COMPOSITIONAL DEVICES OF WILLEM PIJPER (1894-1947) AND HENK BADINGS (B. 1907) IN TWO SELECTED WORKS, PIJPER'S SONATA PER FLAUTO E PIANOFORTE (1925) AND BADINGS' CONCERTO FOR FLUTE AND WIND SYMPHONY ORCHESTRA (1963), A LECTURE RECITAL, TOGETHER WITH THREE RECITALS OF SELECTED WORKS OF BACH, VIVALDI, DAHL, FRANÇAIX, AND OTHERS

DISSERTATION

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

DOCTOR OF MUSICAL ARTS

By

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Denton, Texas

December, 1980
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Substantial contributions to flute literature of the twentieth century were made by the Dutch composers Willem Pijper (1894-1947) and Henk Badings (b. 1907) in the *Sonata per Flauto e Pianoforte* (1925) and the *Concerto for Flute and Wind Symphony Orchestra* (1963), respectively. This paper is an examination of the compositional devices employed by Pijper and Badings in these two selected works, with a discussion of the elements of form, tonal language, rhythm, motivic usage, orchestration, and innovative flute techniques. Emphasis on Pijper as teacher and mentor to a generation of Dutch composers, including Badings, gives the basis for a comparison of the *Sonata* and the *Concerto*.

Chapter I serves as an introduction, providing background on Dutch musical culture from the fifteenth century to the present. The domination of the Netherlands School in fifteenth- and sixteenth-century Europe was followed by a period of almost three hundred years during which there were
virtually no substantial contributions from Netherlands' composers. This revival of a creative Dutch musical culture in the twentieth century, including the composers Pijper and Badings, ended this hiatus.

Chapter II gives biographical information on Willem Pijper and discusses the Sonata per Flauto e Pianoforte (1925). The three movements are discussed in terms of form, motivic material, tonal structure, rhythm, and innovative techniques. Musical examples illustrate the text, and particular attention is given to Pijper's "germ-cell theory," with a listing of the germs used in the Sonata.

Chapter II provides a discussion of Henk Badings' diverse background and his prolific contributions in the field of music. The Concerto for Flute and Wind Symphony Orchestra was commissioned by Robert Boudreau and the American Wind Symphony; it premiered in 1963. An examination of the three movements in terms of form, tonal language, motivic material, rhythm, orchestration, and innovative techniques includes musical examples.

Chapter IV is a comparison of the Sonata and the Concerto that reveals both similarities and differences between the two works. The elements of motivic usage, form, tonal language, and treatment of the solo instrument are discussed. A study of the compositional devices of Pijper and Badings reveals a depth of content in both works that is worthy of performance and serious study.
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Tape recordings of all performances submitted as dissertation requirements are on deposit in the North Texas State University Library.
North Texas State University
School of Music

presents

Mary Karen Clardy

in a

DMA FLUTE RECITAL

Monday, March 19, 1979, 6:30 p.m.
Concert Hall

Assisted by

Dale Peters, Harpsichord
Lynne Lauderdale-Hinds, Piano

Program

Jouers de Flûte

Suite in c minor
Preludio
Fuga
Sarabande
Gigue

Jouers de Flûte
Pan
Tityre
Krishna
M' de la Pejaudie

Intermission

Quatrième Concert Royal

Prelude
Allemande
Courante Francaise
Courante a L'italienne
Sarabande
Rigaudon
Forlane en Rondeau

Silouettes
Sereine
Capricieuse

This recital is in partial fulfillment of the requirements for the Doctor of Musical Arts degree
in Flute.
Mary Karen Clardy

in a

DMA FLUTE RECITAL

Monday, January 28, 1980, 5:00 p.m.

Concert Hall

Assisted by
Lynne Lauderdale-Hinds, Piano and Harpsichord
Dick Clardy, Conductor
Leslie Ing, Violin
Beth Lindsey, Violin
Joni Walker, Viola
Diego Villa, Cello
Steve Barnhart, Percussion

PROGRAM

Concerto in a minor
for piccolo, strings, and harpsichord
Allegro
Larghetto
Allegro

Sonate Opus 36
I. Allegretto
II. Allegretto tranquillo
III. Andante non troppo - Allegretto un poco agitato

Intermission

Duettino Concertante for flute and percussion
I. Alla marcia
II. Arioso accompagnato
III. Fughetta
IV. Presto Finale

Caprice XXIV
(Variationen)

This recital is in partial fulfillment of the requirements for the Doctor of Musical Arts degree in Flute.

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North Texas State University
School of Music

presents

Mary Karen Clardy

in a

DMA FLUTE RECITAL

Monday, June 23, 1980, 5:00 p.m.

Assisted by

Lynne Lauderdale-Hinds, Piano

Program

Divertimento
I. Toccatina
II. Notturno
III. Perpetuum Mobile
IV. Romanza
V. Finale

Konzert für Flöte und Orchester (1954)
I. Allegro con fuoco
II. Tranquillo
III. Finale - Allegro

Sonata for Flute and Piano
I. Allegro con moto
II. Andante
III. Allegro ma non troppo energico

Jean Françaix
Harald Genzmer
Thomas Beversdorf

This recital is in partial fulfillment of the requirements for the Doctor of Musical Arts degree in Flute.
North Texas State University
School of Music

presents

Mary Karen Clardy

in a

LECTURE RECITAL

Compositional Devices of Willem Pijper (1894-1947) and Henk Badings (b. 1907) in Two Selected Works, Pijper's Sonata Per Flauto e Pianoforte (1925) and Badings' Concerto for Flute and Wind Symphony Orchestra (1963)

assisted by

Lynne Allison Lauderdale-Hinds, piano
Robert A. Winslow and the North Texas State University Wind Ensemble*

Monday, August 11, 1980 4:00 p.m. Concert Hall

PROGRAM

Excerpts from the Concerto for Flute and Wind Symphony Orchestra (1963)  
I. Allegro
II. Adagio
III. Vivace

Sonata per Flauto e Pianoforte (1925)  
I. Allegro
II. Lento
III. Presto

This recital is in partial fulfillment of the degree Doctor of Musical Arts in Flute.

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CHAPTER I

INTRODUCTION

This paper examines the twentieth-century Dutch composers Willem Pijper and Henk Badings, the compositional devices utilized by these two composers, respectively, in the Sonata for Flute (1925) and the Concerto for Flute and Wind Symphony Orchestra (1963), and their place in flute literature of this century. A comprehensive discussion of the compositional styles of each composer is not the intent or purpose of this paper; rather, it is a survey of the compositional devices in the two works and their place in twentieth-century flute literature. In the Sonata and Concerto, the elements of form, tonal language, rhythm, motivic usage, orchestration, and innovative flute techniques will be examined. Emphasis upon Pijper as teacher and mentor to a generation of Dutch composers, including Badings, is the basis for comparison of the compositional devices found in the two works. The selection of the Sonata and Concerto was made because in recent years there has been a revival of interest in Pijper's Sonata and an increased respect for this well-crafted contrapuntal work; Badings' Concerto is a frequently-performed twentieth century concerto for flute and wind symphony, but, to the knowledge of
this writer, it has not been the subject of an analytical study.

The revival of a creative Dutch musical culture in the twentieth century ended a hiatus of almost three hundred years during which there were virtually no substantial contributions from Netherlands' composers. The domination of the highly-developed contrapuntal style of the Netherlands School in fifteenth- and sixteenth-century Europe, led by Jacob Obrecht (1452-1505) and followed by Jan Pieterszoon Sweelinck (1562-1621), was gradually replaced by the monody of early Florentine opera and the basso continuo texture of the Baroque. The new monodic and homophonic styles offered little incentive to the Dutch composers who had contributed so richly to the music of the Continent while polyphony reigned supreme. Italian and German composers worked in the Netherlands throughout the seventeenth, eighteenth, and nineteenth centuries, with a particularly strong German influence evident in the nineteenth century. French music and literature supplanted this German tendency to a degree in the late nineteenth and early twentieth centuries (1, pp. 427-445). The lack of continuity in the musical development of Dutch music is the background for an examination of the place of Willem Pijper (1894-1947) and Henk Badings (b. 1907) in twentieth-century flute literature.
CHAPTER BIBLIOGRAPHY

CHAPTER II

WILLEM PIJPER AND THE SONATA PER FLAUTO E PIANOFORTE (1925)

Willem Pijper was born on September 8, 1894, in Zeist, a fashionable suburb of Utrecht; he was raised almost single-handedly by his mother after his father's early death. A sickly child, Pijper was kept out of school until age fourteen, and in these years he developed both a high intellectual level and a rich fantasy world. At the age of five, he began the study of music with his father's help, but he had no formal training until age ten when he started piano lessons. Without the benefit of theoretical training, Pijper devised his own C scale, in which the ascending and descending sequence of intervals was the same (7, p. 37). During his formal education in secondary school (1908-1911), Pijper demonstrated an interest in biology (manifested later by his "germ-cell" theory), psychology, philosophy, and classical Greek tragedy. His musical training continued at the Toonkunst Music School in Utrecht where he studied composition with Johan Wagenaar and piano with Helena van Lunteren-Hansen. Pijper graduated in 1915, already an established composer, and he was subsequently employed as music critic for the Utrechtsch Dagblad (1, pp. 766-769; 8, pp. 1248-1249).
Throughout his life, Willem Pijper was occupied not only as a composer but as an influential teacher, critic, and writer. "Beginning with the fall of 1923, Pijper was everywhere: writing, promoting, organizing, speaking, playing, conducting, travelling" (7, p. 42). He held teaching positions at both the Amsterdam and Rotterdam Conservatories at different times; he co-founded the monthly publication De Muziek in 1924. Pijper wrote essays and articles throughout his life that were later collected and published in two volumes, De Quintencirkel (The Circle of Fifths) and De Stemfork (The Tuning Fork)(1, pp. 766-769; 8, pp. 1248-1249).

The Sonata per Flauto e Pianoforte (1925), one of Pijper's most frequently-performed chamber works, contains three movements that are to be performed without pause (5). Cyclic elements, combined with the idea of the unification of movements, suggest a formal scheme which encompasses all three movements. The mood evoked in this work is that of "the spell of the syrinx," in keeping with Pijper's interest in Greek drama (4, p. 22); this work is considered by many to be one of his masterpieces. Polytonality, polyrhythm, and the "germ-cell" principle are compositional techniques used by the composer in this Sonata. The structures of individual movements correspond to traditional forms, but are modified somewhat to fit Pijper's belief that "the artistic realization . . . of the classical conception of exposition and
development finds its modern successor in the idea of simultaneous presentation and growth" (6, p. 437).

The first movement (Allegro) is in Sonata Allegro form, with a brief introduction to the exposition, a development section (which adds a new theme then reworks themes from the exposition), and a cadenza followed by a modified repetition of the introduction and recapitulation. The structure of the movement is further delineated by tempo changes; for example, the second thematic area in the exposition is in a slower, Tranquillo, tempo, and the same material recurs in the recapitulation in a Meno mosso section. The recall of previous material in the recapitulation involves Pijper's principle of organic growth, preventing the literal repetition of sections. The unresolved final cadence leads directly to the next movement.

The form of the second movement (Lento) is a Rondo (A B A' B' A"), unified by an ostinato figure in the bass introduced in the A sections. Each setting of the A and B sections is varied by tempo, rhythm, or texture to set it apart from the others. Of this movement, Wouters says,

The centre of gravity of the work consequently lies in the lyrical slow central movement. The slow movement is constructed on the ostinato figure, an element that can be regarded as typical for Pijper's method of composition. A strange feature of the Lento is that the climaxes are here not the result of an intensification of the dynamics, but arise through what Pijper called in an annotation to the work 'moments of rhythmic-metric complication' (9, p. 89).
New thematic material is introduced in this movement although fragments of themes from the first movement also appear. This movement, like the first one, also ends with an unresolved cadence, leading directly to the third movement. The Presto finale is also in Sonata Allegro form and is characterized by the incorporation of all previous thematic material in the Sonata; there is an Andante section in the development lifted from the second movement and an extensive coda that builds to a brilliant finish. The recall of previous material in the final movement is a modification of standard sonata form, but it is certainly not unparalleled in the history of music (e.g., Beethoven's Symphony No. 9).

The individual movements may be considered to be organized into an overall form of Sonata Allegro. The first movement serves as the exposition, setting out five major themes or cells; the slow second movement is a development section with two new cells and some reworking of the five cells in the first movement; the Presto recapitulation has statements of all prior cells and a section lifted directly from the second movement. This formal scheme for the entire sonata is supported by the lack of resolution in the final cadences of the first and second movements, and the composer's instructions for attacca connections between movements (5).

In any discussion of form, tonal hierarchy is important in determining sectional divisions, but Pijper's use of polytonality complicates this task. His polytonal style is evident
throughout the Sonata, and, as Marius Flothius says, "Pijper was convinced that the harmonic structure was closely related to the formal structure, and indeed the repetition found in 'Classical' forms can not be viewed in isolation from the principles of harmony" (3, p. 27).

The tonal center of the first and third movements is D, and the ostinato figure in the Lento hovers around E. These tonal levels have an overlay of polytonality; for example, the opening measures of the Sonata imply tritonality, as seen in Figure 1. [The use of polytonality in 1925 was certainly not unique (e.g., Prokofiev, Stravinsky, Milhaud, Honegger), but Pijper's treatment of polytonality was the subtle result of a contrapuntal style, not a blatant attempt to create the conflict of tonalities achieved by other composers who used this technique.]

Fig. 1--Tritonal implications, Movement I, measures 1-2 (piano part).

The keys D minor and E♭ are outlined in the piano, and B major is heard in the flute part. Melodies often float independently above an ostinato pattern that is in another tonality,
resulting in a bitonal or tritonal effect. The second movement illustrates this by the combination of the ostinato pattern built around E and the flute melody in G. The treble of the accompaniment frequently centers on a different tonality than the bass. For example, the treble voice in measure six of the second movement is in E♭ minor while the bass reiterates the ostinato pattern built around E.

Rhythm is an essential element in Pijper’s Sonata, with the use of polyrhythms, polymeters, and permutated dance rhythms such as the habanera, Figure 2 ([\(\text{habanera rhythm, Movement II, measure 2 (flute part).}\)], and the tango, Figure 3 ([\(\text{tango rhythm, Movement II, measures 22-23 (piano part).}\)]).

Polyrhythms occur when contrasting rhythms, either within the same meter or with a change of meter, are written between the
solo and the piano part. The simultaneous occurrence of strong and weak beats results in cross rhythms, as shown in Figure 4.

Fig. 4--Cross rhythms, Movement II, measures 56-61 (piano part).
The use of multiple time signatures or "polymeters" pervades the work, creating a sense of syncopation between the piano and flute by the constant vacillation of metric accent. This concept of rhythmic structure is the result of involved contrapuntal writing that Alexander L. Ringer calls "melodic-harmonic counterpoint . . . produced within the polymelodic frame of musical structures that dynamically condense the time factor through multiple combination . . . of rhythms and meters" (6, pp. 436-437). A constant eighth-note pulse through these metric changes, as shown in Figure 5, makes ensemble performance not as difficult a task as might be expected.

Fig. 5—Metric complexity between solo and accompaniment, Movement II, measures 63-68 (piano part).
As mentioned previously in the discussion of formal structure, Pijper utilizes the compositional device of the “germ cell.” This concept is an outgrowth of his interest in biology, which led him to

. . . the principle that everything evolves from one cell which develops but never returns to a previous stage. In music this idea led to the abandonment of literal repetition, which meant that the structure of Pijper's music was essentially different from much of the music written in his day and earlier (3, p. 19).

The Flute Sonata contains seven basic germ cells upon which the remainder of the work is built. Five cells are introduced in the first movement, two in the second movement, and all material is reworked in the final movement.

The first germ cell is a rising scale in the flute, distinguished by a marked rhythmic pattern; it is first stated in the opening measures of the Sonata (Figure 6).

Fig. 6—Germ cell one, Movement I, measures 2-5 (flute part).

The second germ cell is a cadential figure in the piano, consisting of polytonal chords and repeated bell tones (Figure 7).
A graceful melodic figure in two parts, germ cell three begins while cell two is being sustained (Figure 8). Germ cell four does not occur as a literal repetition but is associated with the descending minor third found at the end of the cell (Figure 9).

Cell five is a chromatic motive, characterized by the rhythm \( \frac{2}{8} \), which is found in all three movements (Figure 10). Both remaining cells are introduced in the second movement, with cell six stated as a rising melody.
over an ostinato bass figure (Figure 11). This cell is associated with the dotted rhythm \( \frac{3}{4} \), and it is repeated literally on a higher tonal level in the final movement. An arpeggiated pattern, found primarily in movement two, is germ cell seven (Figure 12). The examination of the seven germ cells employed by Pijper shows the small amount of basic material used by the composer, and his skill in combining and modifying this material with sophisticated compositional techniques to develop his Sonata.

Fig. 10--Germ cell five, Movement I, measures 44-45 (flute part).

Fig. 11--Germ cell six, Movement II, measures 2-4 (flute part).

Fig. 12--Germ cell seven, Movement II, measure 18 (piano part).
In addition to the seven germ cells, Pijper uses ostinato patterns for unification; for example, in the slow movement a recurring pattern signals each statement of section A, as shown in Figure 13. Peter Dickinson says that "the memorable quality of a Pijper work is likely to be an atmosphere connected with an ostinato, a harmonic effect, a melodic decoration, or a rhythm rather than an extended tune" (2, p. 327).

Fig. 13--Ostinato pattern, Movement II, measures 1-2 (piano part).

Pijper includes several innovative flute techniques that were rarely found before the 1925 Sonata was written. Flageolet tones, or harmonics, are specified for the flute in the first movement. String harmonics were common in the eighteenth century, but the idea was relatively new to wind players in the early twentieth century. The lozenges (▲) indicate the fundamental fingered pitch, and the regular notes give the desired sounding pitch (Figure 14).

Fig. 14--Flageolet tones, Movement I, measures 46-47 (flute part).
The technique of flutter tonguing in the third movement, notated by Pijper as "tremolo," had been used in the tone poems of Richard Strauss. In 1925, however, it was still a novel effect (Figure 15).

Fig. 15—Flutter tonguing, Movement III, measure 47, (flute part).

An expansion of the range in the flute part from D\textsubscript{b} - D\textsuperscript{4} was unusual for this time. Extensive use of the lower octave was not as uncommon as was the extremely high range. The flute had been used in the orchestral scores of Strauss with an expanded range; however, the important solo works that include this extension of the high register, such as Varèse's Density 21.5 and Prokofiev's Sonata for Flute and Piano, Opus 94, were not written until 1936 and 1942-44, respectively.

Aside from his compositional talents, Willem Pijper exerted a profound influence on twentieth-century music as teacher of the most gifted young Dutch composers of his day. A partial list of his students includes Karel Mengelberg, Guillaume Landre, Kees van Baaren, Henriette Bosmans, Rudolf Escher, Jan van Dijk, and Henk Badings. Wouter Paap says
The great merit of Pijper as a teacher was that he respected the personal talent of his pupils without imposing his own views on them. He strengthened self-confidence in Dutch creative talent, and it was largely due to his influence that Dutch compositions recovered a place in European musical life (4, p. 19).

This view of Pijper as teacher and mentor is furthered by Marius Flothius, who states,

What Pijper was particularly concerned to achieve was to create order in the musical thinking of his pupils, to impress upon them that music was something taking place in time, to teach them to think in melodic terms (3, p. 33).

Willem Pijper's contributions to twentieth-century music are only now being realized through the residual influence asserted by his students, many of whom are among the most creative composers in Dutch contemporary music.
CHAPTER BIBLIOGRAPHY


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5. Pijper, Willem, Sonata per Flauto e Pianoforte (1925), Amsterdam, Donemus, 1952.


Henk Badings was born in Indonesia, at Bandung, of Dutch parents, but he was orphaned at an early age and moved to the Netherlands. He studied geology at the Delft Polytechnic School, graduated with honors in 1931, and became a lecturer in the Department of Geology. Throughout this period, Badings was also developing as a composer; in 1931, while still a student, his First Symphony was performed by the Concertgebouw Orchestra in Amsterdam (1, pp. 254-256). Although primarily self-taught, he studied with Willem Pijper for a period of time around 1930. The association was a short one, however, as their divergent views prevented the development of fruitful results (5, p. 464). Badings is an exception to the otherwise strong relationship that Pijper formed with his students. After Badings devoted himself completely to a musical career, he held the positions of Professor of Theory and Composition, assistant director, and director of various Dutch conservatories. He subsequently broke all of his academic ties and spent many years entirely in music composition. In 1961, however, Badings accepted an invitation from the University of Utrecht to lecture on acoustics and information
theory, and one year later he was appointed Professor of Composition at the Musikhochschule in Stuttgart, West Germany. Badings writes prolifically in all genres, with over 400 compositions to his credit. He is also active in the field of electronic music; in 1956 he built an electronic studio in the Philips Research Laboratory in Eindhoven (1, pp. 254-256; 4, pp. 73-74).

The Concerto for Flute and Wind Symphony Orchestra (2) was commissioned by Robert Boudreau and the American Wind Symphony; it premiered in 1963. The performance, featuring a flutist in the Wind Symphony as soloist, took place on a barge on the river in Pittsburgh. Badings dedicated the score to the publisher, Walter Hinrichson, with the inscription "who contributed so much to music and musicians of our time" (2).

Badings' Concerto for Flute and Wind Symphony Orchestra (1963) consists of three movements that are written to be performed without pause. As in Pijper's Sonata, the suggestion of an overall form for the Concerto is made by the connection of movements without pause and the use of a three-note germ cell ($A^b - G - E$) as the source for thematic material in all movements (Figure 16). The Concerto is a virtuosic tour-de-force for flute but merits attention on musical grounds as well. In this work Badings displays a high level of compositional skill in his treatment of motivic development, rhythm, and orchestration.
The first movement closely resembles Sonata Allegro form, with an introduction, solo exposition, development, and cadenza, but lacking a standard recapitulation. Instead, Badings writes a slow, quasi-recitative bridge section leading directly to the second movement. The Adagio is in bipartite (A B) form, ending with a solo cadenza. A similar recitative passage, now unaccompanied, moves directly into the Vivace movement. This final movement is closest to Sonata Allegro form of any movement in the Concerto, beginning with an introduction scored for solo flute and percussion. The first theme is stated by a flute quartet, an extensive development section follows the exposition, the recapitulation is signalled by the theme in the flute quartet, and a lengthy coda builds to the end of the movement. Badings often sets off formal divisions with a change in orchestration rather than by using a new theme, as in the first movement, B section of the exposition. Although the tonal language is frequently polytonal, there are shifts in key areas within and between the movements. Badings uses polytonality and rhythmic fluctuation as compositional devices in the Concerto but adheres to traditional
forms as the vehicle for his musical language. In this respect he is sometimes viewed as the "neo-Romantic ... representative in Dutch music" (3, p. 443).

The tonal language in the Concerto includes bitonal and even polytonal elements, but rarely does Badings obscure the tonal center. The tonal levels used are $B_b$ major, $G$ minor in the first movement, $E_b$ major, $B$ minor in the second movement, and $E$ minor, $A$ minor, ending in $E$ minor in the third movement. [Badings' affinity for the interval of the fourth in both motivic and tonal relationships is confirmed in the key relation of the first and last movements.] Bi- and polytonal writing is most apparent in the piano score, as in the use of different chords for the treble and bass, corresponding to single instrumental lines in the orchestral score (Figure 17).

![Fig. 17—Polytonal writing, Movement I, measures 36-39 (piano score).](image)

Badings' use of octatonic (eight tone) scales in the third movement involves two or more instruments dividing the scale into sections, creating the effect of an interweaving of tonalities (Figure 18). The octatonic scales provide a basis for the "chromatically tonal possibilities of harmony" (6, p. 103).
Badings' preference for the interval of a fourth results in his use of quartal harmonies in place of the more traditional tertian system. In this respect, he is often compared to Paul Hindemith or Aaron Copland.

Other compositional devices in the Concerto include the use of sequence, extensive counterpoint, metric fluctuation, attention to rhythmic detail, and motivic treatment. Badings' sequential writing most often precedes a cadence, and tension is built through repetition at a different tonal level. Contrapuntal writing permeates each movement; a clear example is found in the opening of the second movement with a counter melody in the oboe over the theme played by French horn quartet (Figure 19). Badings' attention to rhythmic detail includes metric shifts; $\frac{5}{4}$, $\frac{4}{4}$, and $\frac{3}{4}$ alternate in the first movement (Figure 20); there are complex divisions of the beat in the second movement (Figure 21), and there is a lilting $\frac{11}{8}$ dance for the Finale (Figure 22). Rhythmic groupings within the bar, particularly in the solo line, fall in patterns that suggest either a rebarring or a shift of meter. The cadenza in the first movement provides the clearest example of this.
Fig. 19—Contrapuntal writing, Movement II, measures 1–3 (wind score).
device (Figure 23). The major motivic-thematic material is a three-note pattern initially heard in the solo flute line in its first entrance (Figure 16, page 21).

Fig. 20--Metric shifts, Movement I, measures 45-49 (wind score).

Fig. 21--Complex divisions of the beat, Movement II, measures 17-19 (flute part).

The germ cell of the Concerto (A♭ - G - E), with its intervallic scheme of descending half step followed by a minor third, serves as the basis for this work. In one form or another (diminution, augmentation, inversion), it is found in all movements of the Concerto, and on this pattern both
thematic and accompanimental material is built. The initial semitone in the motive is also employed by Badings as a unifying element. Figure 24 shows the original cell and other examples of the cell in other forms (diminution, augmentation, and inversion).

Fig. 22--\textsuperscript{11}\textsuperscript{8} dance, Movement III, measures 16-20 (flute quartet).

Fig. 23--Rhythmic groupings within the bar, Movement I, measures 82-88 (flute part).
Perhaps the most distinctive compositional device that Badings uses in this work is the technique of orchestration. His thorough knowledge of acoustics provided the tool for a unique approach to wind scoring. His method includes the use of ensembles within the score (the prominent flute quartet that includes the soloist), the piano that reinforces
harmonies and gives added percussive quality to the ensemble sound, the skilled writing for percussion (glissando effect on timpani), and the wide dynamic contrasts on sustained notes that give the effect of waves of sound. Scoring underneath the solo flute is for the most part light or nonexistent, providing windows through which the lighter sound of the flute can easily be projected.

Two innovative techniques for the solo flute are included by Badings; a "glissando" is specified at the end of the first movement in the recitative section, and "key clack" (battere colla linguetta) is called for in the third movement. The glissando (Figure 25) is from D¹ to C#¹. Partially covering an open hole with the finger would be the correct technique to produce the glissando, but this is not possible here since D¹ - C#¹ involves a closed key. A solution may lie in bending the tone downward by adjusting the direction of the air stream by turning the flute in toward the mouth or changing the angle of the lips.

Fig. 25—Glissando, Movement I, measures 90-93 (flute part).

The key clack is a standard twentieth century flute technique that produces a percussive sound as the flutist slaps the key shut when the note is attacked. [The writer
believes that this particular effect is obscured in performance in a large hall, and that some experimentation with amplification could solve not only this problem but also the question of balance between the solo and accompaniment.] Figure 26 shows the **battere colla linguetta** in the third movement.

![Fig. 26--Battere colla linguetta, Movement III, measures 1-3, (flute part).](image)

Badings uses the full range of the flute, particularly exploiting the tone colors in the low range in the end of the first movement and the brilliance of the extreme high register in the final movement.


A comparison of the compositional devices used by Pijper and Badings in the Sonata and the Concerto, respectively, shows both similarities and differences. The melodic writing in Pijper's Sonata is tied to his theory of the germ cell, with constant transformation of material from the basic germs. Badings uses a three-note cell as the motivic base for the Concerto. Augmentation, diminution, inversion, and transposition are the techniques employed in dealing with the cell, but Badings does not essentially modify his three-note pattern to the extent that Pijper transforms his germ cells.

Both composers remain traditional in their treatment of form; the principle of the Sonata Allegro is adopted in various movements of both works. An interesting parallel in the two works is the organization of the three movements into a higher form. Attacca connections exist between all movements of both the Sonata and the Concerto giving overall form to the works. Pijper preserves tonal unity in his Sonata, beginning and ending the work with a tonality centered on D minor. Badings does not confine his to the close key relationship; the Concerto begins in $\text{b}^2$ minor and concludes in E minor.
Polytonal aspects exist in both works. Pijper's polytonality is achieved more contrapuntally, often with implications of three tonalities present in the solo line, treble, and bass of the keyboard part. Scale passages in one key occur over arpeggiated patterns in one or two other keys. Badings writes simultaneous polychords in wind scoring, but, despite this, retains a strong tonal center. A bitonal sound is achieved in Badings' octatonic scales in the Finale.

The most apparent differences in the two works are the treatment of rhythm and the relation of solo to accompaniment. Pijper's highly individual rhythmic independence between solo and accompaniment results in an obscuring of the metric pulse. This contrasts with Badings' fluctuation of meter and regroupings within the bar, while retaining a strong rhythmic pulse throughout the work. Badings' skillful percussion writing also strengthens the metric feeling of the music. The intricate polyphonic texture of Pijper's Sonata provides a balanced chamber work for flute and piano. Badings' Concerto, by the nature of its genre, features the solo flute in a prominent role with the wind accompaniment in a subservient role. However, Badings orchestrated carefully to allow the flute to sing above the texture in a tutti passage while at the same time never losing the brilliant sound quality of which the wind ensemble is capable.
The Pijper Sonata per Flauto e Pianoforte (1925) and Badings' Concerto for Flute and Wind Symphony Orchestra (1963) are substantial contributions to the growing body of twentieth century flute literature. Study of the compositional devices of these two composers reveals a depth of content in both works which is worthy of performance and serious study.
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