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A Comparison of Compositional Procedures in Some Atonal Piano Cycles of Erwin Schulhoff to Those of Arnold Schoenberg's Atonal Works

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Works of Erwin Schulhoff (1894–1942) include almost every genre of music. He has left a wide-ranging output of orchestral, chamber, vocal and scenic compositions. In all these genres he sought after new ways. As a piano virtuoso he has written a lot for that instrument. Until 1930s, compositions for piano formed the main part of his production. It was in piano compositions where he tried out new techniques and anticipated changes of style. These changes were frequent during his life. Between 1919 and 1921 Erwin Schulhoff composed three cycles of short piano compositions, in which he had entered area of atonality: Zehn Klavierstücke, Musik für Klavier in Vier Teilen, and Elf Inventionen.[1] It could be informative to compare Schulhoff's compositions from this period with similar works by Arnold Schoenberg, particularly with Drei Klavierstücke and Sechs Kleine Klavierstücke. Schulhoff as a pianist had these compositions in his repertoire, as well as works of other composers of so-called Second Viennese School. He was in contact with Schoenberg, Berg and Webern, admired Schoenberg's work as well as his personality. In one letter to Alban Berg he wrote: "I play his works with extraordinary pleasure and I place them before any other..."[2]

Radical disintegration of tonality by two contemporary composers was likely to produce, to certain extent, similar results. The aim of this essay is to analyze the aforementioned cycles, in order to find out how he substitutes tonality as a means of structural organization and how his approach differs from that of Schoenberg.

For analysis of music between 1600 and 1900, tonality is central. The hierarchy of tones implied by tonality affects both micro- and macrostructural aspects of a musical

[1] Recently these cycles have been published by Schott; the edition is based on Josef Bek's reconstructions. Czech pianist Tomáš Víšek recorded these pieces in 1998 for Supraphon.

[2] The complete correspondence between Schulhoff and Berg, which numbers more than forty letters, was compiled by Katrin Bösch and Ivan Vojtěch and published in *Schweizer Jahrbuch für Musikwissenschaft, Neue Folge* 13/14 1993/94, 27–78.

work. As tonality in European music gradually dissolved, and, in works of some composers, disappeared completely, it deprived composers and analysts of means of conceiving of and comprehending the musical structure. The main problem of analysis of an atonal piece therefore is to identify the principle that substitutes for the role of tonality. From a certain moment on, this role has been assumed by the twelve-tone system, with tone row compensating for missing tonality. The problem still remains with the period of so called early or free atonality, where tonality is already abandoned but twelve-tone technique was not yet established.

In the second half of the 20th century, several theories appeared concerning analysis of atonal music. These theories have some features in common. Most important of all, they do not take functional relations between chords into account. Another common point is that enharmonic variants and all their octave transpositions are taken as equivalent. Thus we have twelve pitch classes. From this precondition, theorists developed different systems of classification of harmonies. Transpositions and inversions of these harmonies are seen as equivalent with the original form. These systems were not intended only to classify the harmonies but also to explain their position and function in the musical structure. Their aim is to assess which relations are more important and how these relations affect the selection of tones. These theories try to analyze structure and hierarchy of musical material in another way, with analogy to the analysis of tonal music.

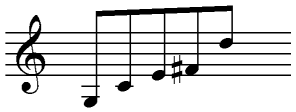
Allen Forte's pitch class set theory proved itself most useful.[3] He posits that certain harmonies are more important than others – that in an atonal composition there is a hierarchy similar to the one present in tonal music. The parallels with tonal music extend to the claim that there is a center similar to the tonic in tonal music. This center Forte calls the nexus set. If all harmonies in a composition are in some relation to the nexus set, the composition has a connected structure. Connected structure is organized by the means of transposition, inversion, complementation, intersection, and inclusion of sets. Forte's theory is tailored to the style of Arnold Schoenberg and Second Viennese School, but it is also used for analysis of atonal music in general. In some cases, this method will not bring meaningful results. These cases can give evidence about different concept of atonality and compositional techniques in comparison with Schoenberg.

I have attempted to apply Forte's theory on the atonal pieces of Schulhoff. In the first part of this essay I will demonstrate, where Forte's analysis revealed important facts.

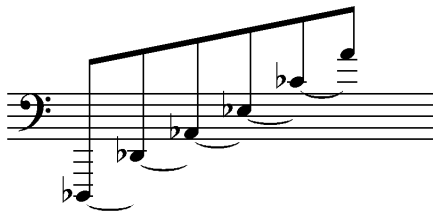
We can see Schulhoff's harmonic cohesiveness in the first part of his Elf Inventionen. There are no tonally functional relations between chords here, but we can find other relations. According to Allen Forte we can ask whether a given set of tones includes some other or whether it is its complement, inversion, or transposition or some combination thereof. This analysis reveals that in this composition, all harmonies are derived from one

[3] Allen Forte formulated this theory in *The Structure of Atonal Music* (New Haven: Yale University Press, 1973). He applied it for instance in his studies: "Schoenberg's Creative Evolution: The Path to Atonality," *Musical Quarterly* 64/2 (1978): 133–176, and *The Atonal Music of Anton Webern* (New Haven: Yale University Press, 1998).

pitch class set. This set, which we can call the nexus set, is labeled by Forte as 5-24 and we can see it as main melodic motive in right hand: g, c1, e1, f-sharp1, d2:



Exactly identical is also the set of the chord in the left hand on the third line: D-flat, A-flat, e-flat, c-flat, a1: [4]



This chord differs from the rest of accompaniment, which is almost an ostinato. In addition, it is positioned at the peak of composition, which is emphasized by dynamics, a thicker arrangement, and melodic culmination. It is not by chance that there is a change in an otherwise quite uninteresting left hand part and that here appears the set, which governs harmonic structure of whole piece.

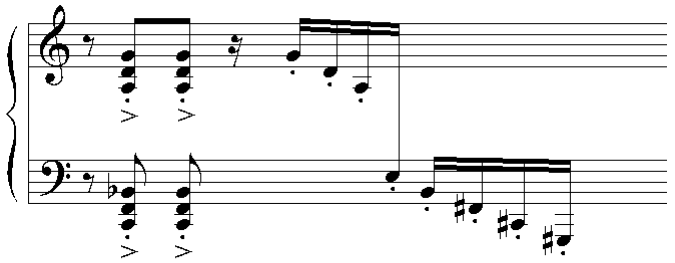
We have discovered the relations between types of chords and their position or function within the composition. The situation is similar in Invention No 6: Andantino rubato. This composition is based upon one six-tone motive, which goes through it in different transpositions and rhythmic variants. As a pitch class set, we can find this motive in three modifications: 5-6, 5-13, and 5-21. These sets are connected by their common subset 4-Z29. Its central position is confirmed by the fact that it appears as the final chord of the composition.

I got an interesting result by analyzing the tenth part of Zehn Klavierstücke, indicated Ruhig Verklärt. This piece has a tripartite form: A B A. Part A is an example of connected structure; all sets are connected by nexus 6-31. Any group of tones in part A is related to this nexus set. In contrast, we can not find such a set in the part B. Because there are no other strong contrasts between A and B, it is the presence and absence of connected structure that makes the difference. This confirms the supposition that there is a contrast analogous to tonality, where modulating middle parts are opposed to a tonally stable beginning and end.

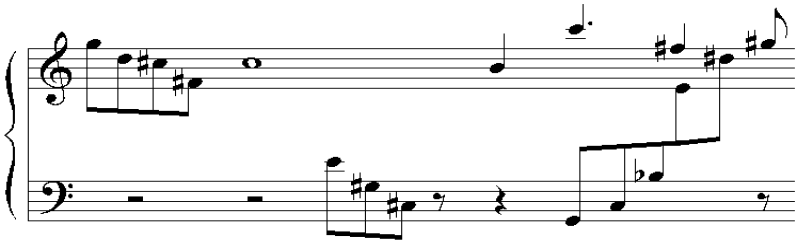
[4] The first pitch-class set is {C, D, E, F-sharp, G}.
The other {C-flat, D-flat, E-flat, A-flat, A}, its inversion {E-flat, D-flat, C-flat, G-flat, G-double flat}, its transposition giving {E, D, C, G, G-flat},which equals the original {C, D, E, F-sharp, G}.

The following examples show that even if Forte's analysis suggests connected structure, it is not necessarily a result of deliberate inversion and transposition of tone groups.

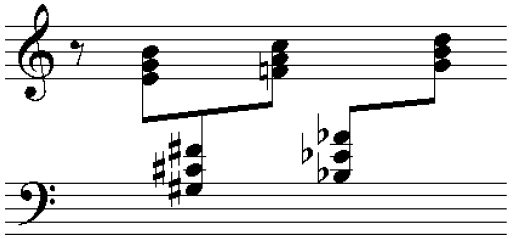
Harmonic cohesion can be a result of preferential use of one interval. In the Invention No. 2: Allegro, the melodic line as well as the harmony are constructed of fourths. Here we can find all the sets that are formed by pure fourths or fifths. Schulhoff forms lines of fourths (up to eight) ascending and descending, or chords of them:



In more sophisticated form we can see this in the third part of Zehn Klavierstücke. Here we can see arpeggios in accompaniment, which recall Skryabin. There are arpeggios of fourth or fifth chords, while the descending part is transposed up or down by small interval:



This brings us to another way that Schulhoff uses to obscure tonality and to maintain connected structure at the same time. There are parallel chord progressions, while the interval relations remain same. In the first movement of Musik für Klavier, the accompaniment is formed by triads played in eighth notes in regular rhythm, with alternating left and right hands. The right hand plays common chords, while the left hand plays fourth chords. If there is a chord on white keys in the right hand, the left hand plays black keys:



In combination with parallel progressions, Schulhoff obscures tonality. The structure of the accompaniment indicates the improvisational character and possible origin of the piece.

According to Forte, connected structure, organized through inversion, transposition, and complementarity, is responsible for the integrity of Schoenberg's works. After analyzing Schulhoff's works for piano, we can observe same principles here. What distinguishes him from Schoenberg is the manner and amount of their use.

Atonal works of both Schulhoff and Schoenberg have connected structure. In Schulhoff's works this fact is more apparent, while Schoenberg obscures it by inversions and transpositions, which is connected with his tendency towards twelve-tone composition and serialism. The relations between sets are more important for the form of works by Schoenberg; Schulhoff, on the other hand, uses other, less abstract means to maintain logical structure. That's why the utilization of Forte's technique to certain extent seems to be limited for analysis of Schulhoff's music.

Besides harmonic connections we can see connections through work with motives. Many of Schulhoff's compositions are based on a single motive and its imitations and rhythmic variations. Schoenberg's method is different, more sophisticated in a way. His motives are more closely connected with a certain pitch class set, which creates a stronger relation between the harmonic and motivic layers of a work.

In some of Schulhoff's works we can identify one tone center or two a tritone apart. In contrast, Schoenberg avoids any repetition and the feeling of any center, which again foreshadows his evolution toward twelve-tone composition.

The basic dissimilarity lies in setting. Schulhoff mostly preserves the differentiation between melody and accompaniment. Even when the composition is polyphonic, some melodies come into the foreground and others accompany them. The music of Schoenberg does not have such a clear structure and is not as pianistic as Schulhoff. It is easy to understand if we know of Schulhoff's career as a pianist, which affected his compositional work.

In general we can say that Schulhoff uses the same or similar means as Schoenberg did in his atonal works, but he uses them in a more simple way and is more influenced by his experience as an active musician.

Resumé

Text se věnuje problému atonality ve třech klavírních cyklech Ervina Schulhoffa (1894–1942). Jde o cykly *Zehn Klavierstücke, Musik für Klavier in vier Teilen* a *Elf Inventionen für Klavier*, které vznikly v letech 1919–1921. V tomto období se Schulhoff přiblížil technice i estetice skladatelů Druhé vídeňské školy, především Arnolda Schönberga.

Atonální skladby stojí na rozhraní, kde již neplatí zákony funkční harmonie a ještě nebyl nastolen řád dodekafonie a serialismu. Zajímavým problémem z hlediska analýzy je tedy identifikace prostředků, které zajišťují vnitřní soudržnost atonálních skladeb. Cílem práce je popsat, jak Schulhoff nahrazuje formotvorné působení tonality, jak tóny organizuje do určité struktury a jak se jeho práce liší od Schönbergovy. Při analýze harmonické složky bylo využito metody vyvinuté Allenem Fortem na základě teorie množin výškových tříd.

Zusammenfassung

Dieser Text beschäftigt sich mit dem Problem der Atonalität in den Klavierzyklen von Erwin Schulhoff (1894–1942). Es handelt sich um Zehn Klavierstücke, Musik für Klavier in vier Teilen und Elf Inventionen, die zwischen 1919 und 1921 entstanden. In dieser Zeit Schulhoff kam nah zu der Technik und Ästhetik der Zweite Wiener Schule, besonders zu Arnold Schönberg.

Atonale Kompositionen stehen auf der Grenze, wo die Regel der funktionalen Harmonie nicht mehr gelten, aber wo die Ordnung der Zwölftontechnik noch nicht eingeführt wurde. Die Hauptsache hier ist, die Mittel finden, die die Kohäsion der Kompositionen verschaffen. Für die Analyse der harmonischen Schicht wurde die von Allen Forte auf Grund der Theorie den Mengen der Höheklassen (pitch class set theory) entwickelte Methode ausgenutzt. Im Abschluss fassen wir die Ähnlichkeiten und Unterschiede im Zugang von Erwin Schulhoff und Arnold Schönberg zur atonalen Komposition zusammen.