This series is strictly adhered to in the overall plan of the Ludus Tonalis (Fuga Prima in C, Fuga Secunda in G, Fuga Tertia in F, etc.).
In addition to the tonal structure of the *Ludus Tonalis*, the symmetry that it displays is also an outstanding feature of this composition. "There are marked thematic correspondences between the central fugues and interludes, which become more tenuous as one works outwards; and there are analogous structural relationships." This is illustrated in Figure 52.

Praeludium
- Fugue 1 (Triple fugue)
- Fugue 2 (Stretto fugue)
- Fugue 3 (Repeat by retrograde)
- Fugue 4 (Double fugue)
- Fugue 5 (a a b form)
- Fugue 6 (Arpeg form)

Postludium
- Fugue 12 (Binary form)
- Fugue 11 (Canon)
- Fugue 10 (Repeat by inversion)
- Fugue 9 (Combination by inversion, retrograde, etc.)
- Fugue 8 (a a b form)
- Fugue 7 (Arpeg form)

Fig. 52--Hindemith, *Ludus Tonalis*

The *Ludus Tonalis* is one of the pinnacles in the literature of twentieth-century piano music, comparable in craftsmanship, design and inspiration to The Well-Tempered Clavier of J. S. Bach. One need only cite, as an example, the Fuga Nona in B flat, in which the first section is based on the subject, the second section on the subject inverted, the third section on the subject retrograded, the fourth section on the retrogradated subject inverted, and the fifth section on the subject augmented.

Just as there is a great variety in the fugues of The Well-Tempered Clavier, Hindemith also uses much variety in the fugues of the *Ludus Tonalis*. Besides the triple fugue (Fuga Prima in C) and the double fugue (Fuga Quarta in A), Fuga Quinta in E is a gigue and Fuga Undecima in B is a canon. There are many

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18Ibid.

different contrapuntal devices used in the fugues of the Ludus
Tonalis, including inversion, retrograde, cancrizans, stretto,
and others. All of the fugues in the Ludus Tonalis have three
voices, and all have a real answer. Robert Cody states in "A
Study of the Fugal Writing of Paul Hindemith" that "regular
countersubjects are not used in the Ludus Tonalis."20 However,
a recurring countersubject does occur in two of the fugues in
the Ludus Tonalis. These are: Fuga Decima in D flat, and Fuga
Undecima in B.

The first fugue in the Ludus Tonalis is Fuga Prima in C.
As was stated before, all of the answers in the fugues of the
Ludus Tonalis are real. In traditional practices the answer in
this case would have been tonal because the subject modulates,
or changes from one tonal axis to another by the end of the
subject. Another difference concerning the answer in this
fugue from the way it would have been treated traditionally
is that the answer to the subject in this fugue has a tonal
axis of the subdominant note instead of the dominant. The
order of entry of the three voices in the exposition (Figure
53) is alto, soprano, bass. The first tonal center (when the
subject is stated in the alto voice) is C, the tonal center
of the second statement (in the soprano voice) is F, and the
last statement (in the bass voice) has a tonal center of C
again. There is no recurring countersubject in this fugue.
There is an interlude which is used as a means of modulation

20 Cody, op. cit., p. 58.
before the third entry in the beginning tonality. The exposition of this fugue is ten measures in length, ending on the first beat of measure eleven on a C chord. On the first beat of measure eight, Hindemith seemingly follows traditional practices, using a harmony of G instead of C to avoid a 6\ chord. The melodic range of the subject of this fugue is a minor seventh, and the subject is three measures in length.

![Fugue prima in C](image)

**Fig. 53**—Hindemith, *Ludus Tonalis*, Fuga Prima in C, measures 1-11.

In Fuga Secunda in G, the subject of the fugue does not modulate or change its tonal axis and the answer is real, which follows traditional practices. The order of entries in the exposition (Figure 54) is bass, alto, soprano. There is no recurring countersubject. The first statement of the subject (in the bass voice) is in G, with the answer (in the alto) in C. Then there is an interlude in measures six and seven. After
the subject is stated in the soprano voice (with a tonal center of D), there is a brief one-measure transition leading up to a redundant entry in the bass voice. Having a redundant entry here follows traditional practices. However, there is no recurring countersubject with which to make invertible counterpoint. The tonal center of the redundant entry in the bass is C. Following this there is another redundant entry. This redundant entry is in the soprano voice with a tonal center of G. The tonal centers in the exposition of this fugue go from G up a fourth, up a second, down a second, down a fourth (G, C, D, C, G), or from tonic to dominant with the subdominant interpolated inbetween. In the subject, the first three notes in measure two (G, C, D) outline the five tonal centers used in the exposition in the order that they are used, with the reverse order following the first three statements. After the second redundant entry, a cadence on the tonic is delayed for half a measure, and the exposition ends on the first beat of measure eighteen. Just as in the first fugue of the Ludus Tonalis, the melodic range of the fugue subject is a minor seventh. The subject is short and is found in stretto form throughout the fugue.
In Fuga Tertia in F, the lengthy, andante subject which is six measures long, does not change its tonal center, and in keeping with traditional practices, has a real answer. The order of entry of the three voices in the exposition (Figure 55) is soprano, bass, alto. There is no recurring counter-subject. In the second entry of the theme (in the bass voice), the last note is altered, rhythmically and melodically. Many enharmonic spellings are used in the answer which would not have been done in traditional practices. Another difference in the treatment of the answer in this fugue and traditional practices is the fact that the answer has a tonal center of the submediant, D (with F sharp as its mediant), instead of the dominant of C. The third entry is again in the beginning tonality of F. The exposition of this fugue ends on the first
beat of measure nineteen, cadencing on the tonic. The melodic range of this fugue subject is, like the first two fugues in the *Ludus Tonalis*, a minor seventh. There is no interlude in the exposition of this fugue. The devices of stretto and inversion are used in this fugue. Also, the contrapuntal device of cancrizans is used in this fugue. Employing a connecting link of only three notes, the composer uses retrograde form from the middle of the fugue at measure thirty. The repetition is exact in notes. Only the last twelve measures differ from their original counterparts, with extra parts added to fill out the ending.

Fig. 55—Hindemith, *Ludus Tonalis*, Fuga Tertia in F, measures 1-19.
Fuga Quarta in A is a three-voice fugue which, in keeping with traditional practices, the subject does not change its tonal center and it is followed by a real answer. Differing from Fugues 1, 2, and 3, which obviously began in the designated key, Fuga Quarta in A begins on the mediant of A, causing the fugue subject to seemingly appear to be in C instead of A. The tonality of A is determined by the end of the subject, the last note of which is A. Differing from traditional practices, the answer has a tonal center of the mediant instead of the dominant. The order of entries in the exposition (Figure 56) is alto, soprano, bass. There is no recurring countersubject. There is an interlude at measures five and six between the second and third entries. The exposition ends on the first beat of measure nine with a cadence on the tonic. The subject in this exposition is two measures long and has a melodic range of an octave. The use of inversion is one of the main features of this fugue. There are three large sections in this fugue. The exposition of the first section has just been discussed. There is a second exposition with a new subject at the beginning of the middle section at measure twenty-eight. Then in the last section of the fugue, both of these subjects are used together.
Fig. 56--Hindemith, *Ludus Tonalis*, Fuga Quarta in A, measures 1-9.

In Fuga Quinta in E, the order of entries in the exposition (Figure 57) is alto, soprano, bass. This fugue has no recurring countersubject. In the second entry (in the soprano voice), the last two notes of the theme are altered. This statement of the answer has a tonal center of the subdominant instead of the dominant. There is an interlude at measure fifteen between the second and third entries. The entrance of the subject in the bass voice is treated traditionally. This entry is again in the beginning tonality, and a $\frac{6}{4}$ chord is avoided here by changing the harmony. The exposition of this fugue ends on the first beat of measure twenty-three with a cadence on the tonic. In terms of measures, the fifth fugue has the longest subject, encompassing seven and a half measures, and the widest range, that of a minor tenth. Fuga Quinta in E is a gigue. The use of rhythmic and melodic sequence is an outstanding feature of this fugue. Beginning in measure eight, for three measures Hindemith uses a typical Baroque harmonic sequence by upward fourths of D to G, to C, to F, and then to B flat. At measure sixteen, again for three measures a typical Baroque sequence of the root movements (E to A, to D, to G, to C, to F, to B flat, and to E flat$^7$) is used.
In Fuga Sexta in E flat, the order of entries in the exposition (Figure 58) is alto, soprano, bass. There is no recurring countersubject in this fugue. As is the case several times in this collection of fugues, the answer has a tonal center of the subdominant instead of the dominant. Enharmonic spellings are used frequently in the statement of the answer and the restatement of the subject. There is an interlude in measure eight which is used as a means of modulation. Differing from traditional practices, when the bass voice makes its entrance with the subject, the $\frac{6}{4}$ chord is not avoided. The melodic range of the subject of this fugue is a major sixth.
The subject employs the use of a thirty-second triplet group, evolving into melodic minor intervals in eighth notes. The beginning of the subject seems to have a "closing in" effect. This is significant because of the geometrical approach which Hindemith took when constructing the *Ludus Tonalis*. While the subject of Fuga Sexta in E flat, the first of the two middle fugues, has a "closing in" effect, the next fugue, Fuga Septima in A flat, the second of the two middle fugues in the *Ludus Tonalis*, has an "opening up" effect in the beginning of its subject. The exposition of Fuga Sexta in E flat is twelve measures in length.

![Fig. 58--Hindemith, *Ludus Tonalis*. Fuga Sexta in E flat, measures 1-12.](image)

In Fuga Septima in A flat, the subject changes tonality, which, in traditional practices, would be followed by a tonal answer. However, a real answer is used instead. In this fugue the answer is in the dominant tonality, following traditional
fugal writing. The order of entry for the three voices in the exposition (Figure 59) is soprano, bass, alto. Also in keeping with traditional practices, the statements of the theme in the exposition are in tonic, dominant, tonic tonality. There is no recurring countersubject in this fugue. There is a short interlude in measure nine between the second and third entries. The exposition of this fugue ends on the first beat of measure fourteen with a cadence on the dominant. The subject of this fugue is derived from a march-type theme. The subject is a lengthy one, with a melodic and dynamic rise in the middle. The melodic range of the subject is a minor tenth, as in the fifth fugue. As was mentioned in the discussion of the previous fugue, the beginning of the subject of Fuga Septima in A flat has an “opening up” effect, which is significant in Hindemith’s geometrical approach to the *Ludus Tonalis*.
Fig. 59—Hindemith, *Ludus Tonalis*, Fuga Septima in A flat, measures 1–14.

In Fuga Octava in D the subject does not modulate and it has a real answer, which follows traditional practices. The order of entries in the exposition (Figure 60) is alto, soprano, bass. The answer in this fugue is in the key of the dominant, which is like traditional fugal writing. The thirdbeat of measure three, where the bass voice makes its entrance, is treated traditionally. The harmony there is A instead of D to avoid the use of a $\frac{6}{4}$ chord on the strong beat. This fugue has no recurring countersubject. There is also no interlude in the exposition. The exposition of Fuga Octava in D is only four measures long. The exposition ends deceptively with the soprano voice beginning a sequence on the last note of the subject in the bass voice. In traditional fugal writing, a sequence figure such as this was also often begun at the end of the exposition. The subject of this fugue is short, but after the initial statement, a rhythmic plan of development begins to appear. Each entry after the first is delayed by
one beat so that by the fifth entry (not in the exposition) the subject is back to its original form. The interval of a fifth is very prominent in the fugue.

![Fig. 60--Hindemith, *Ludus Tonalis*, Fuga Octava in D, measures 1-5.](image)

Fuga Nona in B flat adheres to traditional practices in that the subject which does not modulate is followed by a real answer. Also, the answer is in the key of the dominant, which follows traditional writing. The order of entries in the exposition (Figure 61) is alto, soprano, bass. There is a short interlude in measures six and seven before the third entry. The exposition ends on the first beat of measure twelve, cadencing on the tonic. The subject of this fugue has a melodic range of a minor tenth. The characteristic thirty-second note figurations in the subject play an important part in the fugue. This fugue has almost every known fugal device: inversion, retrograde, stretto, augmentation, etc. The closing section of the fugue is almost an exact repetition of the first part of the fugue, but includes many additional embellishments.
The exposition (Figure 62) of Fuga Decima in D flat is treated very traditionally. The subject in D flat does not change tonality and is followed by a real answer in A flat, which is the dominant tonality. This is followed by a short interlude modulating back to D flat tonality. Then the subject is stated by the third voice again in D flat. The order of entries is alto, soprano, bass. This is the first fugue in the *LudusTonalis* that has a recurring countersubject. This countersubject is found in measures three and four in the alto voice and then again in measures six and seven in the soprano voice. The exposition is seven measures in length, ending on the first beat of measure eight with a cadence on the tonic. The melodic range of the subject in this fugue is an octave. The device of inversion and canorizans is used in this fugue.
The second half of this fugue is an inversion of the first half. Not only is the main theme inverted but the whole fugue, too, so that the second half of the fugue is the mirror or inverted image of the first. As this is the third fugue from the end, it parallels the third fugue from the beginning which was also mirrored in its second half.

Fig. 62—Hindemith, *Ludus Tonalis*. Fuga Decima in D flat, measures 1-8.

In Fuga Undecima in B, the order of entries is alto, soprano, bass. Fuga Undecima in B is divided into two equal halves, the division taking place at the end of measure twelve. There is a countersubject which recurs regularly during the first half of Fuga Undecima in B. This recurring countersubject appears for the first time in measures three, four, and five in the alto voice. Fuga Undecima in B is an accompanied two-voice canon rather than a fugue. It is very similar in
construction to the *Goldberg Variations*, No. 18 by Bach. This is a short fugue, or more correctly, canon, of only twenty-three measures. Since this is actually a canon instead of a fugue, there is not what we would call an exposition. The original subject is stated only twice in the first section (Figure 63), and the bass line seems to be merely an accompaniment unrelated to the canonic entries of the subject. The alto voice states the subject first, and then the soprano makes a strict statement of the subject, ending deceptively on the second beat of measure five. The bass voice does not make a direct statement of the subject. The tonal centers of the first two statements of the subject are B (in the alto voice), and F sharp (in the soprano voice), which follows traditional practices (the answer being in the dominant tonality). The fugue, or canon, has no interlude in the first section; the answer begins immediately after the first statement of the subject is completed. The melodic range of the subject is an octave. *Fuga Undecima* in B continues as a two-voice accompanied canon throughout. The second half of *Fuga Undecima* in B introduces a second subject.

![Fig. 63--Hindemith, *Ludus Tonalis*, Fuga Undecima in B, measures 1-5.](image-url)
In Fuga Duodecima in $F$ sharp, the order of entries in the exposition (Figure 64) is alto, soprano, bass. The answer in this fugue is in the dominant tonality, which adheres to traditional practices. There is no interlude in the exposition of this fugue. In the soprano voice, the answer begins before the subject is completed in the alto voice, forming a stretto in the exposition. Differing from traditional practices is the use of a $6_4$ chord at the beginning of measure five when the bass voice makes its entry with the subject. The subject of this fugue encompasses a range of a minor ninth. The exposition of this last fugue is seven measures in length.

![Musical notation](image)

Fig. 64—Hindemith, *Ludus Tonalis*, Fuga Duodecima in $F$ sharp, measures 1-7.

In conclusion, there are some important features of style derived from the study of the expositions of the fugues in the *Ludus Tonalis*. All of the fugues are three-voice fugues. All
of the fugues in the *Ludus Tonalis* have a real answer. The order of entry Alto, Soprano, Bass is used nine times (in fugues 1, 4, 5, 6, 8, 9, 10, 11, 12); the order Soprano, Bass, Alto is used twice (in fugues 3 and 7); and the order Bass, Alto, Soprano is used once (in fugue 2). Therefore, one can see that there is a preference for the order of entry of Alto, Soprano, Bass, just as in traditional practices. Concerning the degrees of the scale upon which each entry is made, there are five fugues using 1-5-1 degrees of the scale (7, 8, 9, 10, 12); three fugues using 1-4-1 (1, 5, 6); one fugue using 1-4-5-4-1 (2); one fugue using 1-6-1 (3); one fugue using 1-3-1 (4); and one fugue using 1-5 (11). Therefore, there is an almost equal preference for 1-5-1 degrees of the scale as the entries are made in the exposition, and for the scale degrees 1-4-1. Table IX shows the tonal center relationships which each fugue employs.

**TABLE IX**

**TONAL CENTERS FOR THE STATEMENTS OF THE SUBJECT IN THE FUGAL EXPOSITIONS OF LUDUS TONALIS**

<table>
<thead>
<tr>
<th>Scale Degrees</th>
<th>Fugue Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5-1</td>
<td>7, 8, 9, 10, 12</td>
</tr>
<tr>
<td>1-5</td>
<td>11</td>
</tr>
<tr>
<td>1-4-1</td>
<td>1, 5, 6</td>
</tr>
<tr>
<td>1-4-5-4-1</td>
<td>2</td>
</tr>
<tr>
<td>1-6-1</td>
<td>3</td>
</tr>
<tr>
<td>1-3-1</td>
<td>4</td>
</tr>
</tbody>
</table>
The use of a recurring countersubject in the fugues of the *Ludus Tonalis* is rare. Of the twelve fugues, there is only one (No. 10) which has a recurring countersubject, in addition to Fugue 11 in canon. In Hindemith's style, there is an obvious preference for a free countersubject rather than a recurring countersubject.

Table X shows the length of the exposition, length of the subject, and range of the subject in the fugues of the *Ludus Tonalis*. 
TABLE X

LENGTH OF THE EXPOSITION, LENGTH OF THE SUBJECT, AND RANGE OF THE SUBJECT IN THE FUGUES OF LUDUS TONALIS

<table>
<thead>
<tr>
<th>Fugue Number</th>
<th>Number of Measures in the Exposition</th>
<th>Number of Measures in the Subject</th>
<th>Range of Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>3</td>
<td>Minor seventh</td>
</tr>
<tr>
<td>2</td>
<td>17</td>
<td>3</td>
<td>Minor seventh</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
<td>6</td>
<td>Minor seventh</td>
</tr>
<tr>
<td>4</td>
<td>8</td>
<td>2</td>
<td>Octave</td>
</tr>
<tr>
<td>5</td>
<td>22</td>
<td>7 1/2</td>
<td>Minor tenth</td>
</tr>
<tr>
<td>6</td>
<td>12</td>
<td>4</td>
<td>Major sixth</td>
</tr>
<tr>
<td>7</td>
<td>13</td>
<td>4 1/2</td>
<td>Minor tenth</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>1</td>
<td>Major ninth</td>
</tr>
<tr>
<td>9</td>
<td>11</td>
<td>3</td>
<td>Minor tenth</td>
</tr>
<tr>
<td>10</td>
<td>7</td>
<td>2</td>
<td>Octave</td>
</tr>
<tr>
<td>11</td>
<td>4 1/2</td>
<td>2 1/2</td>
<td>Octave</td>
</tr>
<tr>
<td>12</td>
<td>7</td>
<td>3</td>
<td>Minor ninth</td>
</tr>
<tr>
<td>Median</td>
<td>10 1/2</td>
<td>3</td>
<td>---</td>
</tr>
<tr>
<td>Mean</td>
<td>10 1/2</td>
<td>3 1/2</td>
<td>---</td>
</tr>
</tbody>
</table>

Table X shows that there is a great variety in the length of expositions in Ludus Tonalis, with seemingly no preference for any certain length. Concerning the length of the fugue
subjects, there is a preference for a subject of about three measures. Four of the subjects are three measures in length. Three of the fugue subjects have a melodic range of a minor seventh, three have a range of an octave, and three have a range of a minor tenth. It may be noted that in The Well-Tempered Clavier there was also a preference for a subject with a melodic range of a minor seventh and an octave.

Table XI shows the beginning and ending note of the fugue subjects in the Ludus Tonalis.

**TABLE XI**

BEGINNING AND ENDING NOTE OF THE FUGUE SUBJECTS IN LUDUS TONALIS

<table>
<thead>
<tr>
<th>Beginning and Ending Note of the Fugue Subjects</th>
<th>Fugue Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Note of Subject</strong></td>
<td></td>
</tr>
<tr>
<td>Tonic</td>
<td>2, 3, 7, 8, 9, 10, 11</td>
</tr>
<tr>
<td>Mediant</td>
<td>4</td>
</tr>
<tr>
<td>Dominant</td>
<td>1, 6, 12</td>
</tr>
<tr>
<td>Leading Tone</td>
<td>5</td>
</tr>
<tr>
<td><strong>Last Note of Subject</strong></td>
<td></td>
</tr>
<tr>
<td>Tonic</td>
<td>3, 4, 5, 6, 10, 11, 12</td>
</tr>
<tr>
<td>Supertonic</td>
<td>1</td>
</tr>
<tr>
<td>Mediant</td>
<td>9</td>
</tr>
<tr>
<td>Subdominant</td>
<td>8</td>
</tr>
<tr>
<td>Dominant</td>
<td>2, 7</td>
</tr>
</tbody>
</table>

Table XI shows a strong preference for the tonic note as the beginning and ending note of the fugue subject.
Hindemith uses an interlude in the exposition in eight of the fugues, and four of the fugues do not have an interlude in the exposition. Table XII shows which fugues have at least one interlude in the exposition and which fugues do not.

**TABLE XII**

**INTERLUDES IN THE EXPOSITIONS OF THE FUGUES IN LUDUS TONALIS**

<table>
<thead>
<tr>
<th>Interlude</th>
<th>Fugue Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expositions with an Interlude</td>
<td>1, 2, 4, 5, 6, 7, 9, 10</td>
</tr>
<tr>
<td>Expositions with no Interlude</td>
<td>3, 8, 11, 12</td>
</tr>
</tbody>
</table>

In ten of the fugues in the *Ludus Tonalis*, the subject does not change tonality. All of these ten fugues have an answer that is real, following traditional practices. Two of the fugues (Fuga Prima in C and Fuga Septima in A flat) in this collection have a subject that does change tonality. Both of these are followed by a real answer, which differs from traditional practices. In five of the fugues the treatment of the $\hat{b}$ chord when the bass voice enters with the subject must be considered. Of these five fugal expositions, three (Fuga Prima in C, Fuga Quinta in E, and Fuga Octava in D) are treated traditionally in this respect and two (Fuga Sexta in E flat and Fuga Duodecima in F sharp) are not. Nine of the fugal expositions end with a cadence on the tonic, one exposition cadences on the dominant, and the other two have a deceptive ending. Table XIII shows which fugues cadence on the tonic, dominant, or have a deceptive ending.
Table XIII shows that there is a strong preference for a cadence on the tonic at the end of an exposition in the fugues of the Ludus Tonalis.
CHAPTER V.

CONCLUSIONS

The following conclusions can be reached regarding a comparison of the fugal writing of Bach and Hindemith in the expositions of the fugues in *The Well-Tempered Clavier* and *Ludus Tonalis* as discussed in Chapters III and IV.

As was mentioned in Chapter III, of the forty-eight fugues in *The Well-Tempered Clavier*, there is one two-voice fugue, twenty-six three-voice fugues, nineteen four-voice fugues, and two five-voice fugues. In the *Ludus Tonalis*, all twelve fugues are three-voice fugues. Therefore, it may be observed that Bach and Hindemith both have a preference for the three-voice fugue as demonstrated in *The Well-Tempered Clavier* and *Ludus Tonalis*.

A comparison of the order of entries in the expositions of the three-voice fugues in *The Well-Tempered Clavier* and *Ludus Tonalis* is shown in Table XIV.
<table>
<thead>
<tr>
<th>Order of Entries</th>
<th>The Well-Tempered Clavier</th>
<th>Ludus Tonalis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soprano, Alto, Bass</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Alto, Soprano, Bass</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Bass, Alto, Soprano</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Bass, Soprano, Alto</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Soprano, Bass, Alto</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

Table XIV shows that there is one order of entry (Soprano, Bass, Alto) that appears in the *Ludus Tonalis* but not in the three-voice fugues of *The Well-Tempered Clavier*. In the three-voice fugues in both collections there is a preference for the order of entry Alto, Soprano, Bass, and in *The Well-Tempered Clavier*, there is also a preference for the order Soprano, Alto, Bass in the three-voice fugues.

Taking into consideration all of the fugues in *The Well-Tempered Clavier*, there are fourteen fugue expositions that begin in the soprano voice, eighteen that begin in the alto, seven that begin in the tenor, and nine that begin in the bass. In *Ludus Tonalis* there are two fugue expositions that begin in the soprano voice, nine that begin in the alto, and one that
begins in the bass. Therefore, there is an obvious preference in both collections of fugues for the exposition to begin with the alto voice making the first statement of the subject. In the *Ludus Tonalis* there is a definite preference for the order of entry Alto, Soprano, Bass. In the three-voice fugues in *The Well-Tempered Clavier*, there is also a preference for the order of entry Alto, Soprano, Bass as well as the order Soprano, Alto, Bass.

The regular order of statements of the theme in the exposition in traditional practices is alternating subject, answer, subject, etc. In *The Well-Tempered Clavier*, all but three of the fugal expositions (I-1, I-12, I-14) state the theme of the fugue in the regular alternating order. This also holds true in the *Ludus Tonalis*. All but one fugue exposition (Fuga Secunda in G) in the *Ludus Tonalis* use the traditional order of subject, answer, subject. The regular key relationships of the statements of the subject and answer during the exposition in traditional practices are alternating tonic, dominant, tonic, etc. Forty-one of the fugues in *The Well-Tempered Clavier* have the regular alternating tonic, dominant, tonic, etc. key relationships during the exposition (including the redundant entry, if any). Four of the fugues (I-6, I-13, II-3, II-18) follow the alternating tonic, dominant, tonic order during the first statements of the theme in all the voices, but not in the redundant entry of the subject or answer. Three of the fugues (I-1, I-12, I-14) in *The Well-Tempered Clavier* have tonic and dominant key relationships, but do not follow the regular
alternating order during the exposition. The tonic, dominant relationship is a definite characteristic of the expositions in Bach's fugal writing. In the *Ludus Tonalis*, Hindemith does not confine himself to the traditional alternation of tonic, dominant relationships exclusively. The expansion of tonality in the twentieth century has made possible new points of entry in addition to the traditional tonic, dominant relationships. In the *Ludus Tonalis* there are five fugues (7, 8, 9, 10, 12) using 1–5–1 degrees of the scale for the entries in the exposition, three fugues (1, 5, 6) using 1–4–1 degrees of the scale, one fugue (2) using 1–4–5–4–1, one fugue (3) using 1–6–1, one fugue (4) using 1–3–1, and one fugue (11) using 1–5 degrees of the scale. There are six fugue expositions with tonic, dominant relationships; therefore, in Hindemith's fugues in the *Ludus Tonalis* there is still a preference, even with the twentieth-century concept of expanded tonality, for a fugal exposition with tonic, dominant relationships, and, secondly, for tonic, subdominant relationships. As is demonstrated in the fugues of the *Ludus Tonalis*, "[t]he predominant use of the second statement of the subject on the dominant and subdominant degrees of the scale and the return of the final statement to the tonal axis of the first is a clear indication of Hindemith's desire to establish a definite tonality in the exposition."

In traditional fugal writing, if the first statement of the subject in the exposition is made by an inside voice (alto

---

or tenor), there is usually no redundant entry. If the first statement of the subject is made by an outside voice (soprano or bass), a redundant entry usually occurs. In the forty-eight fugues of The Well-Tempered Clavier, there are thirty-one expositions that do not have a redundant entry. There are seventeen expositions in which a redundant entry does occur. These are: I-1, 5, 6, 7, 10, 12, 13, 19, 21; II-3, 11, 16, 18, 19, 21, 23, 24. Of these seventeen expositions with a redundant entry, twelve of these fugues begin with an outside voice, and five begin with an inside voice. There is only one fugue exposition in the Ludus Tonalis which has a redundant entry (Fuga Secunda in G, which begins with the bass voice). Of the twelve fugues in the Ludus Tonalis, nine begin with an inside voice (alto), and only three begin with an outside voice (soprano or bass). Therefore, the conclusion can be made that in the fugal writing of both Bach (in The Well-Tempered Clavier) and Hindemith (in Ludus Tonalis), when the first statement of the subject is made by an inside voice, there will usually be no redundant entry.

Table XV shows a comparison of the beginning and ending notes of the fugue subjects in The Well-Tempered Clavier and Ludus Tonalis.
TABLE XV

BEGINNING AND ENDING NOTES OF THE FUGUE SUBJECTS IN THE WELL-TEMPERED CLAVIER AND LUDUS TONALIS

<table>
<thead>
<tr>
<th>Beginning and Ending Note of the Fugue Subjects</th>
<th>Number of Fugues</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The Well-Tempered Clavier</td>
</tr>
<tr>
<td>First Note of Subject</td>
<td></td>
</tr>
<tr>
<td>Tonic</td>
<td>29</td>
</tr>
<tr>
<td>Supertonic</td>
<td>1</td>
</tr>
<tr>
<td>Mediant</td>
<td>0</td>
</tr>
<tr>
<td>Dominant</td>
<td>17</td>
</tr>
<tr>
<td>Leading Tone</td>
<td>1</td>
</tr>
<tr>
<td>Last Note of Subject</td>
<td></td>
</tr>
<tr>
<td>Tonic</td>
<td>18</td>
</tr>
<tr>
<td>Supertonic</td>
<td>0</td>
</tr>
<tr>
<td>Mediant</td>
<td>22</td>
</tr>
<tr>
<td>Subdominant</td>
<td>0</td>
</tr>
<tr>
<td>Dominant</td>
<td>7</td>
</tr>
<tr>
<td>Leading Tone</td>
<td>1</td>
</tr>
</tbody>
</table>

Table XV shows that in The Well-Tempered Clavier there is a preference for beginning the subject on the tonic note, and secondly, the dominant. There is an almost equal preference for ending the subject on the mediant or the tonic note in The Well-Tempered Clavier. Table XV shows that in the Ludus Tonalis there is a strong preference for the tonic note as the beginning and ending note of the fugue subject. Therefore, as demonstrated in these two collections of fugues, Bach and Hindemith are fairly well in agreement on the degrees of the scale on which the fugue
subject should begin and end. Even though there has been a great expansion of tonality in the twentieth century and a breaking away from traditional key relationships, the tonality of the fugue subject in Hindemith's *Ludus Tonalis* is clearly established by (1) the use of the intervals of the fifth and fourth in the subject, (2) placing the tonic at or near the beginning of the subject, (3) concluding the subject with the tonic note, (4) repetition of the tonic note and frequent use of the dominant note, and (5) placing the tonic and dominant notes on the strong beats of the measure.

Table XVI shows a comparison of the number of fugue subjects that modulate or change tonality and those that remain in the same tonality in *The Well-Tempered Clavier* and *Ludus Tonalis*.

**TABLE XVI**

**NUMBER OF FUGUE SUBJECTS THAT MODULATE AND THOSE THAT DO NOT IN THE WELL-TEMPERED CLAVIER AND LUDUS TONALIS**

<table>
<thead>
<tr>
<th>Modulation of Fugue Subject</th>
<th>Number of Fugues</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The Well-Tempered Clavier</td>
</tr>
<tr>
<td>Number of Subjects that Modulate</td>
<td>5</td>
</tr>
<tr>
<td>Number of Subjects that do not Modulate</td>
<td>43</td>
</tr>
</tbody>
</table>

Table XVI shows that there is a very strong preference in both collections of fugues for a fugue subject that does not modulate.
Table XVII shows a comparison of the melodic ranges of the subjects in the fugues of *The Well-Tempered Clavier* and *Ludus Tonalis*.

**TABLE XVII**

**MELODIC RANGE OF THE FUGUE SUBJECTS IN THE WELL-TEMPERED CLAVIER AND LUDUS TONALIS**

<table>
<thead>
<tr>
<th>Range</th>
<th>Number of Fugues</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The Well-Tempered Clavier</td>
</tr>
<tr>
<td>Minor third</td>
<td>1</td>
</tr>
<tr>
<td>Diminished fourth</td>
<td>1</td>
</tr>
<tr>
<td>Perfect fourth</td>
<td>1</td>
</tr>
<tr>
<td>Perfect fifth</td>
<td>3</td>
</tr>
<tr>
<td>Minor sixth</td>
<td>4</td>
</tr>
<tr>
<td>Major sixth</td>
<td>6</td>
</tr>
<tr>
<td>Diminished seventh</td>
<td>2</td>
</tr>
<tr>
<td>Minor seventh</td>
<td>7</td>
</tr>
<tr>
<td>Octave</td>
<td>6</td>
</tr>
<tr>
<td>Minor ninth</td>
<td>8</td>
</tr>
<tr>
<td>Major ninth</td>
<td>5</td>
</tr>
<tr>
<td>Minor tenth</td>
<td>2</td>
</tr>
<tr>
<td>Major tenth</td>
<td>1</td>
</tr>
<tr>
<td>Perfect eleventh</td>
<td>1</td>
</tr>
</tbody>
</table>

Table XVII shows that in *The Well-Tempered Clavier* there is first of all a preference for a melodic range of a minor seventh or minor ninth in the fugue subject, and, second, for
a range of a major sixth or an octave. In the *Ludus Tonalis* there is a preference for a melodic range of a minor seventh, octave, or minor tenth in the subject of the fugue. In both *The Well-Tempered Clavier* and *Ludus Tonalis* there is a preference for a subject with a melodic range of a minor seventh and an octave.

Table XVIII shows a comparison of the length of fugue subjects in *The Well-Tempered Clavier* and *Ludus Tonalis*.

**TABLE XVIII**

<table>
<thead>
<tr>
<th>LENGTH OF THE FUGUE SUBJECTS</th>
<th>IN THE WELL-TEMPERED CLAVIER</th>
<th>AND LUDUS TONALIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Measures</td>
<td>Number of Fugues</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The Well-Tempered Clavier</td>
<td>Ludus Tonalis</td>
</tr>
<tr>
<td>1/2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>1 1/2</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>2 1/2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>4 1/2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>7 1/2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Median</td>
<td>2 1/2</td>
<td>3</td>
</tr>
<tr>
<td>Mean</td>
<td>2 1/2</td>
<td>3 1/2</td>
</tr>
</tbody>
</table>
Table XVIII shows that in *The Well-Tempered Clavier* there is a preference for a fugue subject of two measures in length, while in the *Ludus Tonalis* there is a preference for a fugue subject of three measures in length.

Table XIX shows a comparison of types of answers (real and tonal) that are used in the expositions of the fugues in *The Well-Tempered Clavier* and *Ludus Tonalis*.

**Table XIX.**

**REAL AND TONAL ANSWERS IN THE WELL-TEMPERED CLAVIER AND LUDUS TONALIS**

<table>
<thead>
<tr>
<th>Type of Answer</th>
<th>The Well-Tempered Clavier</th>
<th>Ludus Tonalis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real Answer</td>
<td>20</td>
<td>12</td>
</tr>
<tr>
<td>Tonal Answer</td>
<td>28</td>
<td>0</td>
</tr>
</tbody>
</table>

Table XIX shows that there is an almost equal number of real and tonal answers in *The Well-Tempered Clavier*, but that in the *Ludus Tonalis* there is a definite preference for a real answer rather than tonal.

Table XX shows a comparison of the use of recurring counter-subjects in *The Well-Tempered Clavier* and the *Ludus Tonalis*. 
TABLE XX
RECURRING COUNTERSUBJECTS IN THE FUGUE EXPOSITIONS
OF THE WELL-TEMPERED CLAVIER AND LUDUS TONALIS

<table>
<thead>
<tr>
<th>Countersubject</th>
<th>Number of Fugues</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The Well-Tempered Clavier</td>
</tr>
<tr>
<td>Recurring Countersubject</td>
<td>29</td>
</tr>
<tr>
<td>No Recurring Countersubject</td>
<td>19</td>
</tr>
</tbody>
</table>

*One of these is a canon.

Table XX shows that, as demonstrated in The Well-Tempered Clavier and Ludus Tonalis, Bach has a definite preference for a recurring countersubject in the exposition, while Hindemith has a definite preference for no recurring countersubject in the exposition of the fugue. While a recurring countersubject is characteristic of Bach's fugal writing, free countersubjects are characteristic of Hindemith's fugal writing. Of the twenty-nine fugues in The Well-Tempered Clavier with a recurring countersubject in the exposition, seventeen display invertible counterpoint during the exposition, while twelve do not, since in these twelve no redundant entry is found. The other nineteen fugues have no recurring countersubject in the exposition, and therefore display no invertible counterpoint during the exposition. None of the fugues in the Ludus Tonalis display invertible counterpoint in the exposition, the reasons being that (1) most of the fugues in the Ludus Tonalis do not have a recurring countersubject, and (2) only one redundant entry is found in
the fugue expositions of the *Ludus Tonalis*, and this fugue exposition has no recurring countersubject.

Table XXI shows a comparison of the use of interludes in the expositions of the fugues in *The Well-Tempered Clavier* and the *Ludus Tonalis*.

**TABLE XXI**

**INTERLUDES IN THE EXPOSITIONS OF THE FUGUES IN THE WELL-TEMPERED CLAVIER AND LUDUS TONALIS**

<table>
<thead>
<tr>
<th>Interlude</th>
<th>Number of Fugues</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>The Well-Tempered Clavier</em></td>
</tr>
<tr>
<td>Interlude in the Exposition</td>
<td>32</td>
</tr>
<tr>
<td>No Interlude in the Exposition</td>
<td>16</td>
</tr>
</tbody>
</table>

It is interesting to note in Table XXI that there is the same ratio of fugue expositions with an interlude and fugue expositions without an interlude in Bach’s *Well-Tempered Clavier* and Hindemith’s *Ludus Tonalis*. There are a few instances in *The Well-Tempered Clavier* when Bach used an interlude just because he felt it to be desirable, but most of the time Bach had a definite purpose in placing an interlude in an exposition, such as one used in a minor key to return to the tonic tonality, or an interlude that is used to lead up to a redundant entry. Differing with Bach in this respect, Hindemith, in the fugues of the *Ludus Tonalis*, places an interlude in the exposition because he feels it to be desirable, with seemingly no other purpose.
Table XXII shows a comparison of the length of the expositions in the fugues of The Well-Tempered Clavier and Ludus Tonalis.

TABLE XXII
LENGTH OF THE FUGUE EXPOSITIONS
IN THE WELL-TEMPERED CLAVIER
AND LUDUS TONALIS

<table>
<thead>
<tr>
<th>Number of Measures</th>
<th>Number of Fugues</th>
<th>The Well-Tempered Clavier</th>
<th>Ludus Tonalis</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
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<td>4 1/2</td>
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<td>5</td>
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<td>6</td>
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<td>4</td>
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<td>7</td>
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<td>4</td>
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<td>9</td>
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<td>3</td>
<td>1</td>
</tr>
<tr>
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</tr>
<tr>
<td>12</td>
<td></td>
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<td>14</td>
<td></td>
<td>2</td>
<td>0</td>
</tr>
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</table>
TABLE XXII—Continued

<table>
<thead>
<tr>
<th>Number of Measures</th>
<th>Number of Fugues</th>
<th>The Well-Tempered Clavier</th>
<th>Ludus Tonalis</th>
</tr>
</thead>
<tbody>
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<td>16</td>
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<td>31</td>
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<td>Median</td>
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<td>10 1/2</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>13</td>
<td>10 1/2</td>
</tr>
</tbody>
</table>
Table XXII shows that Hindemith prefers shorter expositions than does Bach. In the *Ludus Tonalis* the longest exposition is twenty-two measures, while in *The Well-Tempered Clavier* the longest exposition is thirty-one measures. In *The Well-Tempered Clavier* there is a preference for an exposition of seven measures in length. Table XXII shows that there is a great variety in the length of expositions in the *Ludus Tonalis*, with seemingly no preference for an exposition of any specific length.

Table XXIII shows a comparison of the cadences used at the end of the expositions in the fugues of *The Well-Tempered Clavier* and the *Ludus Tonalis*.

**TABLE XXIII**

<table>
<thead>
<tr>
<th>Cadence</th>
<th>Number of Fugue Expositions</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>The Well-Tempered Clavier</td>
</tr>
<tr>
<td>Cadence on Tonic</td>
<td>29</td>
</tr>
<tr>
<td>Cadence on the Dominant</td>
<td>19</td>
</tr>
<tr>
<td>Deceptive Cadence</td>
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</tr>
</tbody>
</table>

Table XXIII shows that there is a preference in both *The Well-Tempered Clavier* and the *Ludus Tonalis* for a cadence on the tonic at the end of the fugue exposition. The preference
for a tonic cadence at the end of the fugue exposition is even stronger in the Ludus Tonalis than in The Well-Tempered Clavier.

One important difference between The Well-Tempered Clavier and the Ludus Tonalis that has not been mentioned thus far is the fact that the Ludus Tonalis was meant to be performed as a whole and The Well-Tempered Clavier was not. "There is such strong coherency among the movements that the Ludus Tonalis should be thought of and played as one entire piece." \(^2\)

It could be said, by way of making a final comparison, that the tonal structure is the most important feature of both The Well-Tempered Clavier and the Ludus Tonalis. Bach's Well-Tempered Clavier was constructed for the purpose of demonstrating the possibilities of the then new system of equal temperament. Hindemith's Ludus Tonalis was constructed for the purpose of demonstrating his new theory of tonal organization, as set forth only a few years before in The Craft of Musical Composition.

Comparing the fugal writing of these two composers, their techniques and procedures are very much alike except in Hindemith's expanded concept of tonality. Although Bach's set of fugues has set a standard for this type of writing, Hindemith has shown that this old form is still capable of being used with originality when adapted to twentieth-century practices.

\(^2\)Anna Lee Fink, "Paul Hindemith's Ludus Tonalis," unpublished master's thesis, Department of Music, Southern Methodist University, Dallas, Texas, p. 3.
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