AN ANALYTICAL STUDY: APPLYING HINDEMITH'S TONAL THEORY TO
NIELS VIGGO BENTZON’S THIRD PIANO SONATA, OP. 44

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Niels Viggo Bentzon (1919-2000) is the most significant composer in the post-Nielsen period of Danish piano music. Bentzon’s Third Piano Sonata, Op.44 was composed in 1946 and is considered by Mark L. Lehmann to be one of the great piano sonatas of the twentieth century. Not only does this sonata reflect Hindemith’s ideas, but it also reveals Bentzon’s unique style that successively empowers his innovative features. By applying Hindemith’s theory, this study offers a way of understanding this piece and demonstrates the relevance of Hindemith’s theory as a tool for analyzing the sonata.

Chapter 1 presents the significance of the study, the state of research, the purpose of the study, and method. Chapter 2 provides a theoretical analysis of Bentzon’s Third Piano Sonata, Op. 44. With a discussion of each movement, this analytical chapter traces Hindemith’s influences: Bentzon organizes the four movements with a clear formal structure, a mediant relationship between the first movement and the rest of the movements, and a motivic coherence of each movement. Also, this chapter demonstrates how Bentzon follows Hindemith’s way of chord construction and harmonic progression. This chapter provides insight into Bentzon’s original style that facilitates an understanding of the tonal organization of each movement and illuminates Bentzon’s intensity of expression through the use of quasi-improvisational passages, texture, dynamic fluctuations, and treatment of the full range of the piano. The last chapter concludes with a summary of Bentzon’s compositional style based on observations from previous chapters.
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Niels Viggo Bentzon (1919-2000) is the most significant composer in the post-Nielsen period of Danish piano music. From his first composition, *Klavierfantasi (Piano Fantasy)*, Op.1a (1939), until the completion of *Det Tempererede Klavier (The Tempered Piano)*, Op.157 (1996), Bentzon composed a large number of piano works. His compositional output for piano includes 25 numbered sonatas, a Passacaglia, Op.31 (1944), a Partita, Op.38 (1945), and the aforementioned 13-hour collection of pieces entitled *The Tempered Piano* as well as numerous shorter pieces.\(^1\) Throughout Bentzon’s creative life, the piano played a central role in his compositions, and his piano music constitutes a fourth of his total output of more than 650 works. Bentzon established a highly original manner of writing for the piano in Denmark, where there was no particular style for the instrument at the time as there was in French piano music.\(^2\) Bentzon’s piano music ranks highly among Scandinavian compositions\(^3\) and has had a strong influence on younger composers.\(^4\)

### Significance and State of Research

In spite of his contributions to the repertoire, his music was little known outside of Denmark. In 1948, Gerald Cockshot, English composer and writer, mentioned in his article, “Music in Denmark”:

\(^4\) Johnsson, 95.
...Danish musicians seem preoccupied with the works of an indifferent composer named Carl Nielsen and are less anxious to introduce us to better things.⁵

Although this represents an opinion perhaps shared by other musicologists outside of Denmark, its accuracy may be debated. His music has still not gained much attention from music researchers and performers. Therefore, there is little information for those who desire to study or perform Bentzon’s music. Most sources present brief reviews of his works or deal with his works as part of a bigger issue.

Considering Bentzon’s compositional achievement in the realm of piano music and his influence on the Danish tradition, his piano music deserves further study and a more prominent place in piano literature. Bentzon’s Third Piano Sonata, Op. 44 (1946), considered “one of the great piano sonatas of the twentieth century,”⁶ offers a good opportunity for close examination of his compositional style during the decade, 1940-1950.

In this piece, Bentzon employs the classical sonata form in a four-movement scheme. At the same time, the sonata shows “an expressiveness” unusual in Danish music⁷ at the time. Bentzon did not mark any key signature on the score and uses all twelve tones of the chromatic scale under the influence of Paul Hindemith (1895-1963).

Hindemith’s theory presented in his book, The Craft of Musical Composition⁸ might be a logical tool for the analysis of Bentzon’s Third Piano Sonata, since many sources mention Paul Hindemith’s influence on Bentzon’s music. In fact, Bentzon even wrote a book, entitled

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⁷ Krarup, 3:297.
Examining Hindemith’s theory will provide clues about the compositional techniques that Bentzon uses in this sonata.

Purpose of Study

This study aims to highlight Bentzon’s Third Piano Sonata, Op. 44 in piano literature and to uncover its musical and historical value. His works for piano display high quality and should be appreciated. Another goal of this study is to draw attention to Bentzon’s piano works from music researchers and performers. This study guides pianists to discover the salient qualities of Bentzon’s piano music, leading them to informed performance.

This study offers a thorough analysis of the piece and shows the relevance of Hindemith’s theory as a tool for analyzing Bentzon’s Third Piano Sonata, Op. 44.

Method

For the issue of harmony, Paul Hindemith’s theory presented in The Craft of Musical Composition aids in understanding Bentzon’s harmonic language. The chords Bentzon uses in the sonata cannot be explained by conventional harmonic theory. By using Hindemith’s theory, this study provides an analysis of root progression, patterns of chords, phrase structure, tonal scheme, and shows Bentzon’s intended design of harmonic tension in the sonata.

In his book, Hindemith proposed a new method for composition.\textsuperscript{10} Hindemith created a new scale “as the basic material for composition,”\textsuperscript{11} by deriving the first six overtones from the overtone series (Ex. 1).

\textsuperscript{9} Niels Viggo Bentzon, Paul Hindemith (Copenhagen: Artia, 1997).
\textsuperscript{10} Ibid., 9.
\textsuperscript{11} Ibid., 50.
Example 1. Overtone Series

Hindemith divided the vibration frequencies of each overtone successively by the order numbers of the preceding tones in the series. Then Hindemith completed an arrangement of the twelve chromatic pitches that he identifies as Series I (Ex. 2).

Example 2. Series I

Series I is an index of the value-order of the relationship of the interval formed by each note with the tonic. In other words, as the distance from the tonic increases in Series I, the strength of the harmonic relationship of each note with its tonic diminishes. For example, the octave between Tones 1 and 2 forms the closest relationship, whereas the interval of the augmented fourth or diminished fifth is considered to be the most distant.

Based on Series I, Hindemith extended his theory to Series II: combination tones (Ex. 3).

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12 Ibid., 17.
13 Ibid., 34.
14 Ibid., 96. In this example, G-flat (F-sharp) is missing at the very end.
15 Ibid., 54.
Example 3. Series II\textsuperscript{16}

The order of the intervals in Series II determines the relative degree of consonance of the interval. Moving from the octave to the tritone, the octave is the most consonant, and the tritone is the most dissonant. Series II also demonstrates how the root of each interval is determined. In this series, the fifth is the strongest of all harmonic intervals, whereas the major seventh is the weakest.\textsuperscript{17} The root of each interval is determined by the following rules: if an interval is a fifth or a third, the lower tone is the root of the interval; conversely, in case of a fourth, a sixth, or a second, the upper tone becomes the root of the interval. In Example 3, the arrows indicate the root of each interval.

Hindemith defined a chord as “a group of at least three different tones sounding simultaneously.”\textsuperscript{18} Hindemith insisted on substituting the basic rule of the superposition of thirds with a more all-embracing principle for the construction of chords.\textsuperscript{19} Therefore, Hindemith set up the table of chord-groups (Table 1).

\begin{itemize}
\item \textsuperscript{16} Ibid., 87.
\item \textsuperscript{17} The octave and the tritone do not have root, since the octave does not have any harmonic meaning, and the tritone itself is unstable.
\item \textsuperscript{18} Ibid., 95.
\item \textsuperscript{19} Ibid., 95.
\end{itemize}
Table 1. Table of Chord-Group<sup>20</sup>

<table>
<thead>
<tr>
<th>A Chords without Tritone</th>
<th>B Chords containing Tritone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I Without seconds or sevenths</strong></td>
<td><strong>II Without minor seconds or major sevenths</strong></td>
</tr>
<tr>
<td>1. Root and bass tone are identical</td>
<td>The tritone subordinate</td>
</tr>
<tr>
<td><img src="image1" alt="Chord Image" /></td>
<td>a. With minor seventh only (no major second)</td>
</tr>
<tr>
<td></td>
<td>Root and bass tone are identical</td>
</tr>
<tr>
<td><img src="image2" alt="Chord Image" /></td>
<td>b. Containing major seconds or minor sevenths or both</td>
</tr>
<tr>
<td>2. Root lies above the bass tone</td>
<td>1. Root and bass tone are identical</td>
</tr>
<tr>
<td><img src="image3" alt="Chord Image" /></td>
<td>2. Root lies above the bass tone</td>
</tr>
<tr>
<td><img src="image4" alt="Chord Image" /></td>
<td>3. Containing more than one tritone</td>
</tr>
<tr>
<td><strong>III Containing seconds or sevenths or both</strong></td>
<td><strong>IV Containing minor seconds or major sevenths or both</strong></td>
</tr>
<tr>
<td>1. Root and bass tone are identical</td>
<td>One or more tritones subordinate</td>
</tr>
<tr>
<td><img src="image5" alt="Chord Image" /></td>
<td>1. Root and bass tone are identical</td>
</tr>
<tr>
<td><img src="image6" alt="Chord Image" /></td>
<td>2. Root lies above the bass tone</td>
</tr>
<tr>
<td><img src="image7" alt="Chord Image" /></td>
<td><img src="image8" alt="Chord Image" /></td>
</tr>
<tr>
<td><strong>V Indeterminate</strong></td>
<td><strong>VI Indeterminate. Tritone predominating</strong></td>
</tr>
</tbody>
</table>

---

<sup>20</sup> Ibid., Appendix.
Hindemith divided the chord materials into two main groups based on whether the chords contain a tritone or not. Thus, Group A includes all the chords without a tritone, while Group B includes all the chords containing one or more tritones. Hindemith ranked the members of the subgroups according to the values of Series II. Chord Group I occupies the highest position in tonal value since it contains triads that articulate tonality, while Chord Group VI ranks the lowest since the tritones, the most dissonant of all intervals, predominate in the chord group. Therefore, as the numbers of the subgroups become higher, the tonal value of the subgroups diminishes.\(^{21}\)

The third movement of Bentzon’s Third Piano Sonata, Op. 44 is a good example for applying Hindemith’s theory to an analysis of the sonata. In this movement, Bentzon employs a chordal texture. If we try to analyze the chords (Ex. 4-1) with conventional theory, we cannot classify the chord construction.

Example 4-1. Bentzon, Third Piano Sonata, Op.44, 3\(^{rd}\) Movement, mm.9-12

\[\text{Example 4-1. Bentzon, Third Piano Sonata, Op.44, 3\textsuperscript{rd} Movement, mm.9-12}\]

However, by using Hindemith’s system, we can achieve a better understanding of Bentzon’s harmonic language in the sonata. The following process demonstrates how Hindemith’s analytical system is applicable to the harmonies in Bentzon’s Third Piano Sonata, Op. 44.

Every chord contains two or more intervals. In order to find the root of the chord,

\(^{21}\) Ibid.,108.
the best interval of the chord must be defined first according to the values of Series II\textsuperscript{22} (Ex. 4-2).

Example 4-2. Bentzon, Third Piano Sonata, Op.44, 3\textsuperscript{rd} Movement, mm. 9-12
-Best Intervals

After then, the root of the chord is determined by the aforementioned rules (Ex. 3). Therefore, the root progression of measures 9-12 can be determined as in Example 4-3.

Example 4-3. Bentzon, Third Piano Sonata, Op.44, 3\textsuperscript{rd} Movement, mm. 9-12
- Root Progression

Next, chords must be defined according to the table of chords-groups (Table 1).

We can analyze the chords in measures 9-12 as in Example 4-4.

Example 4-4. Bentzon, Third Piano Sonata, Op.44, 3\textsuperscript{rd} Movement, mm. 9-12
-Chord Analysis

Hindemith defines a cadence as three consecutive chords of Group A, or only two chords in case a chord of Group B is followed by a chord of Group A. A chord from Group B, which contains a tritone, has a dominant effect.\textsuperscript{23} When the tritone of the chord is resolved to a chord-

\textsuperscript{22} Ibid.,97.
\textsuperscript{23} Ibid.,136.
root of Group A, the root of the chord becomes the tonal center. As seen in Example 4-4, the cadence occurs in measure 11. The cadential motion is supported by the harmonic motion of Chord Group IV to Chord Group III and by the root progression of B-flat to E-flat. The E-flat tonality of the phrase is determined by the resolution of the tritone from Chord Group IV (m. 11), and the phrase is punctuated by the cadential note.

Based on such fundamental observations of Bentzon’s Third Piano Sonata, Op. 44, this study demonstrates that Bentzon follows Hindemith’s way of chord construction and harmonic progression by applying Hindemith’s theory to this piece. Also, this study traces other aspects of Bentzon’ style and many influences, including the use of traditional devices, such as ostinato, pedal point and fugal passages, as well as quasi-improvisational passages, use of synthetic scales, and other twentieth century techniques.

\[\text{Ibid.,135.}\]
CHAPTER 2

ANALYSIS OF BENTZON’S THIRD PIANO SONATA

Overview of the Sonata

During a period of more than 50 years, Bentzon composed 21 numbered piano sonatas as well as a few unnumbered ones. In 1946, Bentzon’s Third Piano Sonata was written in the tradition of the genre. Bentzon cast the sonata in a four-movement scheme: an allegro movement in sonata form, a quasi-scherzando movement, a slow movement, and a grand finale. The overall tonal organization follows.

Table 2. Tonal Organization of Bentzon’s Third Piano Sonata, Op. 44

<table>
<thead>
<tr>
<th>Movement</th>
<th>Tempo Indication</th>
<th>Beginning Key</th>
<th>Ending Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Allegro, Sempre fluent e espressivo</td>
<td>G minor</td>
<td>G major</td>
</tr>
<tr>
<td>II</td>
<td>Presto molto secco</td>
<td>E</td>
<td>E-flat</td>
</tr>
<tr>
<td>III</td>
<td>INTERMEZZO (Largo)</td>
<td>E-flat</td>
<td>(E)</td>
</tr>
<tr>
<td>IV</td>
<td>Allegro ma non troppo</td>
<td>D-minor</td>
<td>E major</td>
</tr>
</tbody>
</table>

As in Table 2, each movement ends in a different key other than its initial key. The tonal focus of the first movement is G minor, but the end of the movement confirms G major. The second movement begins in the tonality of E and ends in the tonality of E-flat, a half step lower. Starting in the tonality of E-flat, the third movement serves as an introduction to the last movement. The fourth movement begins in D minor, but this movement concludes in E major. This tonal scheme
suggests the influence of Carl Nielsen (1865-1931), who developed the idea of “progressive”25 tonality in his works. However, the overall tonal plan of the sonata demonstrates Bentzon’s unique way of organizing tonalities in this sonata: Bentzon relates the first movement to the rest of the movements by the third intervals; and at the end of the second movement, he anticipates the opening tonality of the third movement.

Throughout the piece, Bentzon concentrates on the arch form. The opening movement in sonata form can be analyzed as an arch form. The themes of the recapitulation are presented in reverse order: the first theme is preceded by the second theme. The second and fourth movements utilize the AB A' form. The midsections of both movements are in contrapuntal texture, surrounded by A sections. Thus, both movements can be seen as arch forms. The third movement is in binary form, marked “INTERMEZZO” by Bentzon himself. This movement is a slow chorale, connected to the last movement without pause. It serves as an introduction to the last movement in that the third movement has a recitative-like melody on the dominant bass of the opening tonality of the last movement. The fourth movement affirms the finale movement, bringing the sonata to a culmination.

Movement I: Balance between Formal Clarity and Expressive Nature

The first movement maintains the traditional concept of the sonata form with an exception of the reversed recapitulation traceable to Hindemith’s influence.26 In this movement, Bentzon creates expressive possibilities within the straightforward formal arrangement, revealing his compositional style.

26 An example of this type of reversed recapitulation can be found in the first movement of Hindemith’s Sonata for B-flat Trumpet and Piano (1939).
Exposition (mm. 1-71)

The movement opens with the one-measure introduction of the triplet accompaniment figure in the left hand alone. In the opening measures (Ex. 5), Bentzon firmly establishes the tonality of G minor: the left hand represents a single tonal domain with an insistent accompaniment quality (mm. 1-5) and returns to the tonic note at the end of the phrase (m. 8). The right hand starts with the definition of the tonic triad (m. 2), and over the course of the phrase, the motivic development is centered around the tonic. Bentzon, however, breaks up the tonality by freely using the twelve notes. For example, Bentzon creates a dissonance in the right hand with B-natural, which clashes with B-flat in the left hand (m. 4).

Example 5. Bentzon, Third Piano Sonata, Op.44, 1st Movement, mm. 1-8

The initial phrase is based on an assertive motive consisting of two quarters in a
descending leap followed by a rest (m. 2). Throughout the phrase, Bentzon progressively alters the rhythm and the size of the interval of the initial gesture, gradually building up tension.

After the five-measure extension of the opening phrase (mm. 8-12), a long legato phrase that uses a series of chords from Group III contrasts the fragmented principal theme (mm. 12-16). This provides a smooth connection to a restatement of the first theme by returning to the triplet accompaniment pattern in the left hand, anticipating the accompaniment patterns of the next phrase.


The opening phrase is restated a perfect fourth higher in C minor (mm. 16-23). As in the first phrase, the tonality of the phrase is established by the insistent accompaniment pattern in the left hand (mm. 16-19) and the tonic triad at measure 17. The right hand passage, however, obscures the tonality by varying the intervals of the motives. The phrase is linked to the next phrase without cadencing.

The pattern that opens the transition relies on the interplay of short motive fragments derived from the rhythm of measure 4 (Ex. 7).
Example 7. Bentzon, Third Piano Sonata, Op.44, 1st Movement, mm. 24-25

Twice Bentzon repeats the gesture (mm. 24, 26) that ends with an F major triad in conjunction with slightly different extensions. The second extension is allowed to proceed to the cadence.

At measure 37, the root progression returns to G from A (mm. 34-36), but the note E in the bass weakens the perception of the note G as the root of the chord. Instead, the prolongation of the note E in measures 34-37, followed by the recurring emphasis of the note, creates an increasing intensity, functioning as the dominant of the structurally important cadential tonic (Ex. 8).

______________________________

27 The quintal chord at measure 37 is a chord of group III. The root of the chord is the note G, since the chord is built on G. See the table of the chord-groups.
Example 8. Bentzon, Third Piano Sonata, Op.44, 1st Movement, mm. 34-40

The progression of Chord Group IV (m. 39) to Chord Group I (m. 40) fulfills expectation for the tonic resolution of the tritone that has a dominant effect. The triplets anticipate the accompaniment rhythmic pattern of the next phrase.

In this section, the large formal structure is articulated by a circle of descending fifths: from G (m. 2) through C (m. 17) and F (m. 25), finally returning to G (mm. 37-39). Bentzon employs elision to support the flowing musical continuum of each phrase. For example, the tonic resolution of the cadence becomes the beginning of the new phrase (m. 40).

Measures 40-41 bring the second lyrical subject accompanied by arpeggios in the left hand (Ex. 9).

As in the opening measures of the movement, the opening triad of the second subject firmly establishes the tonality of the phrase by presenting an A major triad. The second subject shows Bentzon’s organic approach to motivic development. The subject opens with a two-measure motive (mm. 40-41). The second subject grows forth from the motivic kernel. After appearing in measures 40-41, the motive is repeated literally in measure 41 in conjunction with a one-measure extension. In measures 42-43, the motive reappears in a different metre position. Now the motive is further developed for three more measures and is rhythmically more complex, using two against three rhythms (Ex. 10). The first two phrases of the second subject are elided in order to create musical continuity.

Example 10. Bentzon, Third Piano Sonata, Op.44, 1st Movement, mm. 43-46

![Example 10](image)

The restatement of the second subject increases tension. The melody is doubled in octaves in conjunction with louder dynamics. More strikingly, the opening chord (m. 46), one from Chord Group IV, weakens the perception of G major as a tonal center, since the left hand oscillates between B-flat, G, E, and B.

At measure 52, Bentzon introduces the closing theme, creating a surprising effect: a sudden intrusion of a scalewise ascent in the right hand breaks the triplet rhythmic patterns, which then is imitated in the left hand in the following measure (Ex. 11).
The sequential repetition of these rapid figurations creates an agitated contrapuntal texture. In this passage, the scalewise material continues to shift the tonal center in each measure, leading to the ardent climax of the exposition.

Measures 67-71 serve as a point of return to the first subject. Bentzon brings the triplet accompaniment pattern of the opening measures back to the right hand, while the left hand serves as a pedal point with recurring Ds doubled in octaves (Ex. 12).
The pedal point is a dominant function, implying G minor, the initial key. The dominant effect is aided by the tritone from Chord Group IV (mm. 66-67). The accompaniment patterns in measures 68-71 in the right hand provide tonal dominance with a sense of tonal return.

Development (mm. 72-143)

The development opens with rhythmically fluent phrases in a light texture. Bentzon makes the first phrase of the development (mm. 72-81) unique by differentiating it from others. First, Bentzon gives this phrase a contrapuntal texture. He presents the melody in the right hand, which develops the motive from measure 4, and the new theme in the left hand as its
countermelody (Ex. 13).

Example 13. Bentzon, Third Piano Sonata, Op.44, 1st Movement, mm. 72-74

Second, the phrase is punctuated by a moment of rest (m. 81), whereas other phrases are elided in order to formulate a sense of musical continuity.

The next phrase (mm. 81-90) focuses on developing the lyrical second theme. Here Bentzon deliberately makes the music light: he simplifies the texture by utilizing a single melodic line accompanied by predominant eighth-note triplets (Ex. 14).

Example 14. Bentzon, Third Piano Sonata, Op.44, 1st Movement, mm. 81-83

The staccato bass line provides a contrast to the lyrical upper line. The beginning of the phrase introduces a more salient tonal conflict: E minor in the right hand and D-flat major in the left hand. The phrase is connected to the following phrase through four-measure extension (mm. 87-
At this point, elision offsets the absence of a tonal closure.

Measures 90-100 display a mosaic-like passage consisting of three different melodic ideas: the motive derived from measures 24-25 (mm. 90-91), the new theme (mm. 92-96, Ex. 15) that features a lyrical character, and the theme derived from the second theme (mm. 96-100). None of them establishes the tonic, and thus the tonality of each theme is obscured. The end of the passage, however, is firmly articulated by a full D major triad (m. 100).

Example 15. Bentzon, Third Piano Sonata, Op.44, 1st Movement, mm. 92-96

At measure 100, the D major triad becomes the beginning of the following passage. In this passage, Bentzon concentrates more on motivic development. Each theme in the previous passage except the last one is subsequently varied, extended and repeated, building more tension. Without the reappearance of the lyrical second theme, Bentzon incorporates the contrapuntal idea
from measure 24 in quasi-improvisatory fashion: there are changes of metre from 9/8 to 3/8 to 2/4, and back to 9/8. The scale-like ascents in the exposition are replaced by octatonic descents.

Measures 121-130 contribute to the preparatory effect for the retransition. Towards the end of the development, the right hand emphasizes on the note E, suggesting the dominant role of the retransition. At measure 122, the octatonic scale creates a surprising effect in octaves without any harmonic support (Ex. 16).

Example 16. Bentzon, Third Piano Sonata, Op.44, 1st Movement, mm. 122-123

![Example 16](image)

The scale is repeated three times with an emphasis on the note E as a tonal centricity. Also, the root progression outlined by C (mm. 123-127) to B-flat (mm. 127-134) supports a stepwise motion to A as the goal in the retransition (m. 135).

The retransition anticipates the lyrical second theme in the recapitulation. Opening with the motive of the first phrase of the development, the retransition finally arrives at A in the right hand. Also, the root moves down to A at measure 135 (Ex. 17).
Example 17. Bentzon, Third Piano Sonata, Op.44, 1st Movement, mm. 131-135

The entire motion of the retransition is a prolongation of A, providing strong support for the anticipation of the tonic of the next phrase. The eighth-note patterns also anticipate the rhythm of the next phrase.

Recapitulation (mm. 143-204)

In the recapitulation, Bentzon changes the order of the thematic events. The lyrical second theme comes before the first theme. Measures 143-154 are the exact repetition of measures 40-51. At this time, the second theme is restated at the same pitch level (A major) as in the exposition, leaving a possibility to return to the home key for the first theme.

The transition (mm. 158-170) anticipates the appearance of the first theme. Defined by reiteration, the layered ostinato accompaniments are combined with the triadic chords, except the
major seventh chord at measure 165 in the right hand. The root progression shows that the entire transition focuses on anticipatory process of the tonic C of the next phrase (Ex. 18).


Bentzon establishes a calm and quiet ending for the movement, restating the first themes rhythmically less active and softer. In measures 171-175, the first theme is restated and now is supported by a C minor harmony in the accompaniment (Ex. 19), in contrast to its first appearance (mm. 1-5), where the harmony was G minor.
Then, the first theme is reiterated over E-flat in measures 178-181. The two statements of the first themes include the dominant function processes assisted by a series of chords from Group IV at the end of each statement. Interrupted by the transition in measures 184-187, the tonic return is achieved by a G minor triad at measure 189. Here the first theme is restated in an unaltered version of the initial motive. As seen in Example 20, the tonic of the home key is strengthened by an ongoing accompaniment in the left hand, but the reiterated tonal definition in the right hand is obscured by non-cadential chords.

Example 20. Bentzon, Third Piano Sonata, Op.44, 1st Movement, mm. 188-193

At measure 200, the ongoing accompaniment ends with a chord of Group III, and therefore, the
tonal return is delayed until measure 202. The definite return to the tonic (mm. 202-204) completes its emphatic cadence (Ex. 21), ending with a G major triad.


Movement II: Driving Momentum

The second movement features a scherzando quality that relies on a perpetual motion in conjunction with the alternation of legato and staccato articulations. The thin texture, the soft dynamic level, and the constantly changing time signature characterize the light, playful mood of the movement in contrast to the profound, expressive nature of the first movement.

The form of the movement is ternary form (AB A’), which creates an arching structure. Section A (mm. 1-34) establishes E as its tonal center, while Section B (mm. 34-64) brings contrast by avoiding a clear sense of tonal center. Section A’ (mm. 65-96) returns with E as its tonal center. Thus, the outer sections serve as a tonal frame for the middle section. At the very end of the movement (mm. 95-96), the movement progresses a half step down to E-flat, anticipating the key of the next movement.
Section A (mm. 1-34)

For Section A, Bentzon creates a combinatorial scale, making its sound unique. For the scale, Bentzon alters the combination of the intervals by placing two half steps between the first and second, and the third and fourth scale degrees.

Bentzon’s combinatorial scale: E  F  G  A-flat  B-flat  C  D  E

Bentzon seems to take the idea of the scale formation from the overtone series by reversing the two sets of tetrachords. In this scale, the pitch relationship of the first tetrachord corresponds with the twelfth and fifteenth overtones of the overtone series, a four-note segment of an octatonic scale, while the second tetrachord consisting of four whole-tone notes is a derivative from the eighth and eleventh overtones of the overtone series (Ex. 22)

Example 22. The Overtone Series between the Eighth and Sixteenth Overtones

Section A is divided into two groups, each of which contains two phrases. Each group firmly establishes the key concept of the scale, entering on the same pitch in the melody. The two-measure introduction in measures 1-2 particularly accentuates the importance of this scale, utilizing the first five-note ascent of the scale from E to B-flat (Ex. 23).

---

28 Ibid., 26.
After the introduction, the five-note ascent becomes the source for the main motivic idea of this section. At measure 3, the contour of the melody, based on the five-note ascent, conforms to an arch shape, in which the B-flat on the third beat provides an axis point. The following measure is a simplified version of the contour reduced to four notes; nevertheless, it still suggests the concept of the original idea (Ex. 24). This pair of sequential pitches determines the character of Section A, serving to firmly establish the prominent use of the scale.

There is no conventional cadential formula in this section, but non-harmonic elements employ the definition of the phrase structure. The introduction (mm. 1-2) and the second phrase (mm. 12-18) are articulated by fermatas followed by the punctuation marks, *caesurae* (Ex. 23,
The first and third phrases (mm. 3-11, mm. 19-28) are linked to the following respective phrases without any cadential motion; however, the reiterations of the opening motives in a single voice signal a new start of each phrase.

In Section A, a sense of tonal center in each phrase serves to clarify the phrase structure. The movement starts with E as its tonal center, and then it moves to B-sharp (C) in the second phrase, ending on A (m. 18), with an emphasis on an octatonic scale (Ex. 24). Thus, the progression of these tonal centers outlines the descending thirds. The third phrase is a restatement of the first phrase in the initial tonal center. The fourth phrase (mm. 29-34) functions as the dominant of the third phrase: this phrase implies B, the dominant area of the third phrase (V of E). At the end of the phrase, the music alternates between B-flat and B-natural, a substitute for the dominant function in the key of the third phrase. The fourth phrase ends on A without any harmonic support, and the following rests help punctuate the section (Ex. 26).

---

29 The combinatorial scale used in this movement lacks the dominant note. The intervallic relationship between the tonic and the fifth in this scale forms a tritone interval.
Section B (mm. 34-64)

In Section B, Bentzon brings contrapuntal interest to the texture producing a strong contrast to the outer sections. Bentzon introduces a fugato subject in a single voice in the right hand (mm. 34-36, Ex. 27).

Example 27. Bentzon, Third Piano Sonata, Op.44, 2nd Movement, mm. 34-36

Throughout the section, each statement of the subject is distinguished by transpositions and increasing the number of voices.
The fugato subject is divided into two motives: the head motive, using a subset of the chromatic scale consisting of seven semitones from B to F, and the tail motive, using an octatonic scale. In this way, the subject creates an indefinite tonal center.

In measures 37-39, the left hand imitates the fugato subject (mm. 34-36) in association with a countersubject, moving a half step up. Here Bentzon takes the idea of the countersubject from the head motive of the fugato using rhythmic augmentation and incorporating slight changes (Ex. 28).


After the episode (mm. 39-44), the restatement of the subject commences in measure 44 on B, doubled in thirds. At this time, a new countersubject idea, derived from the fugato subject, is introduced in the left hand. In measure 49, the initial motive presented in the opening measures of the movement leads to another statement of the fugato subject starting on A-flat with a five-measure extension (mm. 49-56). The octave doublings and increasing dynamics create tension, driving the music to the climax of the movement.

In the middle section, the modulation of the fugato subjects demonstrates the third relationship: starting on E-flat (m. 34), it restates on B (m. 44) and finally reappears on A-flat (m. 49). The transition is connected to the varied restatement of Section A through a sequential progression with a reference to the head motive of the fugato subject. The fortissimo dynamic,
the accents on each note, and the *prestissimo* tempo provide powerful drives for the climax.

Section A’ (mm. 65-96)

Section A’ is a varied restatement of Section A. After the extended version of the introduction, the head motive of the fugato subject briefly interrupts the return to the main tonal center. In measure 71, it initiates the restatement of the first phrase of Section A, providing a perfect return to the opening idea. The following phrase (mm. 80-86) is almost an exact restatement of the second phrase of Section A with the exception that the last two measures suggest a different tonal direction.

In Section A’, the tonal focus yields from E to C. The introduction starts on and ends on the note C rather than the “tonic” note E, the tonal center; the second phrase reinforces the note C as the tonal center, and the music does not restate the third phrase that has the tonality of E.

The second phrase is linked through a chord of Group IV (downbeat of m. 87, Ex. 29) to the last phrase of the section, which is a restatement of the fourth phrase of Section A.


It is noteworthy that the chord in measure 87, anticipated in measure 86, is the only chord that Bentzon harmonizes in this movement. The chord functions as the secondary dominant, and the
note B, which creates a tritone against the bass of the chord, is sustained until measure 94. Unlike the fourth phrase of Section A, the B-flat (mm. 91-94) plays a dominant function that is strongly articulated by rests in the cadential progression (Ex. 30). Interrupted by the allusion to the head motive of the fugato subject, the movement ends on E-flat (Ex. 30), following the descending fifths from measures 80-97.

Example 30. Bentzon, Third Piano Sonata, Op.44, 2nd Movement, mm. 93-96

Movement III: Introduction to the Finale

In the third movement, named INTERMEZZO, Bentzon focuses on homophonic texture (Ex. 31). In contrast to the rapid second movement, this movement offers a moment of peace created by the long note values and choral-like style. Additionally, the soft dynamic contributes to produce the somber mood. In the last measure of the movement, Bentzon provides a quasi-improvisational passage that is linked to the following movement without pause. As a result, the movement serves as the subdued introduction to the grandioso finale movement.
Example 31. Bentzon, Third Piano Sonata, Op. 44, 3rd Movement, mm. 1-4

Written in a binary form plus a cadenza, this movement consists of four phrases plus a four-measure extension in the last one, totaling twenty measures. The movement demonstrates a well conceived tonal plan. Each phrase implies a different tonality. In the opening measures, Bentzon firmly establishes the tonality of E-flat, which was anticipated at the end of the previous movement. Also, the melody in the right hand from the third beat of measure 1 to the third beat of measure 2 anticipates the initial melody of the fourth movement. Phrase 1 (mm. 1-4) starts with an E-flat minor triad, finally ending with an E-flat major triad, unifying the tonality of E-flat. Phrase 2 (mm. 5-8) moves up a minor third to F-sharp (G-flat), showing a third relationship. Phrase 3 (mm. 9-12) goes back to E-flat, and the mediant relationship is achieved by Phrase 4 (mm. 13-20) in the tonality of G.

Along with the tonal plan, the cadences reinforce the articulation of phrases. The following table demonstrates the cadences of this movement.

Table 3. Cadences of the Third Movement

<table>
<thead>
<tr>
<th>Phrase</th>
<th>Cadential Harmonic Progression</th>
<th>Measure</th>
<th>Root Progression</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>IV₁ - I₁</td>
<td>4</td>
<td>F-flat to E-flat (minor 2nd)</td>
</tr>
</tbody>
</table>
In Phrases 1 and 2, Bentzon uses relatively weak cadences, “the mildest” cadences, in which the cadence note is reached by a minor second downwards.\textsuperscript{30} In Phrases 3 and 4, Bentzon devises stronger cadences, “the ideal” cadences, in which each resolution is achieved by a fourth upwards.\textsuperscript{31} The final cadence plays an important role: the cadence chord is extended for four measures until the following movement; the bass note is reinforced by the pedal point that acts as the dominant of the initial key of the following movement.

Throughout the movement, Bentzon delineates the gradual harmonic tension by using different values of chords. The harmonic analysis demonstrates that Phrase 1 is the most stable phrase in the entire movement. Articulated by full E-flat triads (Chord Group I), the phrase establishes the tonality of E-flat. Phrase 2 begins with a new tonality, but Bentzon avoids announcing the tonic in this phrase. Dominated by chords of Group III, and along with the stepwise root progression, Phrases 1 and 2 present a smooth harmonic motion (Ex. 32).

Example 32. Bentzon, Third Piano Sonata, Op.44, 3\textsuperscript{rd} Movement, mm.1-8

-Root Progression

In Section B, chords from Chord Group B help to build up more tension than in the previous section. In Phrase 3, Bentzon creates a series of tritone chords that remain unresolved.

\begin{tabular}{|c|c|c|c|}
\hline
2 & IV\textsubscript{1} - III\textsubscript{1} & 8 & G to F-sharp (minor 2\textsuperscript{nd}) \\
\hline
3 & IV\textsubscript{1} - III\textsubscript{2} & 11 & B-flat to E-flat (perfect 4\textsuperscript{th}) \\
\hline
4 & IV\textsubscript{2} - III\textsubscript{2} & 16-17 & D to G (perfect 4\textsuperscript{th}) \\
\hline
\end{tabular}

\textsuperscript{30} Ibid., 142.
\textsuperscript{31} Ibid., 139.
until their resolution in measure 11. Starting with quartal sonorities, Phrase 4 continues to introduce a new tritone until its resolution is achieved by G in measure 17. The intended tension is heightened by the unsolved tritones and the chromatic root progression of the phrase (Ex. 33).

Example 33. Bentzon, Third Piano Sonata, Op.44, 3rd Movement, mm.13-17 - Root Progression

The root progression and the bass motion also contribute to gradually build up this tension. In Phrases 1 and 2, the roots and the bass notes coincide with each other. The roots and the bass notes are identical, and each phrase starts with and ends with the same note, being a tonic note of each phrase. In Phrases 3 and 4, the root progression becomes more complicated. The root progression is hidden by the bass notes. Especially, in Phrase 4, Bentzon repeats the note A in the bass throughout the phrase, while the roots continue to move until the end of the phrase.

In contrast to the opening measures, where the tonality is firmly established, the movement loses the tonal clarity towards the end. Bentzon ends the final phrase with a quintal sonority that makes the ending sound un-anchored. The quintal chord built on the root G is tied across until measure 20. The cadenza-like extension consists of all the notes from this quintal chord. The insistence on the pitch E at the end of the passage would suggest the tonality of E (Ex. 34).
Example 34. Bentzon, Third Piano Sonata, Op. 44, 3\textsuperscript{rd} Movement, m. 20

\begin{music}
\begin{musicnotation}
\begin{musicinput}
\score { \newTimeSignature{4}\newKeySignature{F} \newTempo{Largo, con piacere, con pedale} \newStaff { \newBar { \note{G} \rightCrescendo \note{G} \note{G} \note{G} \note{G} } \newBar { \note{G} \note{G} \note{G} \note{G} } \newBar { \note{G} \note{G} \note{G} \note{G} } \newBar { \note{G} \note{G} \note{G} \note{G} } \newBar { \note{G} \note{G} \note{G} \note{G} } \newBar { \note{G} \note{G} \note{G} \note{G} } \newBar { \note{G} \note{G} \note{G} \note{G} } } \end{musicinput}
\end{musicnotation}
\end{music}

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In order to give more emphasis to the pedal point, which plays a dominant function for the tonic of the next movement, Bentzon deliberately weakens the root G of the quintal chord by placing it in the upper voice and by doubling the pedal point in octaves.\footnote{According to Hindemith’s theory, the octave doubling does not have effect on chord analysis. Ibid., 95.} The root finally moves down a perfect forth to D in the first measure of the following movement, while the pedal point moves up a perfect fourth to D (Ex. 35).

Example 35. Bentzon, Third Piano Sonata, Op.44, 4\textsuperscript{th} Movement, m.1

\begin{music}
\begin{musicnotation}
\begin{musicinput}
\score { \newTimeSignature{4}\newKeySignature{F} \newTempo{Allegro, ma non troppo} \newStaff { \newBar { \note{G} \note{G} \note{G} \note{G} } \newBar { \note{G} \note{G} \note{G} \note{G} } \newBar { \note{G} \note{G} \note{G} \note{G} } \newBar { \note{G} \note{G} \note{G} \note{G} } \newBar { \note{G} \note{G} \note{G} \note{G} } \newBar { \note{G} \note{G} \note{G} \note{G} } } \end{musicinput}
\end{musicnotation}
\end{music}

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Movement IV: Culmination of Expressiveness

The fourth movement, the real culmination of the sonata, is connected to the third movement without any pause. Here Bentzon closely relates the fourth movement to the earlier
movements in various ways.

The formal structure of the movement resembles the structure of the second movement in its tripartite form, with the addition of a coda. Additionally, both movements have contrasting contrapuntal middle sections.

The movement incorporates the thematic materials derived from the earlier movements in order to unify the entire work. The first movement’s original thematic material of the second theme becomes the first theme of the fourth movement, and the intervallic relationship of the first tetrachord in the second movement is accentuated by the counterpoint motive that is stated in retrograde in the middle section of the fourth movement.

Changing tonalities, irregular phrase structure, thick texture, and full range of the piano heighten the culmination of the movement. Especially, Bentzon demonstrates his individual approach to tonality in that the movement reveals a complex tonal plan.

Section A (mm. 1-32)

Section A (mm.) consists of three phrases, the structure of which is supported by the roots and tonal areas: each phrase starts in a new tonality with the support of its root and triad. The movement starts with D minor triad arpeggios in the left hand alone, firmly establishing the tonality of D minor. The tonic resolution is now achieved from the quintal chord that remains as the dominant from the end of the previous movement (Ex. 36).
Phrase 2 affirms the tonality of G by G major triad arpeggios in the left hand (Ex.37).

The B-flat major triad in octave unison (Ex. 38) signals the beginning of Phrase 3.
Phrase 3 is extended until measure 31, clearly articulated by a full A major triad (Ex. 39).

Here, the root A functions as the dominant of the initial key (D minor) that is prolonged until measure 32.

Bentzon firmly establishes the tonality in the first few measures of each phrase. However, Bentzon uses modal mixture by alternating between the major and minor tonic in order to create variety. For example, the movement clearly starts in D minor in measures 1-2 and quickly shifts to D major in measure 3 (Ex. 36).

In this section, Bentzon uses a thematic allusion to the second theme of the first movement. But Bentzon makes the theme a fragmented appearance that is preceded by the
triadic arpeggio-accompaniment in the left hand. The arpeggio-accompaniment pattern and the reiteration of the fragmented theme also indicate the emergence of a new phrase, even though each phrase is elided without any cadential motion.

In Section A, the harmonic flux is stable in that the harmonic rhythm is slow, and triads are prevalent. However, Bentzon changes the time signature at every measure throughout the section. Also, each restatement of the phrase is varied in length. In accordance with the irregular rhythmic character, the unexpected lengths of the phrases reveal the improvisational tendency of Bentzon’s compositional style.

Section B (mm. 33-71)

Section B contains three statements. The first statement (mm. 33-45) develops two ideas: imitative counterpoint; the subject presented at measure 36 which is accompanied by scales in the left hand. Here Bentzon contrasts the first and second ideas: the former is based on a descending tetrachord with repeated notes in staccato, and the latter has a sequential nature in legato. Additionally, the first idea presents a steady recurring pulse, whereas the second idea has an improvisational quality and frequent changes of time signature.

The imitative motive (m. 33) is based on a tetrachord of the octatonic scale, and each entrance of the subject occurs in a different pitch level (Ex. 40).
Although there is no definite tonal center, the first statement maintains some kind of tonal center, since the bass starts and ends on the note G. In the second idea, the left hand affirms the tonality of G minor by presenting the G minor scale and then moving to the tonality of C major through an octatonic scale that functions as a link between G minor and C major.

At measure 45, the imitative motive is restated in the same pitch level as in measure 33, but the imitations are repeated at different varied pitch levels (Ex. 41).
The second statement (mm. 45-59), preceded by a C major scale in the left hand, starts with the bass note C suggesting C as the tonal center. However, the tonal gravity becomes ambiguous since the last note does not confirm C as the tonal center.

Bentzon approaches the second statement with improvisational devices: the imitative motive in staccato and its imitations are interrupted by a legato sequential passage, the pitch structure of the final motive (m. 50) is varied, and the statement is extended by two measures (Ex. 41).

The beginning of the third statement (mm. 59-71) is full of tonal ambiguities: the bass (m. 59) does not provide any sense of tonal center, and the imitative motives are restated at different pitch levels. However, the left hand in measures 66-67 suggests the pitch C as a tonal center, which is confirmed by C major triad at measure 68. This statement has the most densely
contrapuntal texture since the melodic lines are doubled in thirds or sixths. The tension is increased by the syncopated rhythms in the left hand (m. 66) and the accented notes in the left hand (m. 67, Ex. 42).

Example 42. Bentzon, Third Piano Sonata, Op.44, 4th Movement, mm. 66-67

Section A' (mm. 71-145)

Section A' presents a widely varied restatement of the opening section. The initial ideas of the movement return: the tonic triad arpeggios and the fragmented initial theme provide a sense of departure in each phrase. Here Bentzon combines the initial theme with the imitative motive, summarizing the previous sections. Unexpected phrase lengths, meter changes, thick textures, and usage of the wide range of the instrument build tension toward the culmination of the movement.

The first phrase (mm. 71-96) of Section A' may be grouped into three sub-phrases: A (mm. 71-82); B (mm. 82-88); and C (mm. 88-96). Sub-Phrase A is associated with the initial
materials. At the beginning of the phrase, Bentzon establishes G as a tonal center by stating arpeggios made up by Gs and Ds. In contrast to the movement’s opening, this time the arpeggio pattern is extended to three measures. Then the music moves a half step up to A-flat major (mm.74-75) to introduce the initial motive (Ex. 43).

Example 43. Bentzon, Third Piano Sonata, Op.44, 4th Movement, mm. 74-78

In Sub-Phrase B, Bentzon diffuses the sense of tonal center by using octatonic scales and consecutive tritone chords. Starting with an F major triad, Sub-Phrase C brings back the imitative motive (m. 89) that is doubled in thirds or fourths with intervalllic adjustment. However, now the imitative motive is stated just once, and there is no imitation. At the end, the strong cadential motion articulates the phrase: the root progression shows a descending fifth relationship, and the tritone (G-D-flat), which has a dominant effect, is resolved to a C minor triad (Ex. 44).
In the second phrase (mm. 96-105), Bentzon uses a combination of the initial material and the imitative motive. Although the length of the phrase is much shorter, the phrase bears two functions: to announce the clear definition of the tonality of C (mm. 96-101), and to anticipate B-flat (mm. 102-103) and B (m. 104) in the next phrase. There is no traditional cadential formula here, but the rest helps define the end of the phrase (Ex. 45).

Example 45. Bentzon, Third Piano Sonata, Op.44, 4th Movement, m. 105

In the beginning of the third (mm. 105-110) and fourth (mm. 111-127) phrases, the tonal gravity is weakened by the arpeggio-like pattern that is based on the tritone interval instead of the tonic triad. However, the pattern still signals the initiation of each phrase in accordance with the fragmented theme (Ex. 45).
The fourth phrase paves the way for the culmination of the movement. The bass motion continues to present the alternation between B-flat and B throughout the phrase. With an emphasis on the tritone interval in the first measure of the phrase, Bentzon uses parallel ninths in the left hand (Ex. 46).

Example 46. Bentzon, Third Piano Sonata, Op.44, 4th Movement, mm. 111-114

In measures 119-127, harmonic tension is achieved by keeping the bass note constant, while the upper voices employ a sequential progression. At measure 127 (Ex. 47), the confirmation of the dominant is compromised by the chord of Group IV: the root B serves as the dominant of the final chord, and the two tritones have a dominant effect.
The coda section presents a dominant-tonic progression. Measures 128-133 can be seen as a dominant prolongation (Ex. 48).

At the climax of the movement, Bentzon creates an oscillation between the dominant note B and the auxiliary note B-flat. After this momentum, Bentzon recalls the arpeggiated
accompanimental pattern and the fragmented initial theme. As in its first appearance, the initial theme employs modal mixture, and the last twelve measures of the movement prolong the E major triad. The entire work concludes with the E major triad (Ex. 49).

Example 49. Bentzon, Third Piano Sonata, Op.44, 4th Movement, mm. 141-145
CHAPTER 3
CONCLUSION

The primary purpose of this study is to offer a way to understand Bentzon’s compositional style by applying Hindemith’s tonal theory to Bentzon’s Third Piano Sonata, Op. 44. As a result of examining the work, it is quite clear that Hindemith’s tonal theory is applicable to understanding Bentzon’s Third Piano Sonata, Op. 44. Additionally, this study has focused on how Bentzon develops his original style that successfully empowers his innovative features. The following observations of Bentzon’s compositional style can be made from this analysis:

First, the sonata is imbued with Bentzon’s own individual approach to tonal organization. Although Bentzon was obviously influenced by Carl Nielsen’s progressive tonality, the overall tonal plan of the sonata demonstrates Bentzon’s unique way of articulating his ideas. Each movement is closely related to each other. The first movement starts and ends in the tonality of G. The second movement moves a minor third down to the tonality of E but ends in the tonality of E-flat, which anticipates the next movement. With an emergence of the tonality of E-flat, the third movement provides a sense of dominant to introduce the last movement. As the resolution note of the previous movement, the last movement starts in the tonality of D but, over the course of the movement, it finally reaches the tonality of E.

Second, like Hindemith, Bentzon employs free use of all twelve notes while firmly establishing the tonality in the opening measures of each movement and utilizing cadences to accentuate the sectional division. By tonicizing cadences, Bentzon embodies tonal stability in the sonata, yet he attempts to diversify the ways to approach to the tonic, for example by devising pedal points in the bass, while setting aside the root in the upper voice, or by alternating between the dominant note and the neighboring note. In order to articulate the phrase structure, Bentzon
also uses silence, anticipates patterns of the next phrase, and repeats the initial materials.

Third, Bentzon recalls the Baroque tradition by using traditional devices such as ostinato, pedal point, and contrapuntal writing. Also, following Hindemith’s idea, Bentzon facilitates the unity of the entire work with motivic development. However, at the same time, Bentzon deliberately distances himself from tradition in various ways: by creating his own scales; by using the octatonic scale, which creates an indeterminate tonal center; by following Hindemith’s way of chord construction; and by manipulating the harmonic progression based on Hindemith’s tonal theory. Bentzon’s style is typified by an intensity of expression that is implemented by quasi-improvisational passages, large dynamic fluctuations, and treatment of the full range of the instrument.

The present study may be a starting point to uncover Bentzon’s compositional techniques. Hopefully, it will motivate further study of Bentzon’s music.
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