

THE ORGAN SONATAS OF
PAUL HINDEMITH

Thesis for the Degree of Ph. D.
MICHIGAN STATE UNIVERSITY
ALBERT GEORGE BOLITHO
1968



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ABSTRACT

THE ORGAN SONATAS OF

PAUL HINDEMITH

by Albert George Bolitho

When one considers the leading composers of the first half of the twentieth century like Debussy, Ravel, Schoenberg, Hindemith, Bartók, and Stravinsky, he finds that only Hindemith has written with any consistency for the organ. His published organ works span a lifetime of composition. They begin with the first organ concerto written in 1928, continue with the three sonatas written between 1937 and 1940, and conclude with the second organ concerto written shortly before his death in 1963.

Although the three sonatas are well known to organists, little has been written about them and there has always been a certain ambiguity about how they may be best performed. The lack of registration and manual designations, in addition to some uncertainty about many of the dynamic indications, have led to many questions regarding Hindemith's intended interpretation. The purpose of this study is not only to clarify

some of these ambiguities, but to focus attention upon the sonatas in order to stimulate an awareness of the exemplary craftsmanship and musical value contained within them.

Stylistic features such as melody, rhythm, harmony, and texture are pointed out and a formal analysis for each sonata is furnished. In addition, performance suggestions and recommended organ registration are made for each of the three sonatas.

In order that these compositions might be placed in a perspective as complete as possible, three additional areas which are related to this investigation have been included:

- (1) a discussion of the composer, his place in contemporary music, and his philosophical and theoretical writings on music;
- (2) a brief historical survey of the organ sonatas leading to and including the period when the Hindemith organ sonatas were written; and (3) a brief survey of the two organ concertos by Hindemith, for they not only illustrate another aspect of his organ compositions, but also provide an excellent comparison of his early and late periods.

This thesis is supplementary to three public organ recitals given on April 1, 1966; November 27, 1966; and April 16, 1967 in which the following compositions were performed: J. S. Bach, Prelude and Fugue in C Minor, Trio Sonata in G, and Two Chorale Preludes on Dies sind die heil'gen zehn Gebot (Clavierübung, Part III); Dietrich Buxtehude, Prelude and Fugue in F Sharp Minor;

Louis-Nicolas Clérambault, Suite du Premier Ton; Marcel Dupré, Five selections from The Way of the Cross; César Franck, Grande Pièce Symphonique; Girolamo Frescobaldi, Canzona Seconda, Ricercar dopo il Credo, and Toccata Avanti la Messa della Domenica; Giovanni Gabrieli, Canzon Primi Toni and Sonata pian' e forte for organ and brass; G. F. Handel, Concerto in F, Op. 4, No. 4 for organ and strings; Paul Hindemith, Sonata I; Olivier Messiaen, Serene alleluias and Outburst of joy (The Ascension); and Leo Sowerby, Passacaglia (Symphony in G Major).

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THE ORGAN SONATAS OF

PAUL HINDEMITH

By

Albert George Bolitho

A THESIS SUPPLEMENTARY
TO THREE ORGAN RECITALS

Submitted to
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in partial fulfillment of the requirements
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The author gratefully thanks Professor Henry Rottenbiller of Albion College for his aid in translating the sixteenth-century

folk song **texts** mentioned in Chapter III, and Dr. Robert Noehren, Professor of Music and University Organist at the University of Michigan, for the interview so graciously given in his home on June 27, 1968.

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The author owes a special debt of gratitude to his wife, Bonnie, who so often had to bear more than her share of family responsibility while this dissertation was in progress. Without her understanding and love, it would not have been completed. Last, but certainly not least, the author wishes to thank his three children--Todd, Dean, and Sally. In their childish wisdom they too have understood and assisted.

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INTRODUCTION

The Baroque era has been justly called the golden age of organ music, for we find that the period was characterized by superbly built instruments, virtuoso performers, and great interest in organ composition. Many of the important composers of that epoch were also organists, and a favorable environment for organ composition was a natural result.

Since the Baroque era there have not been many occasions when foremost composers have turned their attention to the organ. Mozart placed organists under a debt of gratitude through his chamber sonatas; Brahms, in the twilight of his career, provided his exquisite chorale preludes; Liszt enriched the vocabulary through a number of large-scale works; and Mendelssohn, who was an organist of considerable merit, provided six sonatas and three preludes and fugues. With the exception of César Franck, most organ music of the nineteenth century was composed by organists whose names generally do not rank among the great figures of music history.

Contemporary composers, with the exception of those who are organists, have not been any more sympathetic towards composing for the organ than their predecessors. Some American

composers such as Walter Piston, Vincent Persichetti, Roger Sessions, and Samuel Barber have written a few works of varying lengths. When we consider the leading composers of the first half of the twentieth century like Debussy, Ravel, Schoenberg, Hindemith, Bartók, and Stravinsky, we find that only Hindemith has written with any consistency for the organ. His published organ works span a lifetime of composition. They begin with the first organ concerto written in 1928, continue with the three sonatas written between 1937 and 1940, and conclude with the second organ concerto written shortly before his death in 1963.

Although the name of Hindemith no longer commands the respect in the musical world which it formerly did, his organ works occupy an important place in the repertoire. His three sonatas are regularly performed and constitute some of the most idiomatic writing for the instrument by any composer. Their lean contrapuntal lines and carefully designed structures provided a refreshing change at a time when it was fashionable to write organ music in a quasi-symphonic and highly romanticized style. It is not surprising that Dr. Michael Rudd, in a recent article on organ music written since World War II, several times mentions the influence of Hindemith upon organ composition.¹

¹Michael Rudd, "Stylistic Features and Compositional Activities in Organ Literature Since World War II," The Diapason (June, July, and August, 1968), p. 12, 13, and 14 respectively.

Although the three sonatas are well-known to organists, little has been written about them and there has always been a certain ambiguity about how they may be best performed. The lack of registration and manual designations, in addition to some uncertainty about many of the dynamic indications, have led to some questions regarding Hindemith's intended interpretation. It is the intent of this paper not only to clarify some of these ambiguities, but to focus attention upon the sonatas in order to stimulate awareness of the excellent craftsmanship and musical value contained within them. Stylistic features such as melody, rhythm, harmony, and texture will be pointed out, and a formal analysis will be furnished for each sonata. Finally, performance suggestions and recommended organ registration will be given for each of the three sonatas.

In order that these compositions might be placed in a perspective as complete as possible, three additional areas which are related to this investigation have been included: (1) a discussion of the composer, his place in contemporary music, and his philosophical and theoretical writings on music; (2) a brief historical survey of the organ sonatas leading to and including the period when the Hindemith organ sonatas were written; and (3) a brief survey of the two organ concertos by Hindemith, for they illustrate not only another aspect of his organ

compositions, but also provide an excellent comparison of his early and late periods.

Whenever musical examples of Hindemith's compositions are given, no mention will be made of the publisher, B. Schott's Söhne, who is the sole publisher of Hindemith's compositions. The reader is referred to the bibliography for the complete facts of publication regarding musical excerpts from Hindemith's music contained in this paper.

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CHAPTER I

GENERAL PERSPECTIVE

Paul Hindemith: Complete Musician

Paul Hindemith (1895-1963), as performer, teacher, conductor, musical moralist, theorist, and composer, was involved in almost every sphere of musical activity during his lifetime. Among the composers of his generation none could be named a more complete musician. Born thirteen years after Stravinsky, fourteen years after Bartók, and twenty-one years after Schoenberg, he was equated with them in terms of stature, yet he repudiated the general direction taken by the musical culture of his time. He deplored, for example, the "barbaric diversity of styles, total absence of some canon of beauty, senseless devotion to sound, emphasis on virtuosity and entertainment, and finally, esoteric escape, on the part of many musicians, from any responsibility toward society."¹ The adherents of the twelve-tone school of composition sustained an especially bitter attack from Hindemith.

This rule of construction [twelve-tone technique] is established arbitrarily and without any reference to basic musical facts. It ignores the validity of harmonic and

¹Paul Hindemith, Composers World: Horizons and Limitations (Cambridge: Harvard University Press, 1952), pp. 112-113.

melodic values derived from mathematical, physical, or psychological experience; it does not take into account the differences in intervallic tensions, the physical relationship of tones, the degree of ease in vocal production, and many other facts of either natural permanence or proven usefulness.

True, some kind of a restricted technique of composition can be developed on a foundation of compromise scales and arbitrary working rules, but doubtless the general result will always be one similar to the kind of poetry that is created by pouring written words out of a tumbler without calling in grammar and syntax. A higher tonal organization is not attempted and cannot be achieved, especially if one permits the technical working rules to slip off into the aforementioned set of supplementary statutes which are nothing but stylistic whims and, as such, not subject to any controlling power of general validity.²

The fact that Hindemith himself was regarded as one of the avant-garde during his early years may be seen from a review of the 1927 premiere of his Concerto for Orchestra. One is reminded of the similar reception given to Stravinsky's Le Sacre du Printemps fourteen years before.

Furtwangler appeared to conduct the announced "Concerto for Orchestra" by the much-feared atonal madman Paul Hindemith, professor of composition at the Berlin Hochschule.

Then all hell broke loose on the stage. Uncontrolled chords crashed willynilly into one another, and without warning the high wind instruments began to squeal, croak, and bawl. Shaken, perplexed, and amused, the audience looked at one another: one laughed, one was shocked, and a dangerous restlessness seized the listeners. Up there on the stage things became constantly wilder. Uncontrolled tutti, the slapping of wood, the beating of hammers, bedlam in the instrumental groups, dissonances to drive one mad. Whereas before this a few cat-calls and even some whistling had been heard, there now broke out, intensified by anger

²Ibid., p. 140

[illegible]

Journal of Management Studies, 19(1), 67-80.

[illegible]

1. *Journal of the American Medical Association*, 1997; 277: 1033-1037.

over the provocative applause of the organized avant garde, an indignant burst of boos, whistles, shouts and excited gesticulation, such as has seldom been seen in this hall. The intermission looks more than ever like a swarm of ants. One is scandalized, one grumbles, one feels polluted and -- one laughs. And this laughter, this scorn of the musical public for the presumptuous desecration of art -- this was the real death sentence of Paul Hindemith and his wretched work.³

Hindemith sought a philosophical foundation for music-making in all its ramifications. Underlying his approach to composition was the dictum that music must serve a moral and ethical purpose. He based his approach upon the philosophical writings of St. Augustine and Boethius and arrived at a lofty ideal which even he admitted was unattainable.

Extremes they really are! The Augustinian precept, in which our mind absorbs music and transforms it into moral strength; and the Boethian precept, in which the power of music, its ethos, is brought into action upon our mind. Truly these are basic and unalterable musical values. Either of these philosophies can lead us to the loftiest goals; either enjoys the protectorship of the sciences.

To see the fusion of both doctrines in one single piece of music and its perfect appreciation by performers and listeners who in their noble and understanding fervor do justice to both, we will have to wait for a better world. Here on earth we can do nothing better than strive for the closest possible approach to this ideal.⁴

Hindemith's strong belief in the lofty calling of the composer was coupled to the concept that music "is, in spite of its trend toward abstraction, a form of communication between the author and the consumer of music."⁵ It is this emphasis upon the

³Paul Hindemith, Zeugnis in Bildren, with a foreword by Heinrich Strobel, Trans. E. Helm (Second edition; Mainz: Schott und Söhne, 1961), p. 18, quoting from a review of the Concerto for Orchestra.

⁴Paul Hindemith, Composers World, pp. 13-14.

⁵Ibid., p. 75.

relationship between the composer and the listener, the professional musician and the amateur, the teacher and what is taught -- in short, upon all relationships involving people and music that distinguishes the career of Paul Hindemith and sets him apart from his contemporaries. His attempts to write music for varieties of instruments and different levels of talent led to an association of the term Gebrauchsmusik with his music -- a term which may be translated to mean music written for practical use by amateurs or students in their homes or informal gatherings, as opposed to concert music for professional musicians. It was a label which Hindemith abhorred. In many ways Hindemith exemplifies the eighteenth-century musician who often wrote music for specific occasions or for pedagogical purposes, many of the cantatas and organ chorale preludes of Bach being cases in point. It is in eighteenth-century concepts of the functional use and communicability of music that we may best understand this aspect of Hindemith's philosophy regarding musical composition.

As a theorist Hindemith attempted to give his philosophical thoughts practical application. Although his Craft of Musical Composition has created much controversy and undergone some scathing attacks, it nevertheless remains as one of the best modern representatives of the school of natural theorists, who have attempted to synthesize musical composition with immutable natural phenomenon.⁶ William Thomson, in an article entitled "Hindemith's

⁶For a critical analysis of Hindemith's theories relating to natural phenomena see Norman Cazden, "Hindemith and Nature," Music Review, XV (1964, pp. 288-306; and Richard Bobbitt, "Hindemith's Twelve Tone Scale," Music Review, XXIV (1965), pp. 104-117.

Contributions to Music Theory," states that Hindemith's most significant contribution to contemporary theory was his recognition of the interval as the arbiter of pitch structure.⁷ Other important contributions mentioned were: (1) rejection of chord inversions; (2) the principle of harmonic fluctuation; (3) recognition that scales of any form are a by-product of melody; (4) a system of chord analysis; and (5) recognition of tonal coherence in melody.

Although the Craft of Musical Composition provides an insight into Hindemith's theory of composition, there is some doubt that Hindemith followed his own dictums in practice. Victor Landau stated that an examination of Hindemith's available published chamber works between 1917 and 1952 showed:

The relationship of Hindemith's harmonic theories to his practice as a composer of chamber music is something less than may be expected.

The conclusion is best supported by the comparison of periods, which brought out no consistent trend of increasing conformity of theory and practice either before or after the years 1934-1936 when the first volume of Unterweisung im Tonsatz was written.⁸

On the other hand, Hans F. Redlich claims that everything Hindemith wrote after 1937 reflects the theories of the Craft of Musical Composition. As many other critics are apt to do, he assigns an academic quality to Hindemith's music:

⁷William Thomson, "Hindemith's Contributions to Music Theory," Journal of Music Theory, IX (1965), pp. 52-71.

⁸Victor Landau, "Paul Hindemith, A Case Study in Theory and Practice," Music Review, XXI (1961), pp. 51-52.

The works of the mature Hindemith -- composed between 1934 and the time of his death -- seem today increasingly obsolescent, sterile and academic in a pejorative sense. . . . Experiment, so noticeable in the works of the youthful Hindemith, has been replaced by a style increasingly patterned by classical and pre-classical models. . . . The result is music, learned, disciplined, and monotonous in the morass drabness of its shapes, narrow in its acoustic compass, and extremely ugly in sound as a result of the angularities of its polyphony.⁹

It is beyond the scope of this paper to attempt to establish relationships which may or may not exist between Hindemith's music and his theories. It is enough to mention in passing that there is a divergence of opinion on the subject.

When one considers the number of theoretical books Hindemith has contributed and the number of years he spent as a professor of composition and theory, it is interesting to observe that he did not establish a school of composition nor did his teaching produce a composer whose stature is comparable to his own. In fact, Easley Blackwood stated that "some of his students feel that he ruined them creatively."¹⁰ Dr. Howard Boatwright suggests that the Collegium Musicum directed by Hindemith during his years at Yale may have had more influence upon his students than

⁹Hans F. Redlich, "Paul Hindemith: A Re-Assessment," Music Review, XXV (1964), p. 247.

¹⁰Nel Powell, Lukas Foss, and Easley Blackwood, "In Memoriam: Paul Hindemith," Perspectives of New Music, II (1964), p. 4.

his composition classes.¹¹ Among the most notable of his pupils at Yale were Howard Boatwright, Norman Dello Joio, Lukas Foss, Ulysses Kay, Easley Blackwood, and Mel Powell.

Hindemith was an excellent violist and concertized extensively in the early 1920s as a member of the Amar Quartet. He taught himself to perform on almost every orchestral instrument, and his interest in medieval and Renaissance music resulted in skill upon viols, harps, lutes, shawms, cornetts, and recorders. He was not an accomplished keyboard performer however, and his knowledge of the organ was limited.

Hindemith's compositions for organ are not as extensive as those he wrote for piano. The Suite 1922, Op. 26, is his earliest piano composition to have achieved wide fame. Other well-known piano works include the three sonatas of 1936 and the Ludus Tonalis of 1943.¹² The latter work demonstrates Hindemith's avid interest in contrapuntal forms and textures. It has a direct relation to Bach's The Well-Tempered Clavier in that the twelve fugues, interludes, and the prelude and postlude represent a carefully planned entity in which the gamut of contrapuntal practice is explored and exploited.¹³

¹¹Howard Boatwright, "Paul Hindemith as Teacher," Musical Quarterly, L (July, 1964), pp. 279-289.

¹²For a summary of Hindemith's piano compositions see: F. E. Kirby, A Short History of Keyboard Music (New York: The Free Press, 1966), pp. 401-405.

¹³See Hans Tischler, "Hindemith's Ludus Tonalis and Bach's Well-Tempered Clavier--A Comparison," Music Review, XX (1959) pp. 217-227.

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Hindemith did not place keyboard instruments high in his hierarchy of musical instruments. In speaking of the superiority of instruments and voices which can adjust to fine distinctions in tuning, Hindemith stated: "Fortunately, however, the instruments and voices which can produce pure intervals are in a majority over the keyboard instruments, and we need hardly assume that musical sensitivity will ever sink so low as to allow keyboard instruments undisputed mastery."¹⁴ There is not a doubt that his primary interest was with the stringed instruments -- a group he calls "a princely family."¹⁵

Hindemith wrote very little about the organ or organ music. In one of his few references to the organ he states: "Admittedly, the action of the piano key, compared with the mere switch function of the organ key, is highly sensitive, and strangely enough it had reached the highest degree of sensitivity in its most artless form, namely with the key of the clavichord."¹⁶ Considering Hindemith's antiquarian tendencies it would have been most interesting if he had left us some statement regarding the tracker-action organ and its classic tone.

In Book II of Traditional Harmony, Hindemith builds quite

¹⁴Paul Hindemith, Composer's World, p. 28.

¹⁵Ibid., p. 175.

¹⁶Ibid., p. 188.

a case for using the harmonium to play harmony exercises.¹⁷ Although his reason for recommending its use for students is purely academic, nevertheless Hindemith's penetrating insight into the capabilities of organ tone are amply demonstrated. He stressed the ability of the harmonium to play in a manner which presents harmonies as continuous sound without accentuation: "A chord that starts out as a hideous harmony sounds forth in unmitigated hideousness until the entrance of the next one -- and equally, a euphonious combination remains continuously perceptible in its euphony. The harmonies are heard in undeceptive nudity, and nothing can be added to them or subtracted from them."¹⁹

An extremely important point is made by Hindemith when he recognizes that:

Dynamic increase has to be accomplished by increasing the number of tones, not the volume of the single tone. A structural accent of rhythm or meter must thus be expressed through a chord that contains a greater number of tones than its unaccented neighbors. Thus the composer -- and not, as in all other cases, the performer -- is directly responsible for making the form fully clear.¹⁹

This recognition of the singular relationship of organ music to musical structure is to be seen in the manner in which Hindemith himself composes for the organ.

¹⁷Paul Hindemith, Traditional Harmony, Book II: Exercises for Advanced Students, Trans. Arthur Mendel (New York: Associated Music Publishers, Inc., 1953), p. 31-34.

¹⁸Ibid., p. 32.

¹⁹Ibid., p. 33.

Before we turn to a brief survey of the organ sonata, it is apropos to observe two remarks that Hindemith made regarding performers. That he held the performer in high esteem is evident, for he stated:

The individual with the keenest sense for the technique vested in a piece of music is always the performer.²⁰

In our own times performers outnumber composers to a degree never known before, and their abilities, attitudes, and tastes are perhaps the strongest power in determining the development of our musical life. Even the style of emotional expression in our compositions (as well as their outward technical form of appearance) is largely determined by the performer's talents and demands, so that in many cases the composer has become but a purveyor of sound effects for pianists, string players, orchestras, and so forth.²¹

We may deduce from the statements above that Hindemith's confidence in the performer's ability may partially account for his lack of registration and clear dynamic indications for the organ sonatas. Hindemith, however, does not assign performers the right to interpret as they please, for elsewhere he states:

The ideal performer will never try to express his own feelings -- if ever he thinks that feelings are to be expressed -- but the composer's or what he thinks the composer's feelings were.²²

A performer must earn his successes with his musical superiority, and the listener must be brought to artistic satisfaction. But they must not become the victims of such tyrants as technique, success, and pleasure.²³

²⁰Ibid., p. 120.

²¹Ibid., pp. 152-153.

²²Ibid., p. 43.

²³Ibid., p. 26.

A Brief Survey of the Organ Sonata

The sonata has a long association with music written for the organ. We find that composers of the Baroque era wrote many sonatas of the trio sonata type, which usually consisted of three contrapuntal movements in fast, slow, fast order, and were in three voices throughout. The six trio sonatas composed by Bach represent this type of composition at its best.

The development of the symphony and sonata by the composers surrounding the Haydn and Mozart tradition had no counterpart in the field of organ music. According to Rudolph J. Kremer, the organ sonata of classical outlines, resembling the piano sonata in form, began to appear after the year 1845 -- the year Mendelssohn's first organ sonata was published.²⁴ Since that year there have been more than 700 organ sonatas published, with 335 of them composed by German composers.²⁵

It is evident that the formal scheme of the classical sonata was not of prime importance to Mendelssohn when he composed his organ sonatas. Only two movements in his organ sonatas are based upon a sonata-allegro form (the first movements of Sonata I and Sonata IV, and there is little formal similarity

²⁴Rudolph Joseph Kremer, "The Organ Sonata Since 1845" (unpublished Ph. D. dissertation, Dept. of Music, Washington University, 1963), p. 11.

²⁵Ibid., p. 155.

The diagram shows a quantum circuit with four qubits, labeled 1, 2, 3, and 4. The circuit is composed of three layers of operations. In the first layer, there are two CNOT gates: one with qubit 1 as the control and qubit 2 as the target, and another with qubit 3 as the control and qubit 4 as the target. In the second layer, there are two CNOT gates: one with qubit 2 as the control and qubit 1 as the target, and another with qubit 4 as the control and qubit 3 as the target. In the third layer, there are two CNOT gates: one with qubit 1 as the control and qubit 3 as the target, and another with qubit 2 as the control and qubit 4 as the target. The qubits are represented by circles, and the gates are represented by rectangles with dots indicating the control and target qubits.

between any two of the six sonatas. In a letter to the English publishing firm of Coventry and Hollier, Mendelssohn wrote in August 29, 1844:

I have also been very busy about the organ pieces which you wanted me to write for you, and they are nearly finished. I should like to call them "3 Sonatas for Organ," instead of Voluntaries. Tell me if you like this title as well; if not, I think the name of Voluntaries will suit the pieces also, the more so as I do not know what it means precisely.²⁶

Organ sonatas of the latter part of the nineteenth century were characterized by general adherence to some clear formal plan and the use of three or four movements with at least one of them in a sonata-allegro form. Dr. Kremer states that the German organ sonata of this period was characterized by increased use of chorale melodies, particularly as subjects for chorale fugues.²⁷ The three principal composers of organ sonatas during this period were William Valentin Volkmar (1812-1887), Joseph Rheinberger (1839-1901), and Gustav Merkel (1827-1885).

Another national school of great importance to this survey is the French and Belgian school. César Franck (1822-1890) must be placed at the head of this group for he greatly influenced succeeding generations of organ composers. His Grande Pièce Symphonique, Op. 17 (1862), heralds a long line of French

²⁶F. G. Edward, "Mendelssohn's Organ Sonatas," The Musical Times, XLII (1901), p. 794.

²⁷Kremer, p. 10.

organ works which follow the sonata scheme but were entitled symphonie. Félix Alexandre Guilmant (1837-1911), who wrote eight sonatas, and Charles Marie Widor (1844-1937), who wrote ten symphonies are two of the most important composers who carried on Franck's tradition and established what came to be known as the French symphonic school of organ composition. Their compositions were characterized by colorful effects, a generally homophonic texture, and passages of virtuoso toccata movements. Contrapuntal textures and forms were not emphasized in their works.

The French organists were undoubtedly influenced by Aristide Cavaillé-Coll (1811-1899) who built some of the most important instruments of this period. These organs were characterized by brilliant reed tone, some stops which were modeled after orchestral instruments, mechanical devices which made possible rapid changes in registration, effective swell shutters, and placement of several 8' stops on each manual. The compositions written during this time were admirably suited to the colorful effects produced by Cavaillé-Coll's instruments.

Compositions written after 1900 followed the general characteristics of the nineteenth century. Composers such as Paul de Maleingreau (1887-1956), Louis Vierne (1870-1937), and Marcel Dupré (1886-), have continued the French symphonic tradition and have composed organ symphonies. More recent composers such

as Jean Langlais (1907-) and Olivier Messiaen (1908-), have added little to the repertoire by way of sonatas.

The colorful compositions produced by the French school of organ playing influenced organists everywhere and is strongly felt to the present day. As we shall see, the German organists and organ builders also came under its influence.

After the turn of the century, German organ sonatas maintained the formal outlines established in the nineteenth century, although twentieth century harmonic and contrapuntal techniques were adopted. The two principal German organ composers who preceded Hindemith were Max Reger (1873-1916), and Sigfrid Karg-Elert (1877-1933), although neither composer wrote many sonatas. Reger wrote two sonatas and Karg-Elert wrote six, five of which are for harmonium.

Karg-Elert did not exert as much influence upon organ music as Reger. His music illustrated a dual emphasis, with some compositions based upon Baroque forms and others based upon free programmatic pieces of an impressionistic nature. His music characterizes ultra-romantic styles in Germany.

The influence of Reger upon organ music was considerable. He typified the "Back to Bach" movement, proclaiming his allegiance by such statements as: "Sebastian Bach is for me the beginning and end of all music, the solid foundation of any true progress."²⁸

²⁸William W. Austin, Music in the 20th Century (New York: W. W. Norton and Co., Inc., 1966), p. 144, quoting from Die Musik (1905).

He filled his compositions with contrapuntal devices, although the voices were almost obliterated by swift chord progressions, a wide tonal range, and chromatic harmony. His organ compositions range from pp to fff and often call for sudden contrasts. We see in Reger the epitome of the romantic composer, who, by continually bombarding the listener with all the compositional techniques at his command, follows the dictum that "more" necessarily equates with "better." Composers like Reger, however, did provide the impetus toward an interest in contrapuntal forms and textures which was later developed and given articulation by Hindemith and others.

The organ in the cathedral at Wesel was used for performances of Reger's works by Karl Straube, who was organist at the cathedral until 1902. Examination of the stoplist reveals a French influence, and indeed, some stops have French nomenclature.²⁹ It is a very large instrument with ample resources for varying color and dynamics.

Albert Schweitzer (1875-1965) exerted a strong influence upon the revival of Baroque forms and the Baroque organ. He attacked the trend toward orchestral organs and was one of the first to advocate a return to the classic tone and mild voicing of the earlier instruments. His foresight has been more than justified in view of contemporary organ building. Through his books and

²⁹The complete specification for this instrument is given in: Franz Herrenschand, "The Organ of Max Reger," The American Organist (March, 1961), pp. 13-14.

articles on Bach and his performances of Bach organ works Schweitzer did much to hasten the change from romantic trends.

The organ sonatas of Hindemith provided a fresh approach to organ composition at a time when it was sorely needed. The fact that his contrapuntal texture was lean and energetic made his works well suited to the re-awakened interest in the Baroque organ which was gathering momentum at the time. That Hindemith was able to capture the essence of organ composition even though he was not an organist demonstrates his genius and keen musical insight.

Within a few years after the publication of the Hindemith organ sonatas, other sonatas were published by Johann Nepomuk David (1895-), Anton Heiller (1923-), Ernst Pepping (1901-), and Willy Burkhard (1900-1955). Dr. Kremer states that in the case of each of these composers the form of the sonatas has not been significantly altered.³⁰

The revival of Baroque forms may be seen in the contemporary German organ sonata. An interesting type of sonata is found in the group of twenty church sonatas by Johannes Driessler (1921-). Each sonata consists of three or four movements based upon chorales suitable for various liturgical seasons. Other sonatas have been written in the trio sonata scheme of the

³⁰Kremer, p. 18.

• Explain the importance of the following factors in the development of a country's economy:
1. Human Resources: The quality and quantity of the workforce, including education, skills, and health, are crucial for economic growth. Investing in human capital through education and training can lead to higher productivity and innovation.
2. Infrastructure: A well-developed infrastructure, including roads, ports, and communication networks, is essential for facilitating trade, reducing costs, and attracting investment.
3. Technology: Technological innovation and adoption can drive economic growth by increasing efficiency, creating new products, and opening up new markets.
4. Government Policy: Sound economic policies, including fiscal and monetary measures, can create a favorable environment for investment and growth. Government intervention can also address market failures and provide public goods.
5. Globalization: Integration into the global economy through trade and investment can provide access to larger markets, technology, and capital, leading to faster growth.
6. Capital: Access to capital, both domestic and foreign, is necessary for investment in infrastructure, human resources, and technology. A stable financial system and sound banking practices are important for attracting capital.

• Discuss the role of the following factors in the development of a country's economy:
1. Trade: Trade allows countries to specialize in their comparative advantage, leading to higher efficiency and growth. It also provides access to foreign markets and technology.
2. Investment: Investment in infrastructure, human resources, and technology is essential for economic growth. It creates jobs and increases productivity.
3. Innovation: Innovation drives economic growth by creating new products, services, and technologies. It increases efficiency and opens up new markets.
4. Entrepreneurship: Entrepreneurs play a key role in economic growth by identifying opportunities, creating new businesses, and driving innovation. They are responsible for job creation and economic development.

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Baroque such as the Sonata Nr. 9 im Triostill für Orgel, Op. 53 (1913) by Ernst Hans Fahrman³¹ (1860-1940). Throughout all these works the contrapuntal element is especially characteristic. Fugues are often used as well as canons, passacaglias, and all imaginable varieties of chorale preludes.

The development of the organ sonata in the United States does not really get under way until after 1900. Before that date most organ music in this country was under the influence of European schools and most organ composers had either immigrated from Europe, or studied in Europe. Dudley Buck (1839-1909), George Whitefield Chadwick (1854-1931) and William Horatio Parker (1863-1919) are among the earliest composers of organ sonatas, and each studied in Germany, the latter two under Rheinberger. Among composers who came under French influence were: Edward Shippen Barnes (1887-), James H. Rogers (1857-1940), and Clarence Dickinson (1873-). It is more than likely that the organ music of French composers had considerable influence upon the development of organ music in America. The concert tours of Guilmant at the end of the nineteenth century and the very popular recitals of Marcel Dupré during the first half of the twentieth century made them favorites of American audiences.

Most of the sonatas published in the United States by American composers resemble the classical sonata in form, although

³¹Published by Barenreiter.

some have incorporated nineteenth century programmatic concepts, and others have incorporated contrapuntal techniques and forms. Some of the more important composers include Ernst Krenek (1900-), Seth Bingham (1882-), Vincent Persichetti (1915-), and Leo Sowerby (1895-1968). Indeed it is the latter composer who stands as a leader among American composers of organ music in the twentieth century.

CHAPTER II

STYLISTIC FEATURES OF THE ORGAN SONATAS

General Character

The organ sonatas reflect an objective mode of expression in which sentimentality and programmatic representation are minimized. The general dynamic range is restrained. Only once in the sonatas does a fff appear and there are no ppp indications at all. The middle dynamic area -- f, mf, mp, p -- prevails by far, and there are few crescendos and diminuendos, except in Sonata III. On the whole the tempos are also conservative and generally range from slow to moderately fast. There is rhythmic freedom exhibited in the Phantasie, frei of Sonata I, but the wild abandon which characterizes the String Quartet Number Three or Suite 1922 for piano is not matched in the organ sonatas. In many ways these sonatas illustrate the best aspects of the term Gebrauchsmusik, namely: "forms of moderate length; simplicity and clarity of style; . . . avoidance of technical difficulties; . . . soberness and moderation of expression; emphasis on 'good workmanship.'"¹

¹Willi Apel, Harvard Dictionary of Music (Cambridge: Harvard University Press, 1964), p. 291.

Introduction

The purpose of this study is to investigate the effects of

Methodology

The study was conducted using a mixed-methods approach, combining quantitative and qualitative data. The quantitative data was collected through a survey of 100 participants, while the qualitative data was collected through semi-structured interviews with 10 participants. The survey was designed to measure the frequency and duration of the activity, while the interviews were designed to explore the reasons for participation and the perceived benefits. The data was analyzed using statistical software for the quantitative data and thematic analysis for the qualitative data. The results of the study indicate that the activity is performed frequently and for a significant duration. The reasons for participation include enjoyment, social interaction, and health benefits. The perceived benefits include improved mood, increased energy, and better sleep. The study has several limitations, including a small sample size and a lack of control group. Future research should aim to address these limitations and explore the long-term effects of the activity.

Although the sonatas demand a competent technique for recital purposes, they are not without pedagogical value; indeed, most of the movements do not exceed the level of difficulty encountered in the Orgelbüchlein of Bach. Furthermore, Hindemith's pedal part is generally much simpler than Bach's and does not possess the motivic or contrapuntal importance which is employed in the Orgelbüchlein. Hindemith's manual voices lie easily under the hands, although they require a greater measure of technique than his pedal parts. Changes in manuals are not difficult, and there are few occasions when two keyboards are used simultaneously. Registration need not be complex, even though it is not provided in the score. Hindemith's lean texture and carefully wrought phrases demand, however, that the organist provide a transparency of tone and clear manipulation of the melodic strands. In so doing, he must approach Hindemith's music with the same meticulous care as that used for the music of Bach.

Contemporary compositional techniques such as lack of key signatures, wide use of accidentals, variety in harmonic structures, dissonant counterpoint, and an emphasis upon structural clarity are represented throughout the sonatas. It is the ingenious and vital way in which Hindemith combines these elements with traditional features that gives his music great charm and appeal.

Rhythm

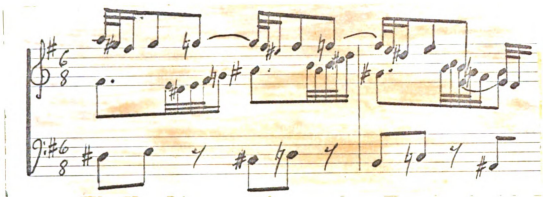
Rhythmic complexity, ranging from the barbaric intensity of Stravinsky and Bartók to the metrical modulation of Elliot Carter or the aleatoric practices of John Cage, has characterized music of the twentieth century. Hindemith's use of rhythm, especially in the organ sonatas, is marked by restraint and tradition. Like Bach, Hindemith achieves rhythmic vitality from contrapuntal movement rather than from rhythmic complexity or displacement of accent.

Rhythmic figurations, similar to those used in the Baroque era, are illustrated in the two slow movements of Sonata I and Sonata III. They resemble the slow movements from the trio sonatas of Bach, although the pedal part in Hindemith's music is not as active as that of Bach's. In both cases, however, the upper contrapuntal voices are rhythmically organized so that a musical dialogue ensues with only one part given emphasis at a time (compare Example 1 and 2). The second movement of Sonata II also suggests a Baroque heritage through its $\frac{6}{8}$ meter and gentle pastorella quality.

Example 1--Sonata I, second movement, mm. 1-3.



Example 2--J. S. Bach: Trio Sonata Number 6, Lento, mm. 14-15.



The Phantasie, frei, from the first sonata illustrates a different type of rhythmic use. Hindemith frequently changes meter in this composition, using signatures of $\frac{4}{4}$, $\frac{5}{4}$, $\frac{6}{8}$, $\frac{3}{4}$, $\frac{12}{8}$, and $\frac{9}{8}$. The tempo indications, ranging from breit (broad) to lebhaft (lively) and the toccata-like episodes labeled frei impart a dramatic flavor to the composition which is not found elsewhere in the sonatas.

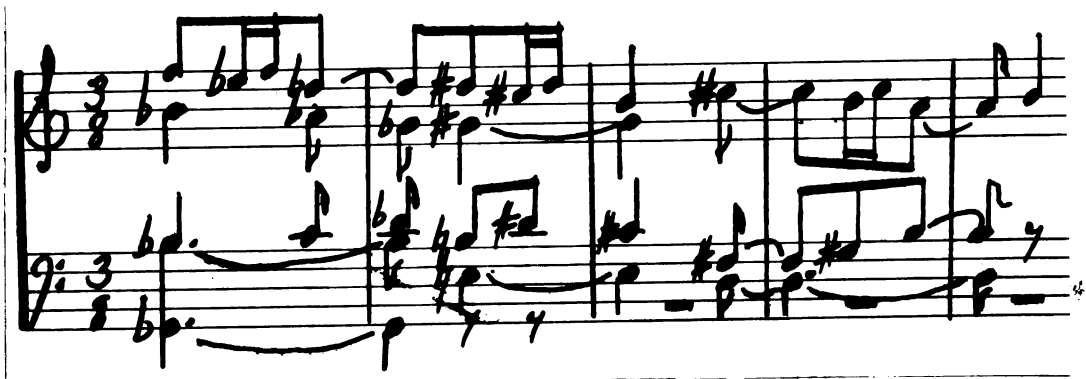
The other sonata movements illustrate a more conservative use of rhythm. Changes in meter signature do not occur often and involve only the addition or subtraction of one beat (i.e., changes from $\frac{2}{4}$ to $\frac{3}{4}$, or from $\frac{9}{8}$ to $\frac{6}{8}$); consequently, the basic pulse is unaffected, although an exception may be seen in the first movement of Sonata I, measures 134-164. That Hindemith was fond of triple and compound meters may be observed in the fact that he used them for six of the ten movements of the sonatas.

Syncopation is used sparingly, occurring only in the first

movements of Sonata I and Sonata III. Frequent use of triplets within a prevailing duple meter is characteristic of Hindemith, although he rarely places triplets against duplets on the same beat. Rhythmic patterns change as the music unfolds and phrases are often contrasted rhythmically. The opening of Sonata I illustrates this latter tendency rather well. It begins with triplets, changes to duplets in measure 5, and then shifts to a dotted-note rhythm in measure 7.

In a broader rhythmic meaning, Hindemith's use of phrases of varied lengths provides a sense of irregular accentuation to his music. His effective use of short phrases, some only a measure in length, is especially characteristic. When other rhythmic elements such as syncopation are coupled with short phrases, the rhythmical effect is sharpened considerably (see Example 3, below).

Example 3--Sonata I, first movement, mm. 82-86.

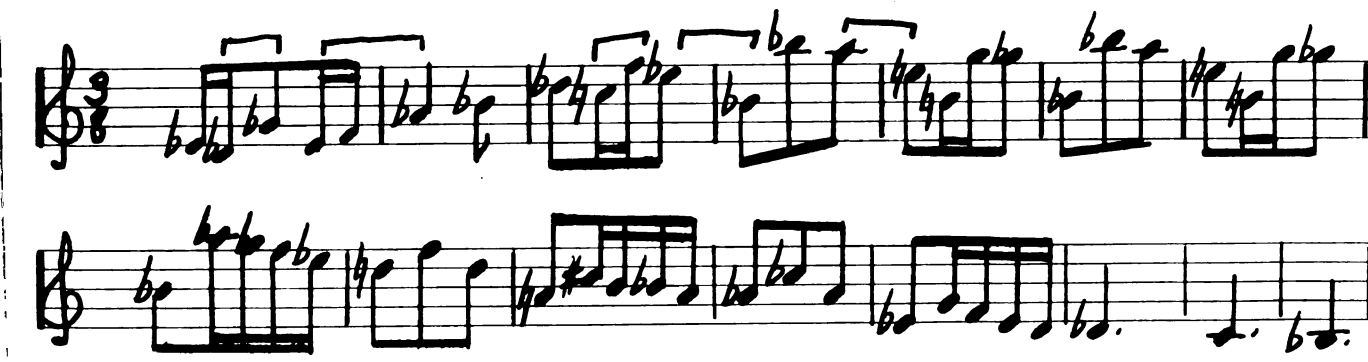


Melody

Hindemith was a melodist: his lines generally reflect an angular, typically instrumental orientation, although singable, almost vocal ideas may also be found in his music. There is an objective quality about his melodies which recalls similar characteristics of Mozart and Bach whom Hindemith greatly admired.

The melodies from the organ sonatas usually have an obvious contour in which a point of climax is clearly established or in which forward motion is logically carried to a point of repose. One of the best of Hindemith's melodies is the main theme of the first movement of Sonata I; it is shown in Example 4. A marvelous effect is created by the energetic rise to a point of climax followed by a relaxation of tension coupled with a descent to the lowest point of the melody. A contour of classic proportions is outlined. It should be mentioned, however, that most of Hindemith's melodies do not possess the wide range of this melody. The usual range is that of a tenth, and some fall within a range of one octave.

Example 4--Sonata I, first movement, mm. 53-67.



1. The first part of the paper discusses the importance of understanding the underlying mechanisms of the observed phenomena. This is crucial for developing effective interventions and policies. The authors argue that a comprehensive understanding of the system is necessary to address the complex challenges it presents.

2. The second part of the paper focuses on the methodology used in the study. The authors describe the data collection process, the statistical models employed, and the validation techniques used to ensure the reliability of the results. They emphasize the importance of transparency and reproducibility in scientific research.

3. The third part of the paper presents the results of the study. The authors show that the proposed model accurately predicts the observed outcomes across different scenarios. They also discuss the limitations of the study and the need for further research to refine the model and explore additional factors that may influence the results.

4. The final part of the paper discusses the implications of the findings for practice and policy. The authors suggest that the insights gained from this study can be used to inform decision-making and to develop more effective strategies for addressing the challenges at hand. They conclude by highlighting the need for continued collaboration and research in this field.

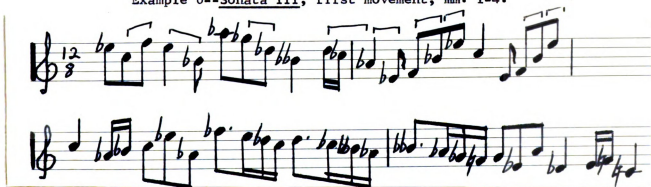
One of the most apparent traits of Hindemith's melodies consists in the use of a number of accidentals. These result from (1) the fact that a key signature is not used, and (2) an expansion of traditional key relationships by the use of tones outside the prevailing scale or mode. One may observe in the first five measures of Example 4 how the use of an $A\sharp$, $E\sharp$, and $B\flat$ expands the E-flat dorian mode. Sometimes the addition of tones foreign to the prevailing scale leads to use of all twelve tones as in the fugue subject of the last movement in Sonata II. In the initial presentation of this subject, given as Example 5, all twelve tones within the octave are presented, with eleven of them occurring within the first fifteen notes. Hindemith does not use serial techniques, however. His melodies sometimes illustrate a free use of the twelve tones, although rarely do his melodies depart very far from a tonal center or a traditional scale pattern.

Example 5--Sonata II, third movement, mm. 1-5.



The use of skips, especially the interval of a fourth, characterizes Hindemith's melodies and contributes to their feeling of angularity and of instrumental orientation. In addition to the number of skips contained in his melodies, they also reflect a basic tenet expressed in his Craft of Musical Composition to the effect that seconds are the basic building blocks out of which melodies are made. Hindemith generally avoided any triadic outlines in his melodies, and the frequent use of melodic fourths and seconds (and their inversions, melodic fifths and sevenths) were an aid to his endeavor. The melodies in Examples 4, 6, and 7 illustrate typical melodic intervals employed by Hindemith. The characteristic interval of a fourth has been bracketed in the examples.

Example 6--Sonata III, first movement, mm. 1-4.



Example 7--Sonata I, second movement, mm. 20-23.



Hindemith generally avoided the leading tone in his melodies, and, as will be pointed out in another section of this chapter, also avoided its use at cadences. Although the leading tone is often not used when melodies are based upon minor scales, Hindemith avoided its use even for melodies which were based upon major scales. Example 8 illustrates this point rather well, especially when one observes how the flatted seventh of the scale (a $D\flat$) is made a prominent feature of this melody. Other melodies in which the flatted seventh is used may be seen in Sonata I, fourth movement, measures 1-8; Sonata II, first movement, measures 1-8; and in Example 6. Hindemith's fondness for modal melodies provided another means whereby he was able to avoid the leading tone. One may observe that the dorian mode is used for the main theme of the sonata-allegro form with which Sonata I begins (see Example 4), and that it is also used for the second theme of the same movement (see Example 9).

Example 8--Sonata II, second movement, mm. 1-5.



Example 9--Sonata I, first movement, mm. 87-92.



Hindemith's melodies, like Bach's, often contain motives which may later be expanded and developed. In this sense, his craftsmanship is much in evidence. Examination of the first page of Sonata I will illustrate the expansion of melodic material from motivic sources. Observe how the upper voice for measures 5-18 is motivically derived from measures 5 and 7. Similar motivic expansion and development may be observed in other movements of the sonatas, especially in the second movements of Sonata I and Sonata III.

Hindemith's use of short phrases, made up of sequential patterns or outright repetition, characterizes many of his melodies. One may observe an illustration of short repetitive phrases in Example 4 and Example 6. The use of sequential patterns is closely related to Hindemith's use of motivic development and expansion mentioned previously. Example 4 amply demonstrates how Hindemith uses the figure given in measures 8 and 9 and continues it by sequential treatment. Sequential or repetitive treatment is not always as apparent as the illustrations given, however, for Hindemith often expands or develops his melodic material in more subtle ways as may be seen in Example 10.

Example 10--Sonata I, first movement, mm. 32-36.



In the final analysis, it is Hindemith himself who provides one of the best insights into his concept of melody. That this concept is expressed in the organ sonatas is readily apparent.

Melodies can, in our time, be constructed rationally. We do not need to believe in benign fairies, bestowing angelic tunes upon their favorites, nor is it necessary to be guided by the crude concept of melodically dissolved harmony. We can understand melodies as a sequence of intervals, linked together in a chain, with recurring tones, and welded into higher melodic entities by variably distanced steps of major and minor seconds. Application of the melodic material according to these considerations will do justice to both the technical demand for continuous sequence of smallest melodic units and the aesthetic goal of indivisible higher entities.¹

Texture

Counterpoint is the essence of Hindemith's texture, whether in fugue or sonata forms. In comparison to the fugues in the Ludus Tonalis, the contrapuntal style of the organ sonatas is not complex. It is of a more light-hearted vein and is generally patterned after a two or, at most, three-voice contrapuntal framework. When other voices are added, they reinforce the basic counterpoint as harmonic parts or they are spaced so they do not obscure the contrapuntal lines. Thus the performer is never given more than he can hope to make intelligible, and the stratified layout of the contrapuntal strands is an aid to his effort. That Hindemith

¹Paul Hindemith, Composers World: Horizons and Limitations (Cambridge: Harvard University Press, 1952), p. 112.

emphasized the clarity and importance of a two-voice framework for contrapuntal compositions may be seen in the following quotation from the Craft of Musical Composition:

If writing in several voices is to sound clear and intelligible, the contours of its two-voice framework must be cleanly designed and cogently organized. . . . The two voices must not get in each other's way, as can easily happen if each is made to bear too much melodic weight; rather must they be contrasted and balanced one against the other, in their shape and in their time-values. This two-part framework is no mere scaffolding to assist the composer in his work; it is a living member of the body of the musical work.²

Hindemith's predilection for fugues is reflected in the extensive use he made of them in his compositions. They constitute the principal feature of the Ludus Tonalis, and also occur in works such as the String Quartet Number Three (the opening movement is a fugato); Symphonie: Mathis der Maler (a fugato occurs near the conclusion of the Temptations of St. Anthony); Piano Sonata Number Three (the last movement is a fugue); or the Sonata for Violin and Piano and the Sonata II for organ, both of which end with a fugue in rondo form.³

Although the fugue in Sonata II mentioned above is the most extensive example in the organ sonatas, there are fugal entries which occur in the first movement of Sonata I. One of

²Paul Hindemith, The Craft of Musical Composition, Book I: Theoretical Part, Trans. Arthur Mendel (New York: Associated Music Publishers, Inc., 1942), p. 114.

³A discussion of the fugue in Sonata II will be dealt with in Chapter III.

the most obvious of these is the exposition of the second theme in the first movement (see Measures 87-130). Another fugal passage takes place in the development where the entries occur a fifth apart -- on C-sharp, F-sharp, and B (in measures 216, 221, and 226 respectively).

An interesting feature of Hindemith's fugal writing for the organ sonatas is that he does not use a countersubject, nor is there always an answer in the sense of traditional tonal relationships. His fugal writing, and his polyphonic texture in general, may be said to reflect a rather free approach to counterpoint in which the voices move with considerable transparency.

As one might expect, a significant number of imitative entries occur throughout the organ sonatas. Two typical entries may be seen in Example 11 and Example 12 below:

Example 11--Sonata II, second movement, mm. 41-44.



Example 12--Sonata I, first movement, mm. 165-173.

Although examples of double counterpoint, inversion or retrograde were not found in the sonatas, other techniques commonly associated with contrapuntal textures such as canon, ostinato, and pedal points were easily located. Lengthy canons such as those in the two organ concertos do not characterize the organ sonatas, although there are two very effective canons which occur in the first movement of Sonata III (measures 24-28 and measures 44-49 respectively).

Ostinatos do not figure extensively in the sonatas. The two ostinatos which occur in measures 27-39 and measures 52-59 of the fourth movement of Sonata I are worthy of notice.

Pedal points are very characteristic of Hindemith and often last for many measures. They may be easily located throughout the sonatas and, as will be pointed out in Chapter V, occur regularly in the organ concertos. One may observe a lengthy pedal point at the end of the first movement in Sonata I (measures 329-372). It is also characteristic for Hindemith to use a pedal point as an inner voice where it has the effect of thickening the texture without increasing the contrapuntal complexity. This technique may be observed in Example 11 and also in Example 13.

Example 13--Sonata I, first movement, mm. 329-332.



Another significant characteristic of Hindemith's texture is the insertion of additional voices to the prevailing texture. These added voices fulfill one of three purposes: (1) their addition results in a corresponding increase in dynamics, (2) they create harmonic support, and (3) they help to accentuate rhythm.⁴ The

⁴Hindemith's remarks regarding the addition of voices to the musical texture may be referred to on page 13.

reader may see examples of all three categories in the last movement of Sonata III. A glance at the score will reveal that the manuals fundamentally consist of a two-voice counterpoint. In measures 1-12 the addition and deletion of voices tends to create changes in the dynamic level, some of which are actually indicated by Hindemith. There is no question that the crescendo in measure 11 is nicely capped by the full-voiced sonorities of measure 12. An harmonic purpose is fulfilled by the additional part which parallels the lowest manual voice in measures 16-17, and an effective feature of the movement is the addition of voices in measures 41, 45, and in measures 61-62. The rhythmic accents created by these six-voiced chords are solidly felt. Another striking example of accents caused by the addition of voices may be seen in Sonata I, third movement, measures 6-7 and measures 34-35.

Two other characteristics of Hindemith's texture may be found in the third movement of Sonata III. The first consists of two-voice octave passages for the manuals in which the two voices are separated by either two or three octaves. Examples may be seen in measures 18-19, 27-30, and 52-53. Other octave passages may be observed in Sonata I, first movement, measures 44-47 and measures 134-143. Octave passages may also be located in other keyboard works such as the piano sonatas and in the piano part of the Theme and Four Variations (The Four Temperaments). A second characteristic, a fondness for use of parallel voices, may be found in the third movement of Sonata III -- in measure 9 (parallel

fifths), measures 16-17 (parallel fourth chords formed by the pedal and left hand), and in measure 44 (parallel fifths in contrary motion). A rich, somber quality is evoked by the parallelism in the first movement of Sonata II in measures 130-153.

The foregoing discussion has dwelt upon the contrapuntal character of Hindemith's organ sonatas, but one should not infer that homophonic textures were not used. The lovely pastorale melody which begins Sonata III (Example 6), or the main theme of the first movement of Sonata I (Example 4) would refute this assumption. There is no doubt, however, that even in cases where one part is given melodic predominance, the other parts provide secondary movement and interest.

Harmony

The familiar, yet individual, harmonic style of Hindemith is well represented in the organ sonatas. As in compositions written for other media, Hindemith makes extensive use of major and minor triads, the "noblest of all chords."⁵ Incomplete major and minor seventh chords, and augmented and diminished triads occur only seldom. Examples of extended tertian sonorities, diminished seventh chords, and tone clusters are not characteristic of the organ sonatas.

⁵Paul Hindemith, Craft of Musical Composition, p. 102.

Hindemith's use of fourth chords (i.e., chords constructed of superimposed fourths) is very evident and appears as three or four note vertical sonorities.⁶ The use of fourth chords and triads in the sonatas is almost equalled by the vast numbers of incomplete sonorities. These generally may be reduced to intervals of thirds or fifths. The frequency of two-voiced passages accounts for many incomplete sonorities, but there are several examples also located in passages comprising three or more voices.

The third movement from Sonata III has been selected to illustrate Hindemith's harmonic vocabulary. We have reduced the vertical sonority appearing on each strong beat to its most familiar form -- simple intervals; and triads, seventh chords, etc., in root position -- and we have placed them within a single clef. In cases where interesting movement occurs on weaker beats it has been included. This harmonic reduction is given on the following page as Example 14.

While the harmonic reduction and analysis of this movement may vary from person to person, a tabulation of the vertical sonorities shown in Example 14 reveals some interesting generalizations. In the first place, incomplete sonorities (38) were used most frequently. Twenty-five fourth chords were used, with most

⁶No distinction will be made between chords built of fourths or fifths, inasmuch as the two designations refer to a rearrangement of notes common to both.

Example 14--Sonata III, third movement; a reduction of vertical sonorities occurring on strong beats.

Handwritten musical score for Example 14, showing vertical sonorities on strong beats. The score is on aged paper with ten staves. It includes measure numbers 4, 10, 15, 27, 30, 35, 40, 45, 50, and 60. There are two "REPETITION" markings: one for measures 1-7 and another for measures 1-6. The notation consists of vertical chords and stems on a treble clef staff with a 2/4 time signature.

of these (17) comprised of three-note groups and all the rest of four-note groups. Although triads were used only eighteen times, it must be admitted that triads were implied in several instances where intervals of thirds and fifths appeared. Thus the triadic feeling of the movement is stronger than the number of triads might indicate. Seventh chords occurred only nine times, and seven of these were incomplete chords.

It is obvious that traditional harmonic progression is used very little. Chords move freely to any other chord and sometimes provide stimulating contrasts as in measures 3-5 or 11-12 of Example 14. Seventh chords and fourth chords, which provide dissonance requiring resolution in more traditional settings, are treated as distinct entities and often proceed to other equally dissonant chords. Hindemith's music recalls the bold treatment of dissonances typical of the Ars Nova in which a counterpoint started and converged at points of consonance while in between it moved with considerable harmonic freedom.

Tonality

Traditional concepts of tonality must be broadened when one refers to Hindemith's music, for his free use of all tones within the octave precludes familiar scale and key relationships. For purposes of this study, the tendency of one tone to emerge and assert itself will be recognized, and it will be designated as a

tonal center or as the tonality, using the two terms interchangeably.

Hindemith's music generally exhibits a strong tonal center. The quotation below illustrates that Hindemith recognized tonality as a desirable element in composition, and it also demonstrates the moral implications which he so often attached to music.

We cannot escape the relationship of tones. Whenever two tones sound, either simultaneously or successively, they create a certain interval-value; whenever chords or intervals are connected, they enter into a more or less close relationship. And whenever the relationships of tones are played off one against another, tonal coherence appears. It is thus quite impossible to devise groups of tones without tonal coherence. Tonality is a natural force, like gravity [italics mine] We may assert that there are but two kinds of music: good music, in which the tonal relations are handled intelligently and skillfully, and bad music, which disregards them and consequently mixes them in aimless fashion.⁷

Hindemith suggests that the triad is a necessary element for the establishment of tonality. It is especially interesting that he relates both the triad and the concept of tonality to the force of gravity. The following statement provides some insight into his consistent use of triads at cadences and structural points:

The extended major triad, . . . is to the trained and the naive listener alike one of the most impressive phenomena of nature, simple and elemental as rain, snow, and wind. Music, as long as it exists, will always take its departure from the major triad and return to it. . . . In the world of tones, the triad corresponds to the force of gravity. [Italics mine] It serves as our constant guiding point, our unit of measure, and our goal, even in those sections of compositions which avoid it.⁸

Every movement of the organ sonatas ends upon a complete or incomplete triad, usually major, but cadences within movements end

⁷Paul Hindemith, Craft of Musical Composition, p. 152.

⁸Ibid., p. 22.

upon a variety of chords, and a few end upon intervals or a single note. Cadences, by which means tonal centers are frequently defined, are of two main types in the organ sonatas: (1) cadences approached by stepwise bass movement, and (2) plagal cadences. In the first type, the bass frequently moves from the supertonic to the tonic either by whole-step or half-step. However, when the bass approaches the tonic from below, it ascends a major second. The upper part usually moves in contrary motion with the bass, although not necessarily by step. That there is a strong similarity between cadences used at the time of Machaut and those used by Hindemith may be seen in Example 15 and 16 below. Both composers demonstrate contrary movement between the outer voices.

Example 15--Machaut: Je puis trop bien, final cadence.⁹



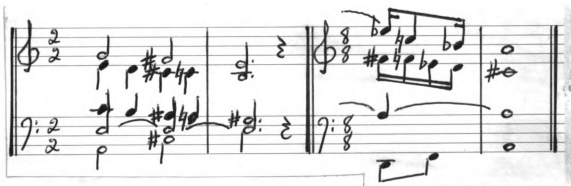
⁹The example is taken from: Archibald T. Davison and Willi Apel (ed.), Historical Anthology of Music, Vol. I: Oriental, Medieval and Renaissance Music (Cambridge: Harvard University Press, 1949), p. 48.

Example 16--Sonata II, first movement, mm. 7-8; and
Sonata III, first movement, mm. 8-9.



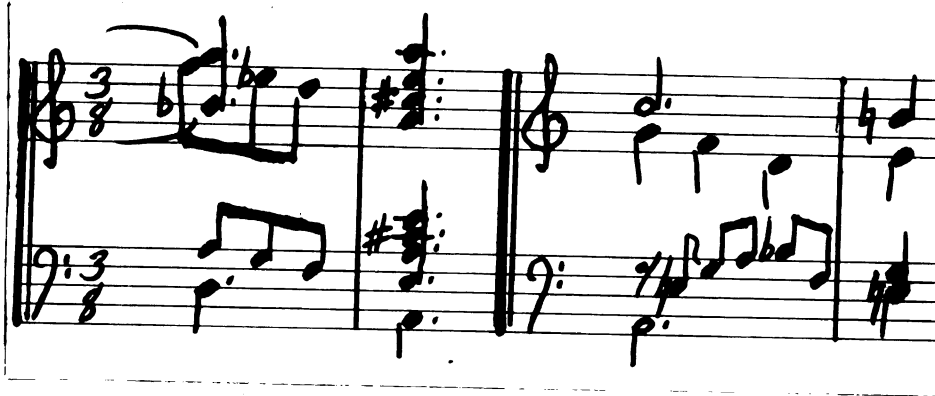
Plagal cadences provided a means whereby Hindemith was able to break with the leading tone tradition of eighteenth and nineteenth century cadential practices. The example below illustrates a typical bass movement from the subdominant, through the submediant, and from thence to the tonic.

Example 17--Sonata II, first movement, mm. 30-31; and
Sonata III, second movement, mm. 16-17.



Sometimes the bass moves directly from the subdominant to the tonic as in the two cadences in Example 18.

Example 18--Sonata I, first movement, mm. 176-177; and Sonata II, third movement, mm. 20-21.

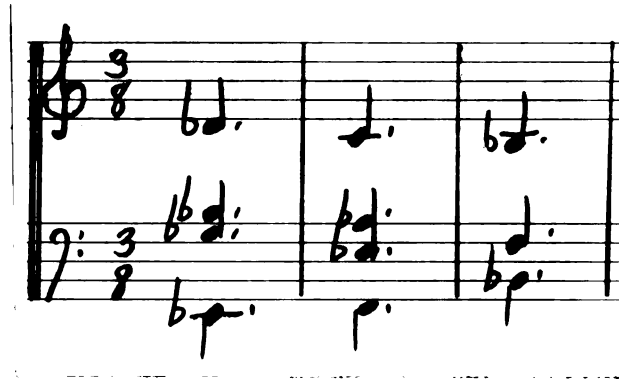


Two other types of cadences occur often enough to merit attention. The first is a cadence prepared by a pedal point, against which the harmony moves about freely until it resolves, incorporating the pedal point as a member of the final sonority (see Example 19). There are also some examples of the bass moving from dominant to tonic at the cadence, but in only one case was the harmony also dominant to tonic (Sonata I, second movement, mm. 16-17). A typical illustration of dominant to tonic bass movement is shown in Example 20.

Example 19--Sonata III, first movement, m. 28.



Example 20--Sonata I, first movement, mm. 65-67.



Tonality in Hindemith's music is established by two other primary methods other than by the use of cadences. The first method consists of interspersing triads throughout phrases and using them as focal points where tonal clarity is needed. (Hindemith's statement regarding the importance of the triad as a basic tonal element may be recalled at this point.) The harmonic reduction of the third movement from Sonata III (Example 14) illustrates this method, especially in measures 27-36.

The second method, that of using tonal repetition, is one of the most characteristic features of Hindemith's music. We have already discussed one aspect of tonal repetition, Hindemith's extensive use of pedal points and it may also be seen in melodies which feature repeated note patterns, and in the use of ostinatos.

We will outline the tonal centers for individual movements as a part of the formal analysis given in Chapter III. It is pertinent to the present discussion, however, to mention some of the typical means Hindemith employs to change tonality. Modulation,

the most traditional method of changing tonality, sometimes appears as an ambiguous tonal passage between two tonal centers. Examples may be seen in the first movement of Sonata III, measures 6-9; and the third movement of Sonata III, measures 16-19. Frequently these areas of ambiguous tonality consist of two-voice contrapuntal or sequential passages as in the first movement of Sonata I, measures 17-18 and measures 270-287.

Sometimes Hindemith changes tonal centers abruptly, as when he begins a new section within a movement. Changes in tonality of one-half step are not uncommon and may be seen in the first movement of Sonata II, measures 153-154; and in the first movement of Sonata III, measures 28-29.

CHAPTER III

THE ORGAN SONATAS: A FORMAL ANALYSIS

Sonata I

General Observations

Sonata I is in two parts, labeled I and II in the score. The first part is a sonata-allegro form with an introduction, but the three movements contained within the second part suggest a Rubens-like triptych through the placement of a brilliant, rhapsodic central movement between two movements of contrasting tempo and mood. For purposes of this study, the opening movement in Part I and the three movements in Part II will be treated as separate entities; and designated as the first, second, third, and fourth movements respectively. These movements are listed below with their corresponding forms.

First movement	Sonata-allegro form with introduction
Second movement	Bipartite form
Third movement	Sectional form
Fourth movement	Rondo form

The first four measures are used motivically in the other movements of the sonata. Inasmuch as this material is so important

to the work as a whole, they have been reproduced below as Example 21. Within these four measures are two motives which will be called Motive A and Motive B (see Examples 22 and 23).

Example 21--Sonata I, first movement, mm. 1-4.



Example 22--Motive A.



Example 23--Motive B.



The use of Motive A and Motive B in some selected areas from the sonata is shown below:

Motive A

First movement

mm. 14-15

mm. 15, 16, and 17 (first beat each measure)

mm. 76-78 and 80-82

Second movement

mm. 14-15 (notice the descending bass line)

Third movement

mm. 39-40 (the original pedal part is in the upper voice in inversion)

Motive B

First movement

mm. 134-162 (extension of the motive, see mm. 137-138 especially)

Third movement

m. 1 (opening pedal motive, also used in mm. 8, 14, 23, and 39-51)

The introduction to the first movement (measures 1-52) is in bipartite form. The first section centers upon the tonality of E-flat, and the second section, beginning in measure 19, tends toward the tonality of G.

Following the statement of Motive A and Motive B in the first four measures, there is a phrase of six measures length (measures 5-10) which is characterized by a downward leap of a fifth and a dotted note rhythm. A consequent phrase of four measures length (measures 11-14) utilizes similar material beginning a sixth higher. In measure 14 Motive A returns, and, in measures 15-18,

it combines with melodic material from measure 5. The first section ends with a series of falling fifths in measures 17-18.

Section two of the bipartite form consists of three phrases and includes a short development. The first phrase begins in G and ends on E (measures 19-22). A modulatory link (measures 22-25) leads back to G. The second phrase (measures 26-31) begins like the first, but soon digresses to A-flat and is extended to six measures length. There is a development of the melodic material which begins in measure 32 in the tonality of A and is further developed to measure 36. This development continues with a statement of the first phrase in augmented and slightly altered form and leads to a climax in measure 41. A modulatory link similar to measures 22-25 occurs in measures 44-47. The third and final phrase occurs in G (measures 48-52) and is closely related to the first phrase.

The sonata-allegro form which constitutes the rest of the movement is outlined below:

Exposition	mm. 53-164
First subject	mm. 53-86
Second subject	mm. 87-133
Development	mm. 165-287
Recapitulation	mm. 288-328
First subject	mm. 288-328
Coda	mm. 329-372

The theme of the first subject is in the E-flat dorian mode, and it is constructed over a sustained E-flat in the lowest voice. It incorporates two phrases in which the first has a strong rhythmic and melodic character (see Example 24), and the second utilizes a descending tetrachord followed by melodic thirds (see Example 25).

Example 24--Sonata I, first movement, mm. 53-60.



Example 25--Sonata I, first movement, mm. 60-63.

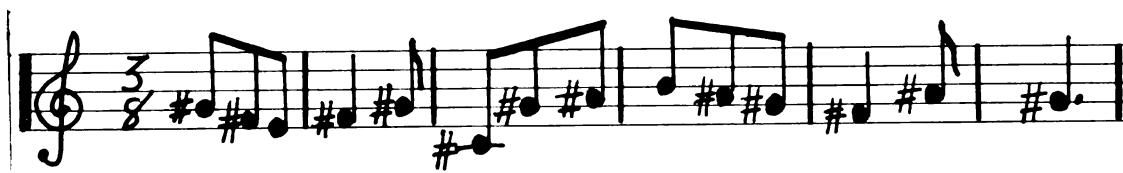


The two phrases mentioned above are stated twice in measures 53-86. In measures 68-86 the first phrase undergoes change only in the left-hand part, while the second phrase is altered by reversing the direction of the tetrachord (measures 75 and 79) and ending with harmonic rather than melodic thirds. One should notice how cleverly Hindemith combines Motive A of the introduction with the tetrachord of the second phrase in measures 75-82. The second phrase

is then extended and forms a modulatory link leading to the second subject.

The second subject is also in the dorian mode (see Example 6). It centers upon the tonality of C-sharp and contrasts with the first subject by having a more stable rhythm and diatonic movement. Further contrast is brought out through a contrapuntal texture in which the theme has three imitative entrances -- beginning on G-sharp, G-sharp and C-sharp respectively. The imitation is confined to the manual voices with the pedal functioning as harmonic support for the ensemble. Following a hint of Motive A in measures 105-110, there are three other presentations of the second subject, to which the manual voices or the pedal lend punctuation.

Example 26--Sonata I, first movement, mm. 87-92.



There is an abrupt change in texture, dynamics, and melodic material in measures 134-164, and this section has the effect of holding progress of the movement in suspension. The question arises as to whether it is: (1) the beginning of the development, (2) a codetta, or (3) a new theme occurring as part of the second subject. Inasmuch as this section provides a sense of finality for the exposition and closes with a pedal point on the

dominant (B-flat), it will be regarded as a codetta.

The development begins with imitative entrances of the first subject in measures 165-177. Beginning in measure 177, the opening four measures of the introduction are recalled, this time expanded to 11 measures. Measures 188-215 are also based upon the introduction (measures 5-17), and incorporate the characteristic falling fifth interval from that section. In measures 216-231 the second subject of the exposition is presented imitatively by the upper and lower voices of the manuals and then by the pedal (measures 226-231). Each presentation of the theme is a fifth lower -- beginning on C-sharp, F-sharp, and B respectively.

The introduction is again recalled in measures 232-243, for they are an expansion of measures 19-22. It is interesting that the point of climax for the introduction (measures 40-43) becomes a part of the development in measures 245-251 and leads directly to the climactic point of the development -- a statement of the first four measures of the introduction (measures 252-258) followed by the second theme of the exposition presented in canon (measures 260-265). Furthermore, the upper voice of measures 260-265 resembles the upper voice of measures 40-42 in the introduction. Here we see an excellent example of Hindemith uniting thematic material from several sources. The development concludes with a link (measures 270-287) which is melodically related to measures 22-25 of the introduction.

• The first step in the process of creating a new product is to identify a market need. This can be done through market research, which involves gathering information about the target market and its needs. Once a market need has been identified, the next step is to develop a concept for a new product that meets this need. This concept should be based on the market research and should take into account the needs and preferences of the target market. The concept should also be feasible, meaning that it can be developed and produced within the resources available to the company. Once a concept has been developed, the next step is to create a prototype of the product. This can be done using a variety of methods, including 3D printing, computer-aided design (CAD), and traditional manufacturing techniques. The prototype should be used to test the product and to gather feedback from potential customers. This feedback can be used to refine the product and to make any necessary changes. Once the product has been refined, the next step is to develop a business plan for the new product. This plan should outline the company's goals, the marketing strategy, and the financial projections. The business plan should also include a timeline for the development and production of the product. Once the business plan has been developed, the next step is to secure funding for the new product. This can be done through a variety of methods, including venture capital, bank loans, and crowdfunding. Once funding has been secured, the next step is to develop a marketing strategy for the new product. This strategy should outline the company's goals, the target market, and the marketing tactics that will be used to promote the product. Once the marketing strategy has been developed, the next step is to produce the product. This can be done using a variety of methods, including traditional manufacturing techniques and 3D printing. Once the product has been produced, the next step is to launch the product into the market. This can be done through a variety of methods, including direct sales, retail, and online sales. Once the product has been launched, the next step is to monitor the product's performance in the market. This can be done through a variety of methods, including sales data, customer feedback, and market research. If the product is performing well, the company can continue to produce and sell the product. If the product is not performing well, the company can make any necessary changes to the product or the marketing strategy.

The recapitulation begins at measure 288 in the tonality of E-flat with an exact repeat of the initial fifteen measures of the exposition. The first subject continues at measure 303 with an enharmonic change from its original place in the exposition and moves to the tonal center of B. The next section (measures 311-322) is related closely to the second phrase of the first subject (see Example 25) and also incorporates Motive A from the opening four measures of the introduction.

A short link in measures 322 to 328 leads to what would ordinarily be the second subject. One is fully prepared for its entrance and the tonality is the expected one of E-flat, yet Hindemith begins measure 329 with the first subject theme! The character of the movement relaxes considerably at this point, and it soon becomes obvious that Hindemith has dispensed with the second subject in the recapitulation and has begun the coda. The pedal point which begins in measure 329 and lasts to the end of the movement would seem to confirm this analysis.

The combination of the first subject theme with the second subject theme in the coda is one of its principal features (see Example 27). This thematic combination is presented three times in the coda, and, in measures 351-361, is given sequential treatment and expansion. It is almost as though Hindemith were telling us that this movement, in spite of all its contrasts and energetic outpourings, was based upon a very simple little tune after all.

Example 27--Sonata I, first movement, mm. 329-337.



Second Movement

The contrapuntal lyricism which permeates this movement illustrates Hindemith's melodic sensitivity. The movement generally consists of a two voice contrapuntal texture for the manuals with the pedal functioning as a bass. The three voices are increased to five voices in measures 13-16, the climax of the movement.

The two sections which make up the bipartite structure are similar in many respects. Not only is their general character highly unified through the use of similar rhythms and texture, but the first three measures are the same for each (see Example 28). The first section extends the melodic thrust of the first three measures to measure 8 where a three measure phrase begins. This phrase is repeated one step lower in measures 11-13, then there is a short development of a tetrachord in contrary motion which leads to a statement of Motive A in

measures 14-15. After sounding the dominant in measures 15-16, the first section ends on E in measure 17 where it elides with the beginning of the second section.

Example 28--Sonata I, second movement, mm. 1-3.



The second section, after repeating the initial measures of section one, departs to a new melody of two phrases length. These last two phrases are then repeated in measures 26-32, and the final cadence on E is extended for two measures.

There are two musical ideas which stand out in the second movement. The first is a rhythmic ostinato which characterizes much of the pedal part, and the second is the interval of a sixth which often occurs in the melodic lines of the manual voices. The leap of a sixth first occurs as the opening two notes in the right hand, and it may also be observed in the left-hand part in measures 4, 5, and 6.

Third Movement

Unlike the rest of the sonata, the third movement changes meter and tempo frequently. Due to many rapid keyboard passages and the above mentioned rhythmic fluctuations, the movement takes on the character of a rhapsodic toccata.

There are five sections, and each section is marked off with a four note pedal motive similar to the one which begins the movement (see Example 29). One may observe the beginnings of each section in measures 1, 8, 14, 23, and 39. The last note of the motive defines an initial tonality for each section, and this last note, which is always sustained for at least one measure, is always a fifth removed from the last note of the previous motive.

Example 29--Sonata I, third movement, mm. 1-2.



The second section begins by developing the motive as given in Example 31. It soon expands to an ornamental passage which leads to a chord in measure 14 which itself is reminiscent of the chord given in measure 7. In fact, the entire second section, with its upward sweep of notes, could be said to be the reverse of measure 7 -- or even of the entire first section, which has a generally downward direction from an initial chord.

The third section consists of further elaboration of the basic motive of the movement through sequential treatment.

The fourth section begins with massive chords which reiterate the motive in such a way that one cannot help but suspect that the motive B-A-C-H has somehow managed to slip into the musical fabric (see Example 32). Following these chords, a new musical idea consisting of a tetrachord played by the left hand occurs in measure 24. Against this new material a gyrating series of notes related to the motive expends itself rapidly. There is a slower section which begins in measure 30, and it is freely derived from the tetrachord first introduced in measure 24.

Example 32--Sonata I, third movement, mm. 23-24.



In measure 34 a new figuration makes an appearance and once again we find that the motive constitutes the germ for this passage. The motive is outlined in Example 33 where the notes are marked with an asterisk. Measures 37 and 38 are similarly derived from the motive of this movement.

Example 33--Sonata I, third movement, mm. 34-35.



The last section begins in measure 39 with three cadential chords played over the pedal motive which continues as an ostinato to the end of the movement. These cadential chords are reminiscent of the opening motive of the sonata, Motive A, and the upper voice constitutes an inversion of the three notes sounded first by the pedal in measures 1-3 of the first movement. The three cadential chords are repeated in measures 41-42 and at the conclusion of the movement.

Fourth Movement

The fourth movement is based upon the rondo form outlined below:

Theme	mm. 1-26
Episode	mm. 27-41
Theme	mm. 41-52
Episode	mm. 52-78
Theme	mm. 78-100
Codetta	mm. 100-114

As in the rest of the sonata, Hindemith recalls melodic material from the first movement. Motive A occurs in measures 14-15 and 18-19, and there is also some resemblance between the thematic material of the first and last movements which may be observed by comparing Example 34a and 34b.

Example 34a--Sonata I, fourth movement, mm. 10-12.



Example 34b--Sonata I, first movement, mm. 60-61.



The theme, which is in a bipartite form, encompasses measures 1-26. The first section of the theme, generally centered upon a tonal center of E-flat, ends on the first beat of measure 14. The second section uses the melodic material of measure 7 and expands upon it in two similar phrases -- the first in the tonality of E-flat, and the second in the tonality of C. A modulatory link in measures 22-26 leads to the first episode and is derived from the rising dotted-note figure first heard in the left-hand part of measures 7 and 14.

The first episode is a period which centers upon the tonality of A. It consists of two similar phrases (measures 27-32 and measures 33-38) and features the use of a basso ostinato for both phrases. A short link in measures 38-41 leads back to E-flat and a repetition of the first 10 measures of the theme.

The second episode is an unusual one, for it consists of a theme with a single variation. The theme is given first in measures 52-63 in $\frac{3}{4}$ meter. It is presented by the right-hand part, and, for the first two phrases in measures 52-55 and measures 56-59, is accompanied by an ostinato accompaniment in the left hand and pedal. A third phrase concludes the statement of the theme in measures 59-63. Examination of the variation in measures 64-77 will reveal that the left-hand part and the pedal are repeated literally except for the last four measures in which the note values are doubled. During this same section the right hand provides a melodic variant of its original part. The entire episode is based upon a tonal center of B.

In measure 78 the theme returns in the tonality of E-flat. The theme of the rondo undergoes some development and transformation during measures 85-96 and there is a shift in tonality to A-flat. Following a short modulatory link, the codetta begins in measure 100 over a pedal point on E-flat which is maintained to the concluding E-flat minor chord. Further unification of melodic material may be seen in the use of the first three notes of the rondo theme for measures 100-104, and an inversion of these three notes in measures 105-109.

Sonata II

General Observations

Sonata II was written in 1937, the same year as Sonata I. The three movements of the sonata, indicated in the score by Roman

numerals I, II, and III, are listed below with their corresponding forms.

First movement	Rondo form
Second movement	Ternary form
Third movement	Fugue/rondo

Although motives such as those found in Sonata I do not permeate this work, it is interesting to notice that there is a suggestion of Motive A from the first sonata which occurs in measures 1-2, 3-4, and 5-6 of the first movement of Sonata II. One may well speculate that this motive, so important to Sonata I, was consciously or unconsciously still on Hindemith's mind as he wrote the second sonata.

Plagal cadences, which are used extensively in Sonata II often signal the conclusion of a movement or of an important section. Their use takes on an almost motivic character, especially when one considers that the melodic line frequently consists of 3-2-1, with the bass moving either 4-6-1 or 6-7-1. Examples may be seen in measures 7-8 and 30-31 of the first movement.

First Movement

The rondo form of the first movement is outlined below:

1. The first part of the paper is devoted to the study of the properties of the function $f(x)$ defined by the equation

$$f(x) = \int_0^x \frac{1}{1+t^2} dt$$

It is shown that the function $f(x)$ is increasing and concave down on the interval $(-\infty, \infty)$. Moreover, the function $f(x)$ is bounded on the interval $(-\infty, \infty)$ and its range is the interval $(-\frac{\pi}{2}, \frac{\pi}{2})$. The function $f(x)$ is also shown to be continuous and differentiable on the interval $(-\infty, \infty)$.

2. The second part of the paper is devoted to the study of the properties of the function $g(x)$ defined by the equation

$$g(x) = \int_0^x \frac{1}{1+t^2} dt$$

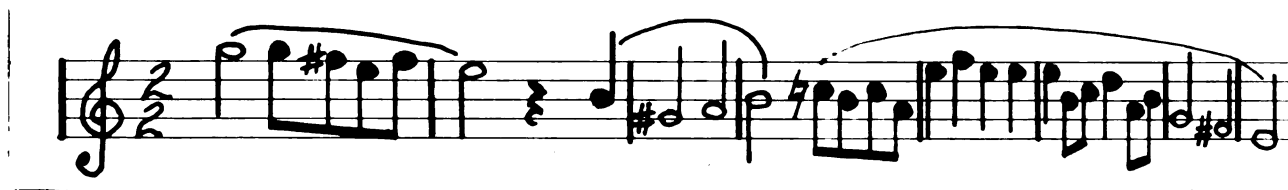
It is shown that the function $g(x)$ is increasing and concave down on the interval $(-\infty, \infty)$. Moreover, the function $g(x)$ is bounded on the interval $(-\infty, \infty)$ and its range is the interval $(-\frac{\pi}{2}, \frac{\pi}{2})$.

3. The third part of the paper is devoted to the study of the properties of the function $h(x)$ defined by the equation

Rondo theme	mm. 1-31
First episode	mm. 32-71
Rondo theme	mm. 72-106
Second episode	mm. 106-153
Rondo theme	mm. 154-184

The movement begins with the rondo theme which itself is in a ternary form. The first and last sections of the form (measures 1-8 and 24-31) are very similar and constitute the main thematic material. It is given as Example 35. In measures 8-14 there is a modulatory link consisting of two phrases, with the second phrase a repetition of the first transposed one tone lower. Inasmuch as this material is important to the second appearance of the rondo theme, it is reproduced as Example 36.

Example 35--Sonata II, first movement, mm. 1-8.



Example 36--Sonata II, first movement, mm. 8-11.



The middle section of the rondo theme begins in measure 14 in the tonality of G-sharp. It consists of a melody which is first presented by the right hand and then repeated in an abbreviated version by the left hand in measures 20-23. The middle section ends when it elides abruptly with the third section in measure 24.

The final section of the rondo theme presents an almost exact repetition of the upper voice of measures 1-8. The left-hand part assumes greater rhythmic importance while the other parts are slightly modified. The rondo refrain ends upon an E major chord in measure 31.

One of the unusual features of the episodes is the use of a motto theme which heralds important sections in the episodes. It is given in Example 37. The use of fourths, the pedal point on the two inner voices, and an emphasis upon beginning and ending the two outer voices on an octave not only illustrate a sound which is typical of Hindemith, but also provide easy recognition of the motto theme.

Example 37--Sonata II, first movement, mm. 32-35.



After the motto theme has been stated, the first episode continues with a long phrase of 15 measures. It is new musical material consisting of notes and intervals played with alternating hands and supported occasionally by the pedal. This toccata-like section ends at measure 49 in the tonality of B and the motto theme reappears, thus announcing the next section of the episode.

The second section consists of a series of transitory phrases. It begins with two similar phrases in measures 52-63 and is followed by four other phrases. The first of these four phrases presents a graceful melody in the upper voice which is repeated in the second phrase with slight embellishment. The left-hand accompaniment for the first two phrases becomes the principal feature of the third phrase in measures 67-69. The fourth phrase ends with a short passage in octaves.

The rondo theme returns in measures 72-106, beginning in the tonality of G-sharp and ending in A. The ternary form characteristic of the first rondo theme is present, although there are some interesting modifications in the musical material used. One of the unusual features is that a transposition of the first eight measures of the movement is used to begin and conclude this section (compare measures 72-79 and 99-106 with Example 35). Another interesting feature is that some of the melodic material of

measures 79-98 is cleverly derived from the fifth, sixth, seventh and eighth notes of the modulatory link in the first rondo theme (compare Example 38 with Example 36). A humorous observation may be made here that Hindemith once told Robert Noehren that these measures reminded him of a barber pole!

Example 38--Sonata II, first movement, mm. 79-83.



The second episode, like the first, has two sections which are separated by the use of the motto theme. Although the first section of this episode resembles the initial section of the previous episode through the use of an eighth-note rhythm and parallel sixths, the resemblance can be taken no further, for the rest of the musical material is new. There are three phrases, located in measures 106-111, measures 111-118, and measures 118-125 respectively. Each phrase expands the musical material of its predecessor so that a climax is attained in measures 123-125. Furthermore, each phrase ends with two staccato

chords which have the character of dramatic punctuation. The first section concludes with three repetitions of the staccato chords in measures 123-125.

Hindemith, having attained the climactic point of this section, and for the first movement as well, cleverly continues with the motto theme of the episode and makes it a part of the climax and at the same time separates the two sections of this episode.

The second section of the episode is of such startlingly different character that at first glance it seems out of place. The texture contrasts with the rest of the movement through the use of parallel voices, and there is also a softer dynamic level and a slower rhythm. These elements provide a rather ponderous and mysterious quality in a movement which otherwise sparkles with vitality.

There are five phrases in this section, each beginning in measures 129, 133, 137, 145, and 149 respectively. The fourth and fifth phrases repeat the first and second phrases with the exception of a five-note link preceding the fifth phrase. Hindemith ends the second episode in the tonality of F and characteristically begins the next section a half-step away, upon E.

The final statement of the rondo theme consists of a literal repeat of the first thirty-one measures.

Second Movement

One is reminded of the terraced dynamics characteristic of the Baroque era in the second movement, for phrases are designated either p or mf with corresponding manual designations of Oberwerk and Hauptwerk. These are the only manual designations given in the three sonatas.

The second movement is a ternary form in which the digression and restatement are repeated, although with some modifications. The outline of the ternary form follows with corresponding measure numbers.

Ternary form:

Statement	mm. 1-20
Digression.	mm. 20-31
Restatement	mm. 32-38

Repetition of last two sections:

Digression.	mm. 39-49
Restatement	mm. 50-56
Coda.	mm. 57-66

The opening statement consists of four phrases in the form of a double period with each period centered upon the tonality of E and ending in F-sharp. In measures 7-8 there is a short passage in C-sharp which is very reminiscent of Motive A from Sonata I.

The middle section of the ternary form begins in measure

20 with a melody which has melodic and rhythmic resemblance to the opening statement. There are two similar phrases and a transitional phrase. The first phrase, measures 20-23, is transposed a third higher and extended sequentially to become the second phrase in measures 23-27. The second phrase elides with the beginning of the third phrase in measure 27. There is an interesting chain sequence for the right-hand part of the third phrase which drops a fourth each measure over a pedal point on A and an ascending bass in the left hand. The section ends with a cadence on D which functions as a half-cadence.

The restatement is a seven measure phrase in the tonality of E in which Hindemith presents the upper voice of measures 1 and 2 imitatively in measures 32-33, 34-35, and 36-37. The ternary form could have closed with a coda at this point, but Hindemith enlarged its dimensions by modifying and repeating the digression and restatement before proceeding to the coda.

The second presentation of the digression begins as before, except that two pedal points on F and D are added, thus reaffirming the tonal basis of the previous section. The highest voice is the same as that used in the original digression and the imitative treatment characteristic of the former digression continues, although the inner parts are modified.

The final restatement is also quite similar to its predecessor. It differs from its original in much the same manner as

the digression discussed above -- the upper voice remains the same, the inner parts are modified, and there is the addition of a pedal point.

The coda, measures 57-66, continues the same p and mf alteration upon the Hauptwerk and Oberwerk. There are two-four measure phrases in which the upper voice is identical for each, and two similar, but very short phrases in the last four measures.

Third Movement

The third movement has two dynamic curves, each of which begins pp, rises to f, and then returns to pp. The first curve takes up two-thirds of the movement (measures 1-60), and the second occurs in measures 61-93.

Although Hindemith labeled this movement Fuge, it is not a fugue in the usual sense, nor is it monothematic. The movement consists of three fugue expositions which alternate with sections that are digressive in nature. These digressions do not develop or present musical material from the expositions, but introduce new melodies or new motives. It is obvious that Hindemith has combined elements of fugue and rondo to produce a unique compound form. The outline below shows the main sections of the movement, which will be termed a fugue/rondo.

Fugue exposition I.	mm. 1-21
Digression I.	mm. 21-31
Fugue exposition II	mm. 32-44
Digression II	mm. 45-60
Fugue exposition III.	mm. 61-93

The fugue subject is interesting for its use of eleven of the twelve tones within the octave, each of which is numbered in Example 39. The subject is not atonal, however, for the tonal center of A is established through the tonic to dominant relationship of the second to the third note, the repetition of A about midway in the subject, and by ending the subject on the dominant of A.

Example 39--Sonata II, third movement, mm. 1-4.



A countersubject is not used in any of the fugue expositions, nor do any motives from the digressions occur as a counterpoint to the fugue subject. There are illustrations of false entries, but none of stretto. In the second fugue exposition, measures 32-34, Hindemith pays homage to J. S. Bach by use of the well-known B-A-C-H motive in the pedal.

Although a four voice texture is implied by the use of

four entries of the subject in each exposition, the number of voices fluctuates and sometimes increases to five or six voices. A reading problem is created by the fact that rests are not always inserted for voices that have momentarily dropped from the texture as in measures 12, 13, 14, 33, or 35.

The movement begins with an announcement of the fugue subject in voice one (we will speak of the upper voice as voice one, the next lowest voice as voice two, etc.). Voice three introduces a real answer in C as voice one concludes the last three notes of the subject. Both voices continue to measure 7 where they end on G, the dominant of the second entry. In the course of a short extension to measure 9, voice one utilizes the principle of vorimitation based on the head motive of the subject while voice three uses the head motive in longer note values before proceeding to E, the dominant of the original tonality (the notes of the head motive are marked with asterisks in Example 39). When the subject is presented by voice two in measure 9, it is almost obliterated by the imitation in the upper voices. Gradually the second voice emerges as the other voices recede melodically and rhythmically. A four measure episode follows in which voice two motivically states the last three notes of the subject.

Voice four enters with a real answer in C while the other voices assume a fairly static rhythm. Voice one maintains a pedal point on C and voice three joins with an additional pedal

point on C in measure 18. The answer is shortened by three notes and concludes on A. At this point the pedal loses its contrapuntal importance and functions instead as a bass which prepares for a cadence on the dominant in measure 21.

Normally an episode leading to other entrances of the subject in various keys would begin after the exposition of a fugue. However, Hindemith brings the exposition to a stop at measure 21 and follows it with a new theme (See example 40) which is not related to the exposition. This theme is presented three times -- in voice one (measures 21-24), in voice three (measures 24-27), and in voice four (measures 29-31). In each case the theme is accompanied by a counterpoint consisting of two or three voices.

Example 40--Sonata II, third movement, mm. 21-24.



The second exposition begins in measure 32 when voice one announces the subject accompanied by the B-A-C-H theme in the pedal. Voices two, three, and four are reduced to harmonic support for the outer voices. In measures 35 and 38 the subject is presented with slight melodic modifications and the contrapuntal texture intensifies. In measure 41 the subject in its original

form is presented by voice four while a pedal point on A is given to voices one and three.

The momentum generated in the previous exposition is brought to a climax at the beginning of the second digression. This digression commences in measure 45 and consists of four-three measure phrases and an extension. The first and second phrases, measures 45-47 and 48-50, are transposed one step lower and repeated as the third and fourth phrases in measures 51-53 and 54-56. Hindemith contrasts the repeated phrases by indicating f for the first two phrases and mf for the latter two. Measures 55-56 are then extended to measures 57-60 and the climactic character of this section diminishes. The tonality hovers around E until measure 60 when the subdominant of D is heard.

The final exposition begins over a pedal point on D. The first subject is presented by voice one accompanied by voice three. In measure 65 voice two is added while voice three presents a real answer in F. Voice four enters with another real answer in C in measure 70 following a short episode. The texture is increased to five voices at measure 73 when voice one announces the subject tonally.

The intensity created by the contrapuntal movement preceding measure 73 is now taken up by an increase in dynamic levels and in the number of voices. At the same time Hindemith correspondingly reduces the contrapuntal texture to a more homophonic one.

The last three notes of the subject are presented imitatively in measures 76-77, then the number of voices is reduced to four. Measures 78-82 exhibit sequential treatment of the head motive and the last three notes of the subject by the upper voice and the pedal respectively. The sequential treatment is continued in the third voice to measure 88 while the pedal sustains a pedal point on A.

The final fifteen notes of the subject are announced in octaves to measure 91. In measures 91-93 the plagal cadence which characterizes this sonata is heard with the last three notes of the fugue subject given in long note values as the upper voice.

Sonata III

General Observations

Sonata III was written within a day and a half while Hindemith was in Buffalo, New York. Its inception came about as a result of a luncheon in 1940, during which Robert Noehren and Herbert Fromm suggested to Hindemith that he ought to write some organ music to complement the first two organ sonatas which had already been published. By three o'clock in the afternoon of the same day, Hindemith telephoned Robert Noehren to say that he had just completed a movement for an organ sonata (the second movement of Sonata III) and that he would like to hear it performed right away. By the end of the next day the other two movements had been completed.

That a composition so rich in inventiveness and expression could be created within such a short time serves to illustrate Hindemith's craftsmanship and creative facility.

Whereas traditional multisectional forms were used for the earlier organ sonatas, each movement of the third sonata is based upon a cantus firmus treatment of an old German folk song. The song is named at the beginning of each movement and its use as a cantus firmus is easily located, although a programmatic representation of the text is accorded little attention. We may gain some insight into Sonata III from the following quotation from the Craft of Musical Composition in which Hindemith states his reasons for using folk tunes as cantus firmuses for two voice settings:

I shall restrict myself, however, to the older song material because in this the melody develops in the full freshness of unrestrained pleasure in linear design, without being hampered by overstressed harmonic considerations in the scheme of definite cadences and marked symmetrical phrase structure which later determines the form. These old songs thus give rich possibilities to a polyphonic treatment; above all, they are the ideal work-material for two-voice settings.¹

The statement above gains added importance when we realize that the folk tunes used for the three movements of Sonata III were also used as work material and melody models in the pages which immediately follow the above quotation.² It is highly likely that

¹Paul Hindemith, The Craft of Musical Composition, Book II: Exercises in Two-part Writing, Trans. Otto Ortmann (New York: Associated Music Publishers, Inc., 1941), p. 134.

²Ibid., pages for the folk tunes are as follows:
Ach Gott wem soll ich's klagen. . . .p. 158
Wach auf, mein hortp. 150
So wunsch ich ihrp. 151

Hindemith's familiarity with these tunes provided a ready source of material when he composed the third sonata. The following discussion of the folk tunes used in Sonata III utilizes the same source used by Hindemith for his folk tune examples, in the Craft of Musical Composition: Franz M. Böhme's Altdeutsches Liederbuch.³

We noted in the earlier sonatas that motives were used to unify movements and establish continuity. The movements in Sonata III however, are not motivically related, and, except for traditional tempo designations, the sonata seems more like a grouping of three independent pieces than a sonata in the more traditional sense.

First Movement

An old German folk song from the sixteenth century, Ach Gott wem soll ich's klagen, is used twice as a cantus firmus in the first movement. The tune and a translation of the text appear below:

³Ibid., footnote on p. 135.

Example 41-- Lament over Unfaithfulness: Ach Gott, wem soll ich's klagen.⁴



O Lord, to whom shall I cry out my sorrow?
My young heart is imprisoned
And I cannot escape.
I had chosen a light-hearted maiden
But another has driven me out.

I would love her, I would hold her dear
And would do everything that her young heart desired
In correctness and in honor.
Yet she has another love than me,
She wants to leave me completely.

What keeps thee love, on thy wicked path?
That you are so completely unfaithful
Surprises me without end.
You have treated your promises like
Words in the wind.

⁴Franz M. Böhme, Altdeutsches Liederbuch (Wiesbaden: Breitkopf & Härtel, 1966), pp. 300-301. Translation of the text by the author.

Unfaithfulness often returns to one
 Who is unfaithful;
 Of this I can assure you.
 I want to see the time
 When it will happen to you.

If I had perceived your unfaithfulness sooner
 My heart would have turned itself from you.
 You have lied to me.
 I can clearly tell by your deceitful eyes
 That you are untrue even to yourself.

Whoever sits upon a thornbrier
 And trusts himself to a young maiden
 Is led like a blind man.
 If he does not lose his way,
 He can really take pride in himself.

Therefore give heed, young men!
 Whoever has love for young maidens,
 Don't let them deceive you.
 The more emphatic the promises
 The sooner they will be broken.

Hindemith allows the organist a much wider dynamic range in the first movement than in the other two movements. The many crescendos and diminuendos, as well as the range from pp to fff could be construed as a programmatic representation of the folk song text.

The performance recommendations regarding the use of swell shutters and crescendo pedal given at the beginning of the second sonata is repeated for this sonata, otherwise there are no manual or timbre indications for the performer.⁵

The movement is clearly separated into two sections by

⁵See p. 91.

1. The first part of the document is a list of the names of the persons who were present at the meeting. The names are listed in alphabetical order.

2. The second part of the document is a list of the topics that were discussed at the meeting. The topics are listed in alphabetical order.

3. The third part of the document is a list of the actions that were taken at the meeting. The actions are listed in alphabetical order.

4. The fourth part of the document is a list of the resolutions that were adopted at the meeting. The resolutions are listed in alphabetical order.

5. The fifth part of the document is a list of the recommendations that were made at the meeting. The recommendations are listed in alphabetical order.

6. The sixth part of the document is a list of the conclusions that were reached at the meeting. The conclusions are listed in alphabetical order.

7. The seventh part of the document is a list of the recommendations that were made at the meeting. The recommendations are listed in alphabetical order.

contrasts in style and character as well as by a change in meter signature at measure 29. The overall effect is that of a prelude and chorale, with the folk tune acting as unifying agent. In the prelude the tune occurs in the pedal part with its rhythm slightly altered to accommodate the $\frac{12}{8}$ meter. It is presented in the chorale as the upper voice.

By disregarding the cantus firmus momentarily and concentrating upon the upper parts of the prelude, the following structure consisting of six phrases may be observed: A B A C B A. Measure numbers for the phrases are given below.

Phrase A	mm. 1-4
Phrase B	mm. 4-9
Phrase A	mm. 10-13
Phrase C	mm. 14-19
Phrase B	mm. 19-24
Phrase A	mm. 24-28

Phrase A, occurring between phrases which are digressive in character, provides a strong sense of return and imparts a rondo-like quality to the prelude. Observe that each phrase has its own individuality and makes its special contribution to the rise and fall of tension. In phrase A the pastorate melody in the upper voice provides a counterpoint to the beginning of the cantus firmus.

Phrase B digresses by means of a melodic line which continually reaches upward supported by added voices and a crescendo to ff. In phrase C Hindemith uses the same techniques as in phrase B, except that he adds syncopation and has hands moving in contrary motion.

The main emphasis in the chorale is with a gradual build up of sound to the fff in measure 44. Throughout this section the folk tune is presented without alteration as the upper voice while the lower voices provide a free counterpoint in three to six parts. The overall effect is that of a straightforward presentation of the tune, albeit in Hindemith's own inimitable harmonic vocabulary. The movement ends pp after the final phrase of the folk song is presented in canon during the last five measures.

Second Movement

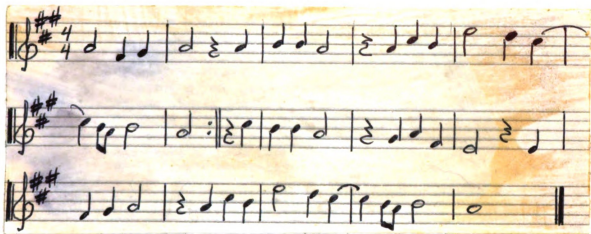
The second movement is based upon the ancient German folk song given below. The title Tagelied (day song) refers to a type of song popular among the Minnesingers in which dawn inevitably brings with it the departure of the lover. One is strongly reminded of the famous duet from the second act of Wagner's Tristan und Isolde where the two lovers sing of the repose and bliss of night in contrast to the bright reality of day.

the first of these is the fact that the
the second is the fact that the
the third is the fact that the

the fourth is the fact that the
the fifth is the fact that the
the sixth is the fact that the
the seventh is the fact that the
the eighth is the fact that the
the ninth is the fact that the
the tenth is the fact that the

the eleventh is the fact that the
the twelfth is the fact that the
the thirteenth is the fact that the
the fourteenth is the fact that the
the fifteenth is the fact that the
the sixteenth is the fact that the
the seventeenth is the fact that the
the eighteenth is the fact that the
the nineteenth is the fact that the
the twentieth is the fact that the

Example 42--Tagelied: Wach auf, mein Hort.⁶



"Awake my treasure,
Hearken to my word,
Note what I have to say;
My heart longs for you.
Woman, let me not despair,
I set before you all my desire,
Let me enjoy your pleasures,
Let me enjoy your love.

Give me your proud body,
Open your heart
And let me enter,
Delicate maiden;
And turn me from grief
Which I now have.
The fact that I cannot be with you
Is against my wishes."

⁶Böhme, pp. 201-202, translated by the author.

"Ah, young man,
 Stop pleading!
 You are too wild for me.
 If I granted your request,
 I fear you wouldn't be quiet.
 I thank thee dear guest
 That you have given me
 Your expression of love."

"I have no intention
 Of placing your honor in jeopardy.
 If one should question you
 He would be answered discreetly.
 You can count on it
 And trust me, you pure woman.
 Don't insult my integrity!"

"Ah, young man,
 Now prove yourself!
 Sleep with me without worry.
 No friendly request
 Shall be refused till the bright morning.
 Your friendly words
 In this place
 Sooth me and
 Soften my heart."

The two lay there
 Free of sorrow
 Spending the long night in joy,
 Until over them appeared
 The bright day,
 The bright morning light.
 "Out of dire need
 I cry to you.
 Believe me,
 Let our love endure."

The watcher stood at the parapet;
 "If anyone is in hiding here,
 He should go away
 So he doesn't get in trouble,
 Take leave of the beautiful woman,
 Because it is the time.
 Bright morning has appeared."

The woman stood by the window,
 Her lover wanted to depart.
 She kissed him on his red mouth,
 He embraced her again.
 She made him a little cross
 Of white pearls
 Surrounded with green silk.

From this place he departs
 And begins to sing
 Of how he had fared
 With a woman.
 Her proud body
 Had received him with love.
 He felt greatly moved
 And began to write
 A day-song
 Of a beautiful woman.

Although there is a repeat of the first six measures given in the folk tune, Hindemith does not observe the repeat in the cantus firmus of the composition. Except for lengthening the last notes of phrases, the folk tune is otherwise used in unaltered form.

The bipartite structure of the folk tune (measures 1-7 and 7-15 is reflected in the movement as a bipartite form with codetta. The first one and one-half measures of the composition function as a framing device to outline the three sections. They reappear twice, each time beginning on the last note of each main section of the cantus firmus (see measures 7 and 15).

The principal feature of this work lies not in its formal organization, but in the motivic derivation of the upper parts from the cantus firmus. Hindemith demonstrates here a technique which is both ingenious and extremely subtle.

There are four portions of the folk tune from which the motives of the composition are derived. These are illustrated in Example 43, and the notes in the corresponding motives have been marked with an asterisk to show relationships. The reader is urged to observe for himself how Hindemith has interwoven the motives in the score. Measure numbers have been provided to show where each motive is used in the composition.

In addition to the motives illustrated, Hindemith uses the syncopation of the folk song (measures 5-6), places it in the pedal part, and makes it a feature of his composition. The ornament which occurs in measure 6 of the folk song is represented in the composition wherever sixty-fourth notes are found.

The tightly knit texture of this movement with its motivic development and voice imitation demonstrates an extremely rational approach to composition. At the same time it is interesting to compare the dialogue of the upper two voices in the composition with the lively dialogue of the text. One is reminded of the intricate vocal duets which occur in Bach's cantata Wachet Auf in which the duality of the bridegroom and bride is represented.

Example 43--Motivic relationships between the folk tune Wach auf, mein hort (Awake my Treasure) and the second movement of Sonata III.

Folk tune, mm. 1-2



Motive C, mm. 1, 6, and 13.

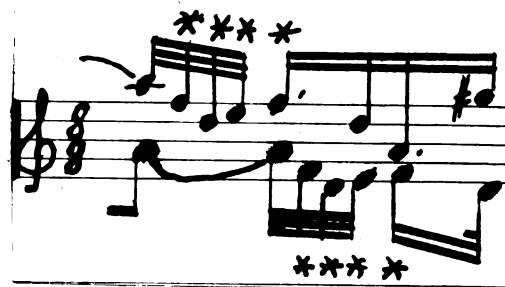


Motive C', mm. 8, 9, and 10.



Motive C', while related to mm. 1-2 of the folk tune, is derived from notes 2, 3, and 4 of Motive C above.

Motive D, mm. 10, 11, and 15.



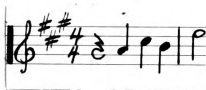
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Folk tune, mm. 4-5



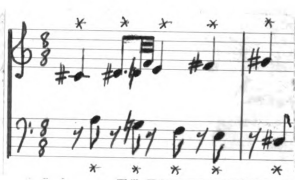
Motive E (an inversion of mm. 4-5 of the folk tune), mm. 3, 4, 5, and 12.



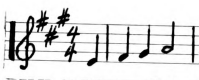
Folk tune, mm. 5-7



Motive F, mm. 1, 4, 5-6, and 13-14.



Folk tune, mm. 10-11



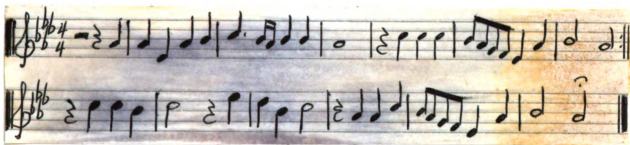
Motive G, mm. 5, 15, and 16.



Third Movement

Another German folk song from the sixteenth century is used for the cantus firmus of the concluding movement. It is given below with a translation of the text.

Example 44--Rider's Departure: So wünsch ich ihr.⁷



I bid her then a good night
With whom I was alone.
A word she spoke to me:
"We must now part;
Separate not with sorrow,
God knows the time
When we shall have joy again."

Nights I have spent with her
She would blush.
She turned to the young man:
"God be with you,
My grief and joy,
Parting brings great sorrow;
I have become aware of that."

⁷"Böhme, p. 541.

1911

1. The first of the following is a list of the names of the persons who have been elected to the office of Mayor of the City of New York since the year 1898. The second is a list of the names of the persons who have been elected to the office of Mayor of the City of New York since the year 1898.

1. The first of the following is a list of the names of the persons who have been elected to the office of Mayor of the City of New York since the year 1898. The second is a list of the names of the persons who have been elected to the office of Mayor of the City of New York since the year 1898.

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1. The first of the following is a list of the names of the persons who have been elected to the office of Mayor of the City of New York since the year 1898. The second is a list of the names of the persons who have been elected to the office of Mayor of the City of New York since the year 1898.

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1911

The maiden stands at the window
 And begins to sob.
 "Remember, young man,
 Don't leave me for long.
 Come again soon,
 My sweetheart,
 Release me from heavy dreams."

The young man rode over the moor,
 He turned his horse:
 "God bless you, my darling,
 Don't change your mind.
 If God is with us
 Our good fortune will return
 Farewell, my heart's true love."

Examination of the tune above will reveal that it is a small bipartite form consisting of four-three measure phrases with the first two phrases repeated. Unlike the second movement, in which the repeat found in the folk tune was not observed in the cantus firmus, this folk tune is used intact.

The third movement is very much like a chorale prelude. The placement of the cantus firmus in the pedal, the rapid movement of the right hand and use of staccato for the left hand is reminiscent of the Bach chorale prelude on Nun freut euch (BWV 734). The resemblance to chorale preludes such as the one mentioned suggests that one would also approach the problem of organ registration similarly. The cantus firmus should be given a prominent timbre and the upper voices should accompany. The fact that the left hand has the lowest voice and that the pedal part is written above it indicates that the cantus firmus should be assigned 8' pitch

rather than 16' pitch. The pedal should not be at 4' pitch however, as it would then be in conflict with the tessitura of the upper voice.

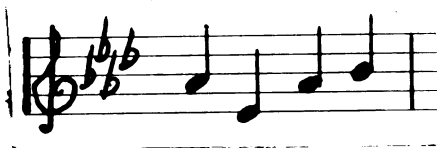
If we examine the organization of the composition we will see that the accompanying voices provide a structure which is superimposed over the cantus firmus. They are organized in a modified ternary form with an A B C A outline in which the B and C sections provide the necessary contrast to the two A sections. In order that the reader may locate these sections, measure numbers are provided in the outline given below:

Section A	mm. 1-27
Section B	mm. 27-41
Section C	mm. 41-49
Section A	mm. 49-62

The manual voices are motivically related to the cantus firmus, although not as extensively as in the second movement. The following example illustrates portions of the folk song which have been given motivic use. Measure numbers are provided to show where each motive is used in the composition.

Example 45--Motivic relationships between the folk tune
So wünsch ich ihr (I bid her then) and the third movement of
Sonata III.

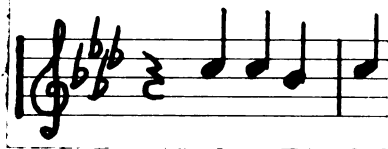
Folk tune, m. 2.



Motive H, mm. 1, 8, 20, 29,
 and 54.



Folk tune, mm. 8-9.



Motive I, mm. 41-42, 45-46,
 and 61-62.



It seems incongruous that the gay, dance-like character of the third movement is based upon a folk tune whose text expresses the parting sadness of two lovers. That there should be such incongruity only emphasizes the fact that Hindemith was more concerned with a musical portrayal of the tunes than any programmatic representation of the texts of the folk songs used in this sonata.

CHAPTER IV

THE ORGAN SONATAS: PERFORMANCE SUGGESTIONS

General Observations

The organ sonatas present many interpretive problems for the organist. On the one hand Hindemith was quite explicit regarding tempo, but his dynamic indications are ambiguous and he gave little or no attention to organ registration.

While it is not uncommon to find organ music that lacks manual or stop indications (i. e., the music of Bach, Brahms, and Mendelssohn as well as contemporary composers such as Ralph Vaughan Williams or Roger Sessions), Hindemith's organ sonatas are especially problematical because they do not relate to a particular school of organ design nor were they written for a particular organist or organ.¹ It is vexing to realize that Hindemith was reluctant to publish organ registration for the sonatas even though he approved some for individual organists.

The dynamic levels in the sonatas offer little clue to the choice of stops, and in many cases refer to relative dynamic strengths within the composition. Thus one cannot tell from the

¹The third sonata comes closest to being composed for a particular organist inasmuch as it was written at the suggestion of Robert Noehren and Herbert Fromm and was first played for the composer by Dr. Noehren.

1. The first part of the paper is devoted to the study of the properties of the function $f(x)$ defined by the equation $f(x) = \int_0^x f(t) dt$. It is shown that $f(x)$ is a constant function, and its value is determined by the initial condition $f(0) = 1$.

2. In the second part, we consider the problem of finding the maximum value of the function $f(x)$ on the interval $[0, 1]$. It is shown that the maximum value is attained at $x = 0$ and is equal to 1. This result is obtained by using the fact that $f(x)$ is a constant function.

3. The third part of the paper is devoted to the study of the properties of the function $f(x)$ defined by the equation $f(x) = \int_0^x f(t) dt$. It is shown that $f(x)$ is a constant function, and its value is determined by the initial condition $f(0) = 1$.

4. In the fourth part, we consider the problem of finding the maximum value of the function $f(x)$ on the interval $[0, 1]$. It is shown that the maximum value is attained at $x = 0$ and is equal to 1. This result is obtained by using the fact that $f(x)$ is a constant function.

5. The fifth part of the paper is devoted to the study of the properties of the function $f(x)$ defined by the equation $f(x) = \int_0^x f(t) dt$. It is shown that $f(x)$ is a constant function, and its value is determined by the initial condition $f(0) = 1$.

6. In the sixth part, we consider the problem of finding the maximum value of the function $f(x)$ on the interval $[0, 1]$. It is shown that the maximum value is attained at $x = 0$ and is equal to 1. This result is obtained by using the fact that $f(x)$ is a constant function.

score whether pp relates to a single quiet stop or to the full Swell with shutters closed. Some dynamic designations may be interpreted in the broad context of the movement and texture of the music itself, for Hindemith, like Bach, reduces or adds voices to the musical texture when he wishes a change in intensity. The prefatory note to the second and third sonatas encourages the organist to make use of whatever resources he has at his disposal:

It is permissible for performers of organs with crescendo and swell shutters to reinforce the expression by means of rich color and dynamic variation beyond the degree indicated in the intensity directions.²

It is evident from Hindemith's reaction to performances of his organ sonatas that his main concern was with tempo and rhythm. Robert Noehren, who carefully discussed these sonatas with Hindemith, stated that the composer was much more critical of tempo and rhythm than timbre.³ He also stated that it was Hindemith's habit to carry a small metronome in his pocket which was often used in order to demonstrate a particular tempo. According to Jack C. Goode, Catherine Crozier also found that Hindemith was "not too fussy about details of color, but that he became deeply upset at a variation from the tempo markings in his works."⁴

It is thus clear that one must pay close attention to

²Translated by the author from Paul Hindemith, Sonata II (Mainz: B. Schott's Sohne, 1937), p. 2.

³Interview with Dr. Robert Noehren, June 27, 1968.

⁴Jack C. Goode, Pipe Organ Registration (New York: Abingdon Press, 1964), p. 134.

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Hindemith's indications of tempo and rhythm. However, if the organist follows his own whims for registration and uses the swell shutters or crescendo pedal indiscriminately, a Pandora's box of musical absurdities may emerge. In order that some assistance might be provided to those not familiar with these works, a general scheme of registration will be presented which is suitable for a three manual organ of about 45-50 ranks.⁵ These recommendations will be based not only upon registrations approved by the composer himself, but also upon recommendations published by well-known organists.⁶ Where these sources are conflicting or incomplete, the recommended registration will be designed to clarify and enhance the musical structure.

⁵ The stop specifications for a hypothetical three manual organ has been drawn up by the author and included in the Appendix.

⁶ The sources used are: (1) an interview with Dr. Robert Noehren on June 27, 1968 in which Hindemith's recommendations made to Dr. Noehren for performance of the three sonatas were discussed; (2) copies of the three sonatas on file in the Yale University Music Library in which the late Frank Boszyan, organist at Yale University, worked out a registration with Hindemith for the large (177 rank) organ at Yale's Woolsey Hall; (3) recommended registration for Sonata II by Jack C. Goode in Goode, p. 135-136; and (4) recommended registration for Sonata III in C. H. Trevor, "Hindemith's Third Sonata," Musical Times, CII (January, 1961), p. 44-45.

the first of these is the fact that the system is not a simple one, but a complex one, in which the various parts are interrelated and interdependent. The second is that the system is not a static one, but a dynamic one, in which the parts are constantly changing and evolving. The third is that the system is not a closed one, but an open one, in which the parts are constantly interacting with the environment. The fourth is that the system is not a linear one, but a non-linear one, in which the parts are constantly interacting with each other in a non-linear fashion. The fifth is that the system is not a deterministic one, but a probabilistic one, in which the parts are constantly interacting with each other in a probabilistic fashion. The sixth is that the system is not a simple one, but a complex one, in which the parts are interrelated and interdependent. The seventh is that the system is not a static one, but a dynamic one, in which the parts are constantly changing and evolving. The eighth is that the system is not a closed one, but an open one, in which the parts are constantly interacting with the environment. The ninth is that the system is not a linear one, but a non-linear one, in which the parts are constantly interacting with each other in a non-linear fashion. The tenth is that the system is not a deterministic one, but a probabilistic one, in which the parts are constantly interacting with each other in a probabilistic fashion.

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It is pertinent to the present discussion to review some basic principles which are recognized as essential to tasteful organ registration. These principles form a basis for the ensuing registration recommendations.⁷

1. The function of registration is to enhance what is inherent in the music, and to make it clear to the listener.
2. The registration should grow out of the structure with audible changes occurring only at points where there is a musical change of pace.
3. Do not use more stops than necessary. Retire soft stops in a full combination in order to maintain clarity.
4. Always aim for optimum blend in the ensemble.
5. Practicability should be considered from the beginning. There is little to be gained in planning a registration which is so complex that the fluency of execution is impaired.
6. An extended crescendo should begin with a quality which is consistent with that which will be attained at the climax.
7. Swell shutters do not provide for elasticity in dynamic change. Their use should generally be limited to gradual crescendos or diminuendos, or they should be left in a fixed position.
8. Play with the manuals and pedal uncoupled whenever possible.
9. Do not duplicate stops of the same pitch without good reason.
10. To increase the apparent loudness of a tone, increase the intensity of the harmonics by adding them in their proper order.

⁷ Condensed from: Harold Gleason, Method of Organ Playing (New York: Appleton-Century-Crofts, 1962), pp. 8-9; and E. Harold Geer, Organ Registration in Theory and Practice (Glen Rock, New Jersey: J. Fischer & Bro., 1957), pp. 312-317.

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Sonata I

First Movement

The first page of Sonata I demonstrates the ambiguity of Hindemith's dynamic designations. There are alternations between mf and f, but no crescendos or diminuendos are given. Robert Noehren and Frank Boszyan, who both had the benefit of Hindemith's advice, performed the entire page on the Great organ without dynamic change. One need only observe the crescendos brought about by the rising voices in measures 5-11 or the contrary motion of measures 13-14 to realize that Hindemith has woven the dynamic changes into the musical fabric.

The following registration is recommended for the introduction of the sonata:

Great	Choir
8' Principal	8' Quintadena
4' Octave	4' Gedeckt
2' Fifteenth	
Swell	Pedal
8' Bordun	16' Violon
4' Prestant	8' Principal
2' Octave	

Perform on the Great to measure 22. During the rest in measure 18 retire the Great and Pedal stops and draw the 8', 4', and 2' flutes of the Great plus the 16' and 8' bourdons of the Pedal. The three dynamic levels needed for page 4 are now represented on the three

manuals of the organ -- Great (p), Choir (pp), and Swell (mf).

One now changes manuals according to the different dynamic levels required. In measure 26 couple the Swell to Pedal, and, while performing measures 33-35 on the Swell, draw the 8', 4', and 2' principals of the Great. On the first beat of measure 36 the right hand moves to the Great and the left hand follows after the rest (one may add to the pedal during its rest in measure 36). In measures 44-46 play on the Choir and reduce the Great and Pedal. Measures 46-52 are performed on the 8' and 4' flutes of the Great.

Register the organ as follows for the main theme of the sonata-allegro form which begins in measure 53.

Great

8' Principal
4' Octave
2' Fifteenth

Choir

8' Quintadena
4' Gedeckt
2' Principal

Swell

8' Bordun
4' Prestant
2' Octave

Pedal

16' Quintaton
8' Bourdon
Sw. to Ped.

Both hands play on the Swell from measures 53-67 and the box is closed starting at measure 64. Move to the Choir in measure 68, to the Great in measure 75, and return to the Swell with the box open in measure 79. The shutters are closed slightly during measures 83-86. At measure 87 bring on the following registration in order that the second theme may be accompanied by a change in tone color:

Great

8' Gedeckt
4' Octave

Swell

8' Bordun
4' Harmonic Flute
2' Piccolo

Choir

8' Quintadena
2' Blockflöte

Pedal

16' Quintaton
8' Bourdon
Sw. to Ped.

Begin measure 87 on the Choir and open the swell box at some point during the following measures. At measures 104 and 105 the right hand and left hand respectively transfer to the Swell. In measures 111 and 116 the left hand and right hand similarly move to the Great. The colorful codetta which follows in measures 134-164 is effective when played on the Swell with the box closed. The Swell to Pedal coupler must be retired for this section.

The f in measure 165 with which the development begins, requires another combination piston in order to bring on the foundations and mixtures to all manuals, but leaving them uncoupled. One remains on the Great from measures 165-269 and adds to the ensemble in measures 216, 232, and 252 either by means of couplers or additional stops.⁸ The logic of this method is obvious when one hears the marvelous crescendo and intensification of sound which results. It is suggested that measures 270-287 be performed with the 8', 4' and 1' flutes of the Choir. One must not duplicate the registration used for the exposition during these measures, as it

⁸The mf designation in measure 216 is disregarded by Frank Boszyan and Robert Noehren.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is crucial for ensuring transparency and accountability in the organization's operations.

2. The second part outlines the various methods and tools used to collect and analyze data. This includes both traditional manual methods and modern digital technologies, highlighting the benefits of each approach.

3. The third section focuses on the role of human resources in the data collection process. It discusses how training and support for staff can significantly improve the quality and reliability of the data collected.

4. The fourth part addresses the challenges and limitations of data collection. It identifies common pitfalls such as incomplete data, errors in recording, and difficulties in accessing certain types of information.

5. The fifth section provides recommendations for overcoming these challenges. It suggests implementing robust data management systems, conducting regular audits, and fostering a culture of data accuracy and integrity.

6. The final part of the document concludes with a summary of the key findings and a call to action. It urges the organization to take immediate steps to address the identified issues and to commit to ongoing improvement in its data collection practices.

must be held in reserve for the beginning of the restatement.

Measures 288-322, the restatement of the main theme, are performed with the same registration as that used in measures 53-86 of the exposition. At measure 322 the Swell is reduced to 8', 4', and 2' flutes.

The coda, measures 329-372, is performed upon the 8' and 4' flutes of the Choir and the Pedal is registered to balance with it. The Choir box is gradually closed leading to the Sehr Langsam of measure 362. It is possible to play the left-hand parts of measures 340-350 and measures 363-372 on another manual if they do not intrude unduly.

Second Movement

The author was fortunate enough to have heard a personal recording in which the second movement was performed by Robert Noehren in Paul Hindemith's presence. In this recording, as well as in his later published recording, Dr. Noehren used only one manual throughout.⁹ Hindemith approved this method, and, if one examines the increase in voices in measures 13-16, it is the best way if one is to avoid interrupting the melodic lines with changes in timbre.

It is recommended that 8' and 4' flutes be used for the manuals throughout the entire movement with the Pedal set at 16' and 8' bourdons. Use the swell pedal to bring about gradual transitions between p and f. If necessary, add to the Pedal in measure 14.

⁹Paul Hindemith, Three Sonatas for Organ, performed by Robert Noehren (Lyrichord, LL 53).

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Third Movement

The five-section structure of the Phantasie suggests that major changes in registration should occur at the beginning of each section and the registration has been devised accordingly. The following stops are recommended for the beginning.

Great

8' Principal
4' Octave
2' Fifteenth
IV Mixture
Sw. to Gt.
Ch. to Gt.

Swell

8' Bordun
8' Viol
4' Prestant
2' Octave
III Scharf

Choir

8' Quintadena
4' Gedeckt
2' Principal
1' Octave
II Cymbal
Sw. to Ch.

Pedal

16' Posaune
16' Violon
8' Principal
4' Octave
II Grave Mixture
III Mixture
Sw. to Ped.

The Great is used for the first section. During the rest in measure 8 retire the mixture of the Great and begin the next section upon the Choir. In measure 13 return to the Great. Close the swell box just before the entrance of the Pedal in measure 14, and continue upon the Great. The Choir is used in measures 17-19 and the Swell for measures 19-23 (reduce the Pedal in measures 17 and 19 as necessary). The implied crescendo from measures 19-23 may now be accomplished by means of the swell pedal.

The ff in measure 23 is performed upon the Great using the original registration from the beginning of the movement. On the

1. The first part of the paper discusses the importance of the study of the history of the English language. It is argued that the study of the history of the English language is essential for a full understanding of the language and its development. The paper then goes on to discuss the various factors that have influenced the development of the English language, including the influence of other languages, the influence of social and cultural changes, and the influence of technological advances.

2. The second part of the paper discusses the importance of the study of the history of the English language. It is argued that the study of the history of the English language is essential for a full understanding of the language and its development. The paper then goes on to discuss the various factors that have influenced the development of the English language, including the influence of other languages, the influence of social and cultural changes, and the influence of technological advances.

3. The third part of the paper discusses the importance of the study of the history of the English language. It is argued that the study of the history of the English language is essential for a full understanding of the language and its development. The paper then goes on to discuss the various factors that have influenced the development of the English language, including the influence of other languages, the influence of social and cultural changes, and the influence of technological advances.

second beat in measure 24 a rest must be inserted and that instant used to retire the mixtures of the Great and Choir and to reduce the Pedal. At the same time both hands move to the Swell and the swell box is gradually closed during measures 24-29. Both hands move to the Choir on the second eighth-note in measure 30 and the swell box is slowly reopened. Transfer to the Great in measure 34, and in measure 39 add the full organ except for 16' manual stops.

Fourth Movement

One changes manuals according to the dynamic levels given on page 20. Begin with the following registration; assigning the mf levels to the Great, the p levels to the Swell, and those levels marked pp to the Choir with the box closed. The following stops are used for the initial section:

Great (<u>mf</u>)	Choir (<u>pp</u>)
8' Gedeckt	8' Quintadena
4' Rohrflöte	4' Gedeckt
Swell (<u>p</u>)	Pedal
8' Bordun	16' Quintaton
4' Harmonic flute	8' Gedeckt

The choir box is opened during measures 18-20, and both hands play on the Choir in measures 22-23. Transfer to the Swell for measures 23-25, and reset the Great to 8' and 4' principals. One returns to the Great in measure 25 and adds the Great to Pedal coupler. While the pedal part is silent in measures 33-38 the Great to Pedal coupler is taken off. Play on the Swell in measures 41-51, then change to the Choir with its box partially closed. It is best to

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play measures 52-63 on the same manual so that the lower voices may be clearly heard. In this way the variation in measures 64-77 becomes more obvious to the listener.

During the rests in measures 59-60 the stops of the Swell may be changed to the 4' and 2' pitches (flutes may be used) which Hindemith designates for the right hand on page 22. The 8' pitch indicated for the right hand in measure 78 is played upon the Great using an 8' gedeckt. In measure 84 the Swell is changed to 8' and 4' flutes and both hands move to that manual. If one wishes, the left-hand part of measures 96-99 may be brought forward by means of another manual.

Hindemith liked the use of string celestes for the concluding measures of the sonata. If the organ has celestes of good quality, they may be used for measures 100-114, although, in the opinion of the writer, the classic character of the music suggests soft flutes rather than romantic strong tone.

Sonata II

First Movement

One would usually interpret the f marked at the beginning of Sonata II to mean a firm registration such as 8', 4', and 2' principals. However, when Robert Noehren played the sonata for the composer and began with the registration described, it was not until the organ had been reduced to 8' and 2' flutes that Hindemith gave his approval. A light, clear registration was used for the Woolsey

Hall organ by Frank Boszyan.

There is no question that the three dynamic levels on the first page are best handled on three separate manuals, each with its distinct tone color and dynamic level.¹⁰ Keeping in mind the suggestions made by the composer, the following registration has been devised for the beginning of the piece:

Great	Choir
8' Gedeckt	8' Quintadena
2' Fifteenth	4' Gedeckt
	1' Sifflöte
Swell	Pedal
8' Bordun	16' Bourdon
2' Piccolo	8' Gedeckt

Begin on the Great, drop to the Choir at measure 8, and in measure 14 shift to the Swell. On the fourth beat of measure 23 the right hand moves to the Great and the left hand follows in measure 24. The crescendo at the bottom of the page need not be observed.¹¹ One will not have to change the stops of the Pedal if they provide a firm tone throughout this section.

The first episode, which appears in measure 32, requires the following registration:

¹⁰There are some organists who prefer to play measures 8-23 on one manual, using swell shutters to bring about the *p* of measure 14 and the crescendo of measure 23. It is highly unlikely that the *p* of measure 14 could be accomplished by the use of a swell pedal without an audible diminuendo.

¹¹Hindemith stated to Dr. Noehren that this crescendo was more of a feeling than an actual crescendo.

Great

8' Gedeckt
4' Octave

Choir

8' Quintadena
4' Gedeckt

Swell

8' Bordun
4' Prestant
2' Octave

Pedal

16' Quintaton
8' Bourdon

The motto theme¹² is announced by the Great beginning in measure 32, and at the same time the Swell shutters are closed. Both hands move to the Swell in measure 35. Open the shutters in measures 47-48, and drop to the Great in measure 49 for the restatement of the motto theme. During the rest in measure 50 change the stops of the Swell to 8' and 2' flutes, and in measure 52 both hands return to the Swell. On the second quarter-note of measure 63 the left hand moves to the Choir and the right hand follows on the second beat. The right hand moves to the Great on the third beat of measure 67 with the left hand following in the next measure.

During the rest in measure 71, one resets the organ to the beginning registration and the subject is restated on the Great starting in measure 72. Change to the Swell in measure 79 and alternate Choir and Swell in measures 83, 87, 91, and 95 respectively. The swell pedal may be used with good effect in measures 83-86 and measures 91-95 if one wishes to use it. On the second beat of measure 98 both hands return to the Great.

¹²See p. 68, Example 37.

The climax of the movement is reached on page 7, and, in order to make it effective, one must begin with a fairly full registration in measure 106. Start with principals 8', 4', and 2' on the Great coupled to the foundations and mixtures of the Swell. During the rest in measure 111, add the Great mixture, then in measure 118 couple the Choir foundations and mixture to the Great. It is not necessary to play the chords in measures 111, 118, or those on the bottom of the page upon a separate manual, inasmuch as the addition of voices at these points makes them emphatic enough. Both hands move to the Swell for the mf passage in measures 127-129.

There seems to be no general agreement on how to register the organ for page 8. Robert Noehren plays the passages marked pp with flutes and changes to principals for the single mf phrase. Both Mr. Goode and Mr. Boszyan played the entire page on one manual, but both used different registrations. It is suggested that the 8' and 4' flutes of the Swell alternate with the 8' and 4' principals of the Great for the passages with contrasting dynamics. The change from Great to Swell may be accomplished in measure 145 by playing the F in the right hand on the Great, and playing the two F's (duplicating the upper F) on the Swell. Both hands continue on the Swell in measure 146.

The final section, a literal repeat of measures 1-31, is registered as at the beginning of the movement.

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Second Movement

The second movement is unique, for it contains the only specific manual indications that Hindemith provided in the organ sonatas. It is incongruous that he provided these simple aids to registration in a piece whose structure would suggest the same manual changes to most organists. The following registration is recommended, using the Great and Swell for the sections labeled Hauptwerk and Oberwerk respectively.

Great (Hauptwerk)

8' Gedeckt
4' Octave

Pedal

16' Bourdon
8' Principal

Swell (Oberwerk)

8' Bordun
4' Harmonic flute

Third Movement

The fugal structure of the last movement is best brought out through the use of terraced dynamics. Begin with the following registration:

Great

8' Principal
4' Octave

Choir

8' Quintadena
2' Blockflöte

Swell

8' Bordun
4' Prestant
2' Octave
III Scharf

Pedal

16' Quintaton
8' Gedeckt
4' Gedeckt

Both hands begin on the Choir and shift to the Great in measure 21. While the first episode in measures 21-31 is being played, add to the Pedal so it balances with the Swell. On the fourth eighth-note in measure 31 the alto voice moves to the Swell and the other voices follow on the first beat of the next measure. One should phrase the B-A-C-H theme located in the pedal part of measures 32-34.

During the second exposition in measures 32-44, add to the Pedal in measure 38 and also increase the Great to foundations and mixtures. The left hand moves to the Great in measure 41 and the right hand follows on the first beat of measure 45.

Perform the chordal passages of measures 45, 48, 51, and 54 on the Great and the alternate passages on the Swell.¹³ The Swell mixture is retired on the first beat of measure 57 and both hands transfer to the Choir in measure 59.

The final exposition is especially difficult to register due to the increase in dynamic levels from pp to f and lack of structural points where one can change stops. The following procedure allows one to make the necessary changes in registration smoothly.

Continue on the Choir and change to the registration below:

¹³This procedure was followed by Frank Boszyan and Robert Noehren.

Great

8' Gedeckt
 4' Rohrflöte
 Sw. to Gt.

Choir

8' Quintadena
 2' Blockflöte

Swell

8' Bordun
 4' Prestant
 2' Octave
 III Scharf

Pedal

16' Quintaton
 8' Gedeckt
 4' Gedeckt

Both hands move from the Choir to the Great in measure 73 and the swell box is gradually opened. Add the Swell to Pedal coupler on the first beat of measure 76 and the 4' octave and 2' fifteenth of the Great on the first beat of measure 78. Both hands transfer to the Swell in measure 88, and in measure 90 they shift to the Choir. The Swell to Pedal coupler is retired, and the 8' and 4' flutes of the Choir are used for the last three chords.

Sonata III

First Movement

The third sonata has more dynamic designations than either of the previous sonatas and the organist must examine them critically in relation to effective organ performance. Whatever registration is finally chosen, one must keep in mind the basic principles of organ registration mentioned previously.¹⁴

¹⁴ See page 100.

1. The first part of the report is a general introduction to the subject of the study. It discusses the importance of the study and the objectives of the research. It also provides a brief overview of the methodology used in the study.

2. The second part of the report is a detailed description of the methodology used in the study. It discusses the data sources, the sampling method, and the statistical techniques used to analyze the data. It also provides a brief overview of the results of the study.

3. The third part of the report is a detailed discussion of the results of the study. It discusses the findings of the study and their implications for the field of study. It also provides a brief overview of the conclusions of the study.

The registration of the opening movement has been particularly awkward for organists. The following procedure was worked out to provide dynamic contrasts without complicated changes in manuals and stops. The beginning registration is given below:

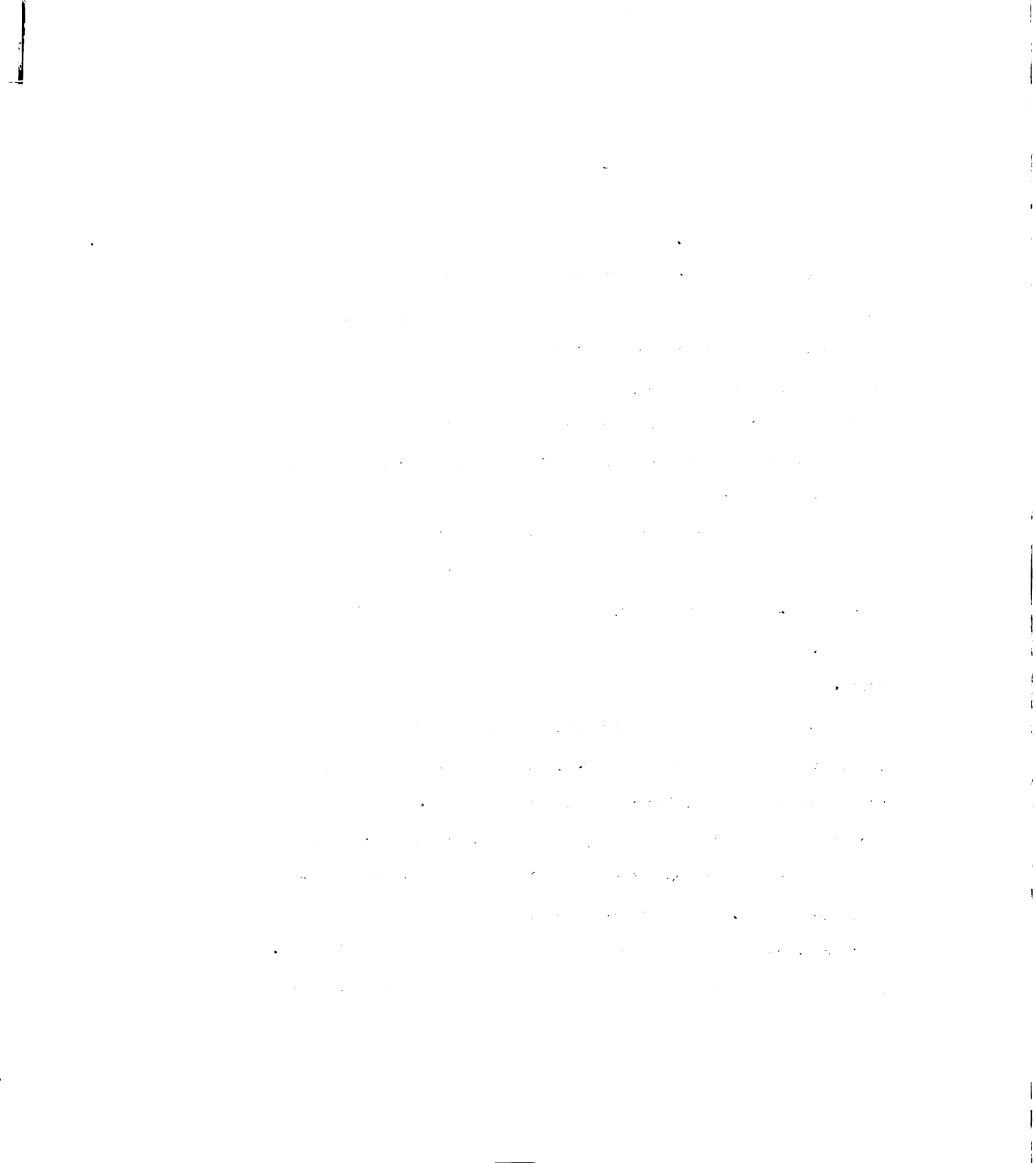
Great	Choir
8' Principal	8' Quintadena
4' Octave	4' Gedeckt
Sw. to Gt.	2' Principal
Swell	Pedal
8' Bordun	16' Quintaton
4' Harmonic flute	8' Gedeckt

Begin on the Swell, observing the crescendos and diminuendos by means of the swell pedal (one might wish to begin and end the first phrase with the shutters slightly open). From the last eighth-note in measure 4 through measure 6 both hands play on the Choir while the swell box is closed and the stops of the Swell are changed to principals and mixtures. If one chooses to use the choir box for the crescendo and diminuendo in measures 5-6, it must be used judiciously inasmuch as the addition and reduction of voices creates the same effect. On the last strong beat in measure 6 both hands move to the Great. The swell box is gradually opened so that the full effect of the Swell mixtures will be heard for the ff given in measure 7. On the last eighth-note in measure 8 both hands move to the Choir and the Swell is reduced to 8' and 4' flutes.

Measures 10-13 are played in the same manner as the first

four measures. In measures 14-16 both hands play on the Choir while the swell box is closed and the principals and mixtures of the Swell are drawn. Following the rest in measure 16, both hands move to the Great, the choir box is closed, and the swell box is used for the crescendo and diminuendo of the following measures. In measure 19, the Choir is coupled to the Great, and the mixture of the Great plus the reeds and mixtures of the Choir and Swell are drawn. Both boxes remain closed during measures 19 and 20, then in measure 21 they are gradually opened. During the rests in measure 23, a combination piston reduces the organ to the registration used at the beginning of the piece and both hands move to the Choir. The canon which occurs from measures 24-28 is very effective when the upper part is given to 8' and 4' flutes and an 8' krummhorn provided for the lower voice.

One must be careful with the cantus firmus which appears in the pedal for the first twenty-eight measures, so that changes in registration do not interfere with its phrasing. The best procedure is to establish a firm, but not loud 16' and 8' pedal for the entire piece, coupling the Swell to Pedal for reinforcement when needed. One will find that it is possible to add the Swell to Pedal coupler in measures 6 and 16 during the pedal rests. It may be retired just before playing the C in measures 8 and 21.



In this way the phrasing is hindered as little as possible and at the same time the cantus firmus may be heard throughout the louder portions of the piece.

The movement ends with a beautiful harmonization of the folk tune. The organist must beware of beginning this section with too few stops or he will never achieve the transition from the pp of measure 29 to the fff of measure 44 with a smooth crescendo. According to C. H. Trevor, "the composer is reported to have said that the fff near the end should be played on Full Organ."¹⁵ Keeping the destination in mind, draw all the principals, reeds, and mixtures of the Swell and Choir and couple them to the Great foundation chorus. The Pedal consists of the 16' Violon and 8' Principal coupled to the Swell.

Commence with both hands on the Swell and with the box closed. Following the rest in measure 33, the right hand drops to the Choir and, in measure 34, the left hand follows. The organist must adjust the choir shutters so that the addition of the Choir adds to the ensemble without jarring the listener. During measures 34-37 both boxes are gradually opened. Both hands move to the Great on the second beat in measure 38 except for the alto voice, which follows on the fourth beat. Increase the Pedal

¹⁵Trevor, p. 44.

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during the rest in measure 38 so that the imitation in measure 39 is clearly heard. If it is possible to close the swell box during measures 38-39 without a noticeable decrease in sound, it should be done.

Any reeds and mixtures not previously drawn may be added on the second half of the third beat in measure 40, however, the phrase in the pedal at this point must be handled smoothly. The swell box may now be opened to provide a crescendo to the fff in measure 44. If the foregoing scheme of registration is followed, the listener should be able to hear a sustained crescendo that is uninterrupted by startling changes in registration.

As soon as the chord in measure 44 is released, the organ is reduced to an 8' krummhorn for the right hand, an 8' flute for the left hand, and a soft 16' and 8' for the Pedal.

Second Movement

The second movement offers no problem in registration. Use 8' and 4' flutes for the upper voices, an 8' reed for the cantus firmus, and soft 16' and 8' flutes for the pedal. There are some places where the left hand will have to assist with some of the lower notes in the right-hand stave (i. e., measures 7, 10, 11, 12, 13, and 15). For this reason it is best to play the composition upon adjoining manuals.

Third Movement

The last movement is best performed when the dynamic designations are ignored. When Dr. Noehren performed the third movement from the original manuscript and pointed out the unmusical effects created by the indicated crescendos and diminuendos, Hindemith agreed to leave them out of the published copy. Later, when Dr. Noehren asked him why these dynamic designations were in the final proofs, the answer was evasive and Hindemith simply shrugged his shoulders. Dr. Noehren performs the piece without the use of the swell shutters as first approved by Hindemith.

C. H. Trevor states that the "movement can be played with good effect if the composer's dynamic markings are ignored (they are somewhat difficult to negotiate anyway!)." ¹⁶

There is some question whether the cantus firmus in the pedal should be performed upon an 8' stop or a 4' stop. Hindemith approved the use of an 8' stop for Frank Boszayan, although Robert Noehren uses a 4' stop. Mr. Trevor states we may use either depending upon the organ.

Examination of the score will reveal that a 4' stop places the cantus firmus in the same tessitura as the upper voices, and voice-crossing sometimes results. If an 8' stop is used however, the cantus firmus is heard as a tenor voice with little or

¹⁶Ibid.

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no voice-crossing. It is more than likely that Hindemith, like Schoenberg in his Variations upon a Recitative, intended exact pitch notation in his score.¹⁷

The pedal part should be assigned to the 8' trompette from the Swell, and it should be accompanied by the 8', 4', and 1' flutes of the Choir. The four chords in measures 41-42, 45-46, and 61-62 are played ff on the principal chorus of the Great.

¹⁷ Schoenberg, Variations upon a Recitative, (New York: H. W. Gray Co.). Schoenberg wrote notes below the range of the pedal which he later explained were the actual pitches he desired. These notes can be performed only by careful manipulation of the 16' and 8' stops of the organ. The only time Hindemith indicated pitch in the sonatas was in Sonata I, page 22. On this occasion he designated 4' and 2' pitches for the right hand, and, at the conclusion of the passage, designated a return to 8' pitch.

CHAPTER V

THE TWO ORGAN CONCERTOS: A BRIEF SURVEY

General Observations

Hindemith's two organ concertos offer rich possibilities for comparison. In the first place, both concertos were written for dedicatory purposes. The first concerto, entitled Kammermusik Nr. 7: Konzert für Orgel und Kammer-orchester, Op. 46, No. 2, was written in 1928 for the new organ of the Frankfurter Senders (radio station of Frankfurt). This station was directed by Hindemith's brother-in-law, Hans Flesch. The second concerto, entitled Concerto for Organ and Orchestra (1962), was commissioned by the New York Philharmonic Society for the new organ in Philharmonic Hall (Lincoln Center), New York. It was first performed on April 25, 1963, with Hindemith conducting and Anton Heiller as soloist.

Initial examination demonstrates a fundamental difference between the two compositions: the latter work was conceived on a much grander scale than its predecessor. It is about a third longer, demands greater virtuosity on the part of the soloist, and requires a full **orchestra** rather than a chamber orchestra.

One of the most striking dissimilarities between the two concertos is the complete lack of organ registration in the first concerto and the explicit registration directions given in the second.

It was pointed out by Ross Parmenter in a review of the première performance of the second concerto that Hindemith requested the specifications for the organ to be installed in Lincoln Center so he could write especially for it.¹ Anton Heiller, soloist for the première performance, assisted Hindemith in setting up the organ registration for the concerto. Some of the registration designations are quite unusual and have been placed below for illustrative purposes.

First movement, m. 74.

A footnote states that "All Pleno parts throughout the concerto to be played on two manuals, the left hand manual somewhat less fortissimo than the right."

Second movement, mm. 147-148.

Choir: 2', 1' only
Swell: 4' only
Pedal: 4' only

Second movement, m. 164.

Choir: Flute 8' Flute celeste, Rohr Nasart [sic]
1 3/5' Terz, Scharf.

Second movement, m. 180.

Swell: 4', 16' (no 8')

Fourth movement, mm. 104-105.

Swell: 4', 2', 2 2/3', 1 3/5' plus mixtures

¹ New York Times, April 26, 1963, p. 26.

Perusal of the entire organ score will reveal that not all the registration is as unusual as that given above. It is, however, the only organ work in which Hindemith provided detailed registration and manual indications throughout.

It should be pointed out that Hindemith designates rapid manual alternations in the last movement of the second concerto (measures 168-208), and rapid changes in both manuals and registration in the second movement (measures 63-80). Rapid changes of this kind, while they require considerable dexterity and careful preparation of the registration by the organist, make very effective use of the organ in a virtuosic sense. Techniques of this kind were not characteristic of the other organ works of Hindemith.

Stylistic Features

While both concertos demonstrate polyphonic textures, the organ part of the second concerto has greater contrapuntal complexity than the first concerto. Rarely does Hindemith assign passages in octaves for the organ in the second concerto, whereas they occur frequently in the first. In fact, out of the 123 measures performed by the organ in the first movement of the first concerto, about one-third (43 measures) are in octaves.

Canons characterize both concertos. There is an unusual canon at the augmented octave in the second movement of the first concerto. It is presented in the organ part between the right and left hands in measures 1-11. In measures 26-35 the canon occurs again as a triple canon at the octave and augmented octave.

Two canons occur in the first movement of the second concerto which merit our attention. The first occurs in measures 58-68 as a canon at the fifth between the brass instruments and the harmonic trumpets of the organ. Following this there is a triple canon of seven measures between the organ, lower orchestral instruments, and the higher orchestral instruments which begins in measure 74.

Although there are no fugues written for either concerto, there are many imitative entrances and some passages which are fugal in style. The opening movement of the second concerto or the second movement of the first concerto illustrate Hindemith's contrapuntal style particularly well.

The first concerto makes extensive use of pedal points, although there are short examples found in the second concerto as well. Long pedal points may be seen in the organ score of the first concerto, last movement, measures 36-62 and measures 317-348; and in the second concerto, first movement, measures 1-14.

The rhythmic differences between the two concertos are quite noticeable. In the first concerto we find that traditional rhythmic groupings are used and that changes in meter do not occur within movements. Hindemith's fondness for traditional Baroque rhythmic figuration may be seen in the ritornelli of the third movement from the second concerto. The second movement of the same concerto illustrates a similar figuration, although it occurs against some other rhythms which provide a more contemporary flavor.

The rhythm of the second concerto illustrates a radical departure from Hindemith's earlier organ works. In the first place the meter shifts constantly within each of the four movements. The greatest fluctuation is to be seen in the second movement where meter signatures of $\frac{3}{2}$, $\frac{6}{4}$, $\frac{9}{4}$, $\frac{2}{2}$, $\frac{3}{4}$, and $\frac{5}{4}$ are used. In addition, the organ part from measures 9-59 is written in $\frac{9}{4}$ meter against the $\frac{3}{2}$ meter of the orchestra, thus providing a fusion of duple and triple rhythms on each beat. Meters of $\frac{2}{2}$, $\frac{3}{4}$, $\frac{5}{4}$, $\frac{9}{8}$, $\frac{12}{8}$, $\frac{7}{16}$, and $\frac{5}{8}$ plus some rhythmically free passages for the organ are found in measures 105-117 of the last movement.

Hindemith's melodies in the second concerto encompass all twelve tones within the octave and occasionally hint of twelve-tone technique. Examples are given below.

Example 46--Second concerto, first movement, mm. 1-6.

Handwritten musical notation for Example 46, Second concerto, first movement, measures 1-6. The notation is written on two staves. The top staff is labeled 'Cello' and has a 2/2 time signature. The bottom staff has a 3/4 time signature. The music consists of eighth and sixteenth notes, with some triplets indicated by a '3' over a group of notes. Measures are numbered 1 through 12 below the staves.

Example 49--First concerto, third movement, mm. 36-47.



One may see that there is a striking resemblance between the two themes given above, particularly in the leap to the diminished or augmented octave in the first four notes followed by a descent of two notes. Hindemith's predilection for the melodic interval of a fourth may be found in the examples above and in other melodies from both concertos. Other melodic characteristics of Hindemith such as repeated note patterns and liberal use of major and minor seconds are more easily located in the melodies of the first concerto than in those of the second.

Hindemith's fondness for chorales and folk tunes is reflected in many of his compositions such as Mathis der Maler, Der Schwanendreher, Nobilissima Visione, and Sonata III for organ. It may also be seen in the second organ concerto. The second and third movements of this work have chorale-like sections in measures 79-110 and measures 1-33 respectively, and the fourth movement is based upon the chant Veni Creator Spiritus. The inclusion of the

famous Renaissance song L'Homme armé (The Armed Man) in the fourth movement--measures 103-120, for glockenspiel and tuba--further illustrates this idea.

Although the second concerto demonstrates more harmonic variety than the first concerto, Hindemith ends all his movements upon either a triad or a sonority made up of perfect fifths.

Hindemith's occasional use of all twelve tones for harmonic and melodic purposes may be seen in the second concerto.

Two examples follow:

Example 50--Second concerto, second movement, mm. 17-19.



Example 51--Second concerto, second movement, mm. 63-64.



On the other hand, triadic sonorities are easily located in both works, and, in fact, unashamedly provide the harmonic basis for the third movement of the second concerto entitled Canzonetta in Triads, and two Ritornelli. Chords built of fourths, which have been long associated with the music of Hindemith, are used more frequently in the second concerto than the first. The latter concerto uses primarily a free triadic harmony in which individual sonorities move about unfettered by traditional considerations.

Form

During his lifetime Hindemith acquired a reputation for basing his compositions upon traditional forms. The first concerto reaffirms this idea, for the three movements of the concerto are in sonata-allegro, ternary, and sonata-allegro forms respectively. A favorite technique of Hindemith may be seen in both sonata-allegro forms: that of reversing the order of themes in the recapitulation.² A brief outline of the main sections of the first concerto is given below:

²The tendency to reverse themes in the recapitulation of Hindemith's chamber works is often pointed out in Cobbett's Cyclopedic Survey of Chamber Music, Second Edition, Edited by Colin Mason, Vol. III (London: Oxford University Press, 1963), pp. 13-21.

First movement

Exposition	mm.	1-65
First theme	mm.	21-38
Second theme	mm.	39-58
Codetta	mm.	59-65
Development.	mm.	65-95
Recapitulation	mm.	95-146
Second theme	mm.	95-111
First theme	mm.	111-118
Coda	mm.	118-146

Second movement

Statement.	mm.	1-18
Digression	mm.	18-26
Restatement	mm.	26-36
Coda	mm.	36-44

Third movement

Exposition	mm.	1-167
First theme	mm.	1-84
Second theme	mm.	84-152
Third (closing) theme	mm.	152-167
Development	mm.	167-253
Recapitulation	mm.	253-357
Second theme	mm.	253-293
Third theme	mm.	293-317
First theme	mm.	317-341
Third (closing) theme	mm.	341-357
Coda	mm.	357-374

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The second concerto does not follow traditional classic forms, although Hindemith does provide solo passages for the organist which take on the nature of cadenzas. These are found in the second movement, measures 110-164; and the fourth movement, measures 122-208.

The first movement, entitled Crescendo, provides an introduction to the second movement and leads into it without pause. One is reminded of Ravel's Bolero, for the theme, introduced first by the cellos, is repeated literally each time with a different orchestration and with an increase in dynamic level. The orchestral episodes are built up much in the style of organ registration, that is, by successively adding groups of instruments: low strings, woodwinds, full string choir, brass, and finally the full orchestra. An outline of the movement is given below:

First movement (variations)

Theme mm. 1-14

Theme stated by the cellos.

First variation mm. 14-27

Theme in organ, accompanied by low strings.

Second variation mm. 27-40

Theme in woodwinds, with organ counterpoint.

Third variation mm. 40-57

Organ begins new theme which furnishes a counterpoint for the original theme in unison strings.

1. *Journal of the American Medical Association*, 1997; 277: 1039-1043.

1. *Journal of the American Medical Association*, 1997; 277: 1033-1036.

Fourth variation. mm. 57-68

Theme in canon between the orchestral brass and harmonic trumpets of the organ.

Interlude mm. 68-73

The new theme from variation three is presented in canon by the organ against orchestral brass.

Fifth variation mm. 73-83

Triple canon between organ, low orchestral instruments, and high orchestral instruments.

Coda mm. 83-96

First phrase of the theme is performed alternately by the full orchestra and organ.

The second movement follows none of the traditional forms, therefore the thematic organization will be described sectionally. It is in two large sections. The first section begins by allotting distinct thematic material to the two musical forces, organ and orchestra; and each performs in opposition to, or in alternation with, the other. The orchestra begins in measures 1-9 with an agitato theme stated by the violas against a staccato theme by the trombone, basses, and timpani. In measure 9 the organ enters with the leaping, angular theme given in Example 48, and it is pitted against the orchestral themes. In measures 17-79 the organ develops its theme fugally and imitatively with the exception of two short orchestral interruptions in measures 26-33 and measures 59-63.

An organ solo in measures 63-79 concludes the first section with a variant of its original theme.

The second section is subdivided into three parts. In the first part (measures 79-110) a chorale-like theme is performed alternately by the organ and orchestra. In measures 106-110 the woodwinds use the thematic material from the organ part of measures 63-79 as a counterpoint for the chorale-like theme. The second part is an organ solo in the nature of a cadenza. It begins with a theme by the organ (see Example 47) which is reminiscent of the concluding measures of the first section of the movement. Thematic material from the first section is quoted in measures 129-146. The organ solo concludes with the chorale-like theme presented in $\frac{5}{4}$ meter using high pitched stops. The final part, measures 164-192, places the organ and orchestra in thematic opposition as at the beginning of the movement. The themes used consist of the orchestral themes from the introductory measures of section one and the chorale-like theme from section two.

Hindemith's antiquarian tendencies are reflected in the third movement, which is based upon the free, multi-sectional type of canzonas reminiscent of Frescobaldi. This type of composition, which was characterized by alternations between

slow homophonic sections and fast imitative sections, forms the structural basis for this movement. Hindemith makes the structure even clearer by assigning the homophonic sections to the organ and the imitative sections to the orchestra. An outline of the form of the movement is given below:

Third movement

Canzonetta	mm.	1-32
Ritornello	mm.	33-64
Canzonetta	mm.	64-107
Interlude	mm.	107-120
Ritornello	mm.	120-153
Coda	mm.	153-181

The last movement, entitled Phantasy on Veni Creator Spiritus (literally, Come, Creative Spirit) is in six sections and is the longest movement of the concerto. As in the second movement, it will be discussed as a sectional work rather than from the standpoint of traditional forms. Hindemith's version of the chant as first presented by the organ is given below:

Example 52--Second concerto, fourth movement, mm. 2-23.



In the first section, measures 1-23, the organ presents the chant harmonized as a chorale. Between each phrase of the chant the full orchestra injects a spirited, fanfare-like outburst.

The second section, measures 23-83, is a contrapuntal development of a theme which is derived from the first phrase of the chant. After the theme has been tossed about in a fugal manner the organ enters with the chant played in long note values on the pedals. The whole section thus takes on the proportions of an orchestral chorale prelude.

The third section, measures 84-122, is very similar to the second in that another melody, which is also derived from the first phrase of the chant, is set polyphonically -- this time as a canon.

The canon is performed first by the organ in measures 84-102, and later by the trumpets and cellos in measures 102-119. While the canon is performed as stated, the entire chant is repeated twice in rhythmically altered form; first by the lower strings in measures 84-101, and then by the horns in measures 102-120. During measures 102-120 the L'Homme armé tune previously mentioned occurs in the glockenspiel and tuba. The rhythmically free passages for the organ during measures 105-117 are particularly unusual and illustrate a type of writing not found anywhere else in Hindemith's organ works.

The fourth section, measures 122-208, is a cadenza for organ in which the chant is placed in the pedal using different octave ranges for each note. The manual voices provide rhythmic and dynamic contrasts which are made even more colorful by changes in organ registration.

The fifth section, measures 208-261, consists of a new theme presented by the flute and accompanied by the lower strings. When the tune is taken up by the organ in measure 222, the horns and trombones present the chant in octaves. The flute and lower strings then complete this section, thus giving it an ABA design.

The sixth section is a coda in which the chant is stated ff alternately by organ and orchestra.

Conclusion

Some of the important features of these two concertos have been presented and some comparisons have been made. One will find that the following statement by Heinrich Strobel in which he summarizes Hindemith's concerto writing is apropos to the organ concertos.

The concerto has become the type of composition through which Hindemith best expresses his dual ideal of polyphony and dynamic force. It is at the opposite extreme from the sonata. The latter is based on the duality of two themes that **provoke** thematic conflicts and consequently create tensions in the development of the music. The concerto calls for unopposed allocation of the elements of the musical play--no conflict, no tension. A single theme is needed to unify the material. And if there are several themes, they are chosen from the same schematic type, and have the same import. The nineteenth century erred, according to Hindemith, in degrading the concerto by reducing it to an exercise in uncontrolled virtuosity, and by disfiguring it with the introduction of symphonic tensions.

Hindemith utilizes all the possibilities of solo playing for his concertos. But even where figuration is richest and most detailed, it is always incorporated in the thematic organism and is always part of the polyphonic play.³

³Paul Collaer, A History of Modern Music, Trans. Sally Abeles, (Cleveland: The World Publishing Company, 1961) p. 316, quoting Heinrich Strobel, Paul Hindemith.

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CHAPTER VI

CONCLUSION

The preceding chapters have dealt with the organ sonatas of Paul Hindemith in considerable detail. They have been examined from many possible viewpoints: the stylistic features which they contain, how they came into being, their structure, their place in the repertoire, and their relationship to the philosophical and theoretical writings of the composer. Furthermore, a chapter on the two organ concertos has been included which not only illustrates another aspect of his organ compositions, but demonstrates Hindemith's early and late styles of organ composition.

Much of our investigation has been undertaken with the performer in mind. In this respect many questions regarding the interpretation of the sonatas have been answered, and a scheme of registration has been provided for them which will adapt to most instruments without difficulty. No amount of investigation or analysis, however, will describe the pleasure which may be derived from performing or listening to these sonatas. One finds that they offer variety, artistic unity, and originality combined with a keen sense of tradition. There is no doubt that they reflect the creativity of a musical mind of extremely high order.

The place of the Hindemith sonatas in organ literature has been established in the present day. Their future lies with

untold numbers of organists and listeners. If this paper has assisted in promoting an appreciation of their value not only for the present, but for the future as well, the efforts which went into its creation will be justified.

In conclusion it is appropriate to turn to the composer for some thoughts regarding the lofty ideals which he held both for himself and for his music. It need hardly be stated that Hindemith, as one of the foremost composers of our time, himself represents the embodiment of these ideals in many respects.

This life in and with music, being essentially a victory over external forces and a final allegiance to spiritual sovereignty, can only be a life of humility, of giving one's best to one's fellow men. This gift will not be like the alms passed on to the beggar: it will be the sharing of a man's every possession with his friend.

The ultimate reason for this humility will be the musician's conviction that beyond all the rational knowledge he has amassed and all his dexterity as a craftsman there is a region of visionary irrationality in which the veiled secrets of art dwell, sensed but not understood, implored but not commanded, imparting but not yielding. He cannot enter this region, he can only pray to be elected one of its messengers. If his prayers are granted and he, armed with wisdom and gifted with reverence for the unknowable, is the man whom heaven has blessed with the genius of creation, we may see in him the donor of the precious present we all long for: the great music of our time.¹

¹Paul Hindemith, Composer's World: Horizons and Limitations (Cambridge: Harvard University Press, 1952), p. 257.

APPENDIX
STOP SPECIFICATION FOR A
THREE MANUAL ORGAN

Narrow scale pipes	Wide scale pipes	Reeds
Great		
8' Principal	16' Quintaton	8' Trumpet
4' Octave	8' Gedeckt	
2' Fifteenth	4' Rohrflöte	
IV Mixture		
Swell		
8' Viol	8' Bordun	16' Fagotto
8' Viol Celeste	4' Harmonic Fl.	8' Trompette
4' Prestant	2 2/3' Nazard	4' Clarion
2' Octave	2' Piccolo	
III Scharf	1 3/5' Tierce	
Choir		
8' Dulciana	8' Quintadena	8' Krummhorn
8' Unda Maris	4' Gedeckt	
2' Principal	2' Glockflöte	
1' Siffelöte	1 1/3' Larigot	
II Cymbal		
Pedal		
16' Violon	16' Bourdon	16' Posaune
8' Principal	16' Quintaton	16' Fagot
4' Octave	8' Bourdon	8' Trumpet
II Grave Mixture	8' Gedeckt	4' Clarion
III Mixture	4' Gedeckt	
	2' Rohrflöte	

BIBLIOGRAPHY

Music

Davison, Archibald T., and Apel, Willi. Historical Anthology of Music, Vol. I: Oriental, Medieval and Renaissance Music. Cambridge: Harvard University Press, 1949.

Hindemith, Paul. Concerto for Organ and Orchestra (1962).
Mainz: B. Schott's Söhne, 1962.

_____. Konzert für Orgel und Kammerorchester, Opus 46,
Nr. 2 (Kammermusik Nr. 7). Mainz: B. Schott's Söhne,
1928.

_____. Sonata I. Mainz: B. Schott's Söhne, 1937.

_____. Sonata II. Mainz: B. Schott's Söhne, 1937.

_____. Sonata III. Mainz: B. Schott's Söhne, 1940.

Books

Abraham, Gerald. This Modern Music. New York: W. W. Norton
and Co., 1952.

Apel, Willi. Harvard Dictionary of Music. Cambridge: Harvard
University Press, 1964.

_____. Masters of the Keyboard. Cambridge: Harvard
University Press, 1958.

Austin, William. "Hindemith's 'Frau Musica': The Versions of
1928 and 1943 Compared," Essays on Music in Honor of
Archibald Thompson Davison. Cambridge: Harvard Uni-
versity Press, 1957.

_____. Music in the 20th Century. New York: W. W. Norton
and Co., 1966.

Bauer, Marion. Twentieth Century Music. New York: G. P. Putnam's
Sons, 1933.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes the need for transparency and accountability in financial reporting.

2. The second part of the document outlines the various methods and techniques used to collect and analyze data. It includes a detailed description of the experimental procedures and the statistical analysis performed.

3. The third part of the document presents the results of the study. It includes a series of tables and graphs that illustrate the findings of the research. The data shows a clear trend in the relationship between the variables studied.

4. The fourth part of the document discusses the implications of the findings. It highlights the potential applications of the research in various fields and the need for further investigation in this area.

5. The fifth part of the document provides a conclusion and summarizes the key points of the study. It reiterates the importance of the research and the need for continued efforts in this field.

6. The sixth part of the document includes a list of references and a bibliography. It cites the works of other researchers in the field and provides a comprehensive overview of the current state of knowledge.

7. The seventh part of the document contains a list of appendices and supplementary materials. These include additional data, figures, and tables that provide further detail and support for the findings of the study.

- Bohme, Franz M. Altdeutsches Liederbüch. Wiesbaden: Breitkopf und Härtel, 1966.
- Cobbett's Cyclopedic Survey of Chamber Music. Second Edition. Edited by Colin Mason. Vol. III. London: Oxford University Press, 1963.
- Collaer, Paul. History of Modern Music. Trans. Sally Abeles. Cleveland: The World Publishing Company, 1961.
- Copland, Aaron. Copland on Music. Garden City: Doubleday and Co., 1960.
- _____. Our New Music. New York: McGraw Hill Book Co., 1941.
- Dallin, Leon. Techniques of Twentieth Century Composition. Dubuque, Iowa: Wm. D. Brown Co., 1964.
- Demuth, Norman. Musical Trends in the Twentieth Century. London: Salisbury Square, 1952.
- Ewen, David (ed.). The Book of Modern Composers. New York: Alfred A. Knopf, 1950.
- _____. The Complete Book of Twentieth Century Music. Englewood Cliffs: Prentice-Hall, 1960.
- Flint, Edward W. The Newberry Memorial Organ at Yale University. New Haven: Yale University Press, 1930.
- Geer, E. Harold. Organ Registration in Theory and Practice. Glen Rock: J. Fischer and Bro., 1957.
- Gillespie, John. Five Centuries of Keyboard Music. Belmont: Wadsworth Publishing Co., 1966.
- Gleason, Harold. Method of Organ Playing. Fifth Edition. New York: Appleton-Century-Crofts, 1962.
- Goode, Jack C. Pipe Organ Registration. New York: Abingdon Press, 1964.
- Graf, Max. Modern Music. New York: Philosophical Library, 1946.
- Grout, Donald Jay. A History of Western Music. New York: W. W. Norton and Co., 1960.

1. The first part of the paper discusses the importance of understanding the underlying mechanisms of the observed phenomena. This section highlights the need for a comprehensive approach that integrates various disciplines to address the complex nature of the problem. The authors emphasize that a thorough understanding of the system's dynamics is essential for developing effective interventions.

2. The second part of the paper focuses on the methodology used in the study. The authors describe the experimental design, data collection procedures, and the statistical models employed to analyze the data. They provide a detailed account of the steps taken to ensure the reliability and validity of the results, including the use of control groups and the implementation of rigorous data analysis protocols.

3. The third part of the paper presents the results of the study. The authors report on the observed trends and patterns, comparing the findings with previous research in the field. They discuss the implications of the results for both theoretical and applied research, highlighting the potential for the findings to inform policy and practice. The authors also address the limitations of the study and suggest directions for future research.

4. The final part of the paper is a conclusion that summarizes the key findings and reiterates the importance of the research. The authors express their confidence in the results and their belief that the study has made a significant contribution to the understanding of the phenomenon under investigation. They conclude by emphasizing the need for continued research and collaboration to further advance the field.

- Grove's Dictionary of Music and Musicians. Fifth Edition,
Vol. IV. Edited by Eric Blom. New York: St. Martin's
Press, Inc., 1950.
- Hansen, Peter S. An Introduction to Twentieth Century Music.
Boston: Allyn and Bacon, Inc., 1961.
- Hartog, Howard (ed.). European Music in the Twentieth Century.
New York: Frederick A. Praeger, 1957.
- Hindemith, Paul. A Composer's World: Horizons and Limitations.
Cambridge: Harvard University Press, 1952.
- _____. A Concentrated Course in Traditional Harmony.
New York: Associated Music Publishers, Inc., 1943.
- _____. A Concentrated Course in Traditional Harmony.
Book II: Exercises for Advanced Students. New York:
Associated Music Publishers, Inc., 1949.
- _____. Catalogue of Published Works and Recordings.
New York: Associated Music Publishers, Inc., 1954.
- _____. Elementary Training for Musicians. New York:
Associated Music Publishers, 1946.
- _____. Johann Sebastian Bach: Heritage and Obligation.
New Haven: Yale University Press, 1952.
- _____. The Craft of Musical Composition. Book I:
Theoretical Part. Trans. Arthur Mendel. New York:
Associated Music Publishers, Inc., 1942.
- _____. The Craft of Musical Composition. Book II:
Exercises in Two-part Writing. Trans. Otto Ortmann.
New York: Associated Music Publishers, Inc., 1941.
- _____. Zeugnis in Bildern. Forward written by Heinrich
Strobel. Trans. E. Helm. Second Edition. Mainz: Schott
und Söhne, 1961.
- Howard, John Tasker, and Lyons, James. Modern Music. New York:
Thomas Y. Crowell Co., 1957.
- Kirby, F. E. A Short History of Keyboard Music. New York: The
Free Press, 1966.

- Lang, Paul Henry (ed.). Problems of Modern Music. New York: W. W. Norton and Co., 1960.
- Machlis, Joseph. Introduction to Contemporary Music. New York: W. W. Norton and Co., 1961.
- Marquis, G. Welton. Twentieth Century Music Idioms. Englewood Cliffs: Prentice-Hall, Inc., 1964.
- Salzman, Eric. Twentieth-Century Music: An Introduction. Englewood Cliffs: Prentice-Hall, Inc., 1967.
- Searle, Humphrey. Twentieth Century Counterpoint. New York: John de Graff, 1964.
- Stroble, Heinrich. Paul Hindemith. Third revised edition. Mainz: Schott und Söhne, 1948.
- Thomson, Virgil. The Musical Scene. New York: Alfred A. Knopf, 1947.
- Ulrich, Homer, and Pisk, Paul A. A History of Music and Musical Style. New York: Harcourt, Brace and World, Inc., 1963.
- Waters, Charles F. The Growth of Organ Music. London: Musical Opinion, 1957.

Articles

- Atkowitz, Israel. "And Now Basic Music," Perspectives of New Music, II (1964), pp. 29-31.
- Boatwright, Howard. "Paul Hindemith as a Teacher," Musical Quarterly, L (July, 1964), pp. 279-289.
- Bobbitt, Richard. "Hindemith's Twelve Tone Scale," Music Review, XXVI (1965), pp. 104-117.
- Cazden, Norman. "Hindemith and Nature," Music Review, XV (1954), pp. 288-306.
- Cooke, Arnold. "Paul Hindemith," Music Survey, II (1949), pp. 8-14 and pp. 80-83.
- Downes, Ralph. "Hindemith's Organ Sonatas," The Musical Times, LXXIX (April, 1938), p. 288.

1. The first part of the paper discusses the importance of understanding the underlying mechanisms of the observed phenomena. This is crucial for developing effective interventions and policies. The authors argue that a comprehensive understanding of the system is necessary to address the complex challenges it presents.

2. The second part of the paper focuses on the methodology used in the study. The authors describe the data collection process, the statistical models employed, and the validation techniques used to ensure the reliability of the results. They emphasize the importance of rigorous scientific methods in this type of research.

3. The third part of the paper presents the results of the study. The authors show that the proposed model accurately predicts the observed outcomes, providing strong evidence for its validity. They also discuss the implications of these findings for future research and practical applications.

4. The final part of the paper concludes with a summary of the key findings and a discussion of the limitations of the study. The authors suggest several directions for future research, including the need for more detailed data and the exploration of alternative models.

5. The authors also discuss the potential for future research in this area. They suggest that further studies should focus on understanding the long-term effects of the interventions and the role of individual factors in the system. They also mention the need for more comprehensive data collection and the development of more sophisticated models.

6. In conclusion, the paper provides a detailed and thorough analysis of the problem at hand. The authors' findings are both significant and informative, and their conclusions are well-supported by the evidence presented. This work is a valuable contribution to the field and will undoubtedly influence future research and practice.

- Edwards, F. G. "Mendelssohn's Organ Sonatas," The Musical Times, XLII (1901), p. 794.
- Evans, Peter, "Hindemith's Keyboard Music," The Musical Times, XCVII (November, 1956), pp. 572-575.
- Fleischer, Heinrich. "Joh. Nepomuk David and His Contribution to Music of the Organ," The Diapason (November, 1954), p. 6.
- Gibbs, A. "Hindemith's First Sonata," in "Organ Music of Our Century," The Musical Times, CV (February, 1964), pp. 134-135.
- Herrenschwand, Franz. "The Organ of Max Reger," The American Organist (March, 1961), pp. 13-14.
- Hymanson, William. "Hindemith's Variations," Music Review, XIII (1952), pp. 20-33.
- Landau, Victor. "Hindemith the System Builder," Music Review, XXII (1961), pp. 136-151.
- _____. "Paul Hindemith, A Case Study in Theory and Practice," Music Review, XXI (1960), pp. 38-54.
- Mersmann, H. "Paul Hindemith," International Music Educator, IX (April, 1964), pp. 296-297.
- Muser, F. B. "The Recent Work of Paul Hindemith," Musical Quarterly, XXX (January, 1944), pp. 29-36.
- "Organ and Church Music Notes," (a discussion of the three Hindemith organ sonatas), Musical Opinion, LXXXVII (March, 1964), pp. 361-363.
- "Organ Recital Notes," (a review of the première performance of Sonata I and Sonata II in England), The Musical Times, LXXIX (March, 1938), p. 210.
- Parmenter, Ross. (Review of the première performance of Hindemith's second organ concerto), New York Times, April 26, 1963, p. 26.
- "Paul Hindemith: Organ Composer," The Musical Times, LXXIX (January, 1938), p. 56.
- Powell, Mel, Foss, Lukas, and Blackwell, Easley. "In Memoriam: Paul Hindemith," Perspectives of New Music, II (1964), pp. 1-5.
- Redlich, Hans F. "Paul Hindemith: A Re-Assessment," Music Review, XXV (1964), pp. 241-253.

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"Reviews of Records," Musical Quarterly, XL (October, 1954), pp. 626-628. ("Hindemith: Three Sonatas for Organ." Robert Noehren, organ. 12" LP. Lyrichord LL 53.)

Rimmer, Frederick. "Sequence and Symmetry in Twentieth Century Melody," Music Review, XXVI (1965), pp. 28-50.

Rudd, Michael. "Stylistic Features and Compositional Activities in Organ Literature Since World War II," The Diapason (June, July, and August, 1964), pp. 12, 13, and 14 respectively.

Schilling, Hans Ludwig. "Hindemith's Orgelsonaten," Musik vor Kirke, XXXIII (1963), pp. 202-209.

Thomson, William. "Hindemith's Contribution to Music Theory," Journal of Music Theory, IX (1965), pp. 52-71.

"Three Hindemith Organ Sonatas," The Canon, IV (May, 1951), pp. 485-486.

Tischler, Hans. "Hindemith's Ludus Tonalis and Bach's Well-Tempered Clavier--A Comparison," Music Review, XX (1959), pp. 217-227.

_____. "Remarks on Hindemith's Contrapuntal Technique," Journal of the International Folk Music Council, XVI (1964), p. 53.

Trevor, C. H. "Hindemith's Third Sonata," in "Organ Music of Our Century," The Musical Times, CII (January, 1961), pp. 44-45.

Unpublished Material

Boszyan, Frank. Copies of Hindemith's three organ sonatas (Mainz: B. Schott's Söhne, 1937-1940) in which Mr. Boszyan marked Hindemith's registration suggestions for the Woolsey Hall organ at Yale. New Haven: Yale University Music Library.

Kremer, Rudolph Joseph. "The Organ Sonata Since 1845." Unpublished Ph. D. dissertation, Dept. of Music, Washington University, 1963.

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Other Sources

Ann Arbor. Personal interview with Dr. Robert Noehren. June 27, 1968.

Downes, Edward. "Concerto for Organ and Orchestra," program notes of April 25, 26, 27, and 28, 1963 for the New York Philharmonic.

