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## A Synthesis of Schenkerian and Neo-Riemannian Theories: The First Movement of Paul Hindemith's Piano Sonata No. 1 as a Case Study

### ABSTRACT

#### Background

What sort of method would one use to approach neo-Classical music, music that is influenced by Baroque and Classical models yet containing rich and chromatic harmonies?

The Schenkerian method is commonly known as an effective tool to analyse tonal music, particularly music from the Baroque to the early nineteenth-century whilst neo-Riemannian theory is particularly useful for examining music that is more of a chromatic nature, music from the nineteenth century to selective early twentieth-century works. When used separately, these two methods (Schenkerian and Neo-Riemannian methods) will evidently provide different insights to the music and the strength of each analysis is highly dependent on two key factors: the time period of the chosen work and the different levels of analysis. A neo-Riemannian analysis examines the relationship of chords to each other at a foreground level and a Schenkerian analysis examines the relationship of chords to the melodic and harmonic structures at a background level. It has been uncovered that rather than adhering to the traditional rules of the neo-Riemannian method, drawing out its core elements with a different approach in conjunction with Schenkerian method has produced an effective way to analyse music that contains an extended harmonic language yet retains its tonal centrality.

A method of analysis can thus be created that is appropriate for Neo-Classical composers such as Hindemith, and potentially other post-tonal composers, one that embodies a significant amount of Schenkerian characteristics yet drawing on NRT-inspired elements to obtain a detailed harmonic analysis. If the use of one method creates one dimension of experience, it will be interesting to examine how the co-existence of two different methods will assist in the understanding of the music and how it can be used to assist performers.

Using both Schenkerian and neo-Riemannian methods can be challenging and potentially problematic, but several works by Sayrs, Plotkin, Pieslak, Rifkin and Rusch have demonstrated that it can enlighten and provide useful perspectives on music (Sayrs 1997; Pieslak 2003; Plotkin 2010; Rifkin 2004; Rusch 2012). It is also interesting to point out that both Sayrs' and Plotkin's work expands on the Schenkerian approach or the NRT through combining it with another approach, not Schenkerian and NRT together. However, Baker's work on some selected sections of Wagner's *Parsifal* is one work that explicitly states the use of neo-Riemannian and Schenkerian approach for his investigation (Baker 2003).

As there are a few papers that attempt to integrate NRT and Schenker's method, this study will assist in bridging the two methods and their implications in the analysis of neo-Classical

music, one particular genre of music that is yet to be explored to its full potential, particularly in how music theory and analysis can further contribute to this field.

#### Aims and Repertoire Studied

The aim is to explore the possibility of a synthesis of the two methods and to demonstrate the applicability and effectiveness to the analysis of a twentieth-century sonata. Paul Hindemith's Piano Sonata No. 1 has been selected as this work contains vestiges of the tonic-dominant tonality (Schenker) but also employs non-traditional harmonic structure (NRT). Furthermore, as Hindemith was also a theorist, his writings provided his thoughts on music and its specific elements, which provided the basis to perform a comprehensive and well-justified segmentation and rhythmic reduction of the sonata.

It is predicted that the NRT-inspired approach will provide some of the harmonic and voice-leading elements missing from a Schenkerian analysis and synthesising the two will evidently shed interesting insights into the sonata than either method on its own. This research could have wider implications as these insights could be significant for a performer's interpretation of the work and of technical interest to composers.

#### Methods

A hybrid analytical method encompassing the two approaches is designed as a way to potentially strike a balance between a subjective and objective understanding of the music. To fully justify which chords should be studied for investigation, Hindemith's musical idea on step progressions is applied to the work. Subsequently, two levels of rhythmic reduction can be drawn from the music, in minims and in crotchets. A Schenkerian analysis and voice-leading analysis is then performed separately before synthesising the results. Thus, a graph is designed with three systems: the *Urlinie*, the sets of pitch collection and the *Bassbrechung*. Three different sets of data are obtained to describe the transformation from one set of 'pitch collection' to the next:

1. The 'unordered' combination of numbers between each voice within the pitch collection;
2. The 'ordered' combination of numbers between each voice within the pitch collection (from smallest to biggest), known as the 'basic interval pattern' and commonly abbreviated as 'bip';
3. Total number of intervallic movement between each pitch collection.

To illustrate the synthesis of the two theories, line graphs are created to chart the amount of intervallic movement between pitch collections against the *Urlinie* to observe the amount of movement between chords. Further observations and synthesis can then be made based on the accumulated data.

**Implications**

Current findings have indicated that graphical representations such as a Schenkerian  $\times$  NRT chart, voice-leading graphs and Basic Interval Pattern tables will illustrate and account for the relationship from one pitch collection to the next through common tones, thus accounting for all types of chords (not just major and minor triads). Furthermore, additional notes can be considered to be added to the *Urlinie* whenever there are significant movements in the graph. To synthesise both approaches and demonstrate this combined use not just for the purpose of studying musical construction but by relating it to musical practice would indicate its effectiveness and relevance, and suggest its importance in future work. This research can have significant implications in the study of music and could continue to form a bridge between music theory and performance.

**Keywords**

Analytical Theory, Musical Language, Musical Perception, Mathematics, Harmony.

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