

Baroque Reflections in *Ludus Tonalis* by Paul Hindemith

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Abstract: - The originality and constructive complexity of the cycle *The Well-Tempered Clavier* by Johann Sebastian Bach generated a series of valuable replies in the 20th century. Among these, one of the most ingenious and inspiring is *Ludus Tonalis* by Paul Hindemith. This paper aims at highlighting the main aspects that reveal, on the one hand, the correlation of Hindemith’s work with the Bachian model, and, on the other hand, the transformation of some compositional elements in the spirit of the new school of thought of the 20th century.

Key-Words: prelude, fugue, exposition, imitation, writing, polyphony

1 Introduction

In 1722, Johann Sebastian Bach named his first volume of preludes and fugues *The Well-Tempered Clavier* or, according to the notations in the original manuscript [1], “Preludes and fugues in all the major and minor keys for the profit and use of musical youth desirous of learning and especially for the pastime of those already skilled in this study.” 200 years later, the rediscovery of the polyphonic art generated some original replies to this work, among which that of Paul Hindemith, *Ludus Tonalis* (*Play of Tones* or *Tonal Game*), subtitled *Kontrapunktische, tonal und Klaviertechnische Übungen* (Counterpoint, tonal and technical studies for the piano), that retains the didactical intentions of the Bachian model, bringing about at the same time ingenious changes to the previous formal and technical concepts.

This study proposes to analyze the main elements of correlation between the two cycles, through the perspective of the tradition-innovation duality.

2 The Concept of Tonal System

The cycle of preludes and fugues *Ludus Tonalis*, Paul Hindemith’s last composition for piano, is a work with obvious didactic intentions that, on the one hand, represents the direct application of a new tonal system, and, on the other hand, demonstrates a different side of the neo-baroque aesthetics, through the employment of the most diverse counterpoint techniques and the

innovations brought to the fugue form, a representative form for the Baroque Age.

Unlike *The Well-Tempered Clavier* by Johann Sebastian Bach or *24 Preludes and Fugues* by Dmitri Shostakovich, the *Ludus Tonalis* cycle is not structured according to the tonal principle of successive fifths; the relations of tonal similarity are entirely new, reflecting the revolutionary tonal principles presented by the composer in the work *Unterweisung in Tonsatz* (The Craft of Musical Composition) [2].

The result of the harmonic ensemble is a melodic series the sounds of which form the tonal centres of the preludes and fugues in the *Ludus Tonalis* cycle.

Fig. 1



Although the traditional tonal system, anticipated by *The Well-Tempered Clavier*, is different from the Hindemithian system, a fundamental element of correlation can be established: the relation to the tempered system, which makes Hindemith’s model a modern variant of the Bachian one.

The prelude-fugue groups alternate according to the order of the degree of similarity between the sounds of the series and the “tonic”: 1st degree – 4th, 5th, 6th, 2nd degree – 2nd and 7th, 3rd degree – augmented 4th and diminished 5th. At the same, Hindemith suspends Bach’s concept of major-minor, as well as modulation; the tonality thus becomes a purely external element.

3 Prelude-Interlude

Unlike the Bachian preludes, the interludes are musical moments that retain characteristics of some genres quite distinct from the baroque preludes that accompanied the organ or clavier fugues, rather influenced by secular genres: pastoral (interlude I), scherzo (interlude III), march (interlude VI), waltz (interlude XI), with mono-, bi- or tritrophic structures. Moreover, an element of novelty is the architectonic symmetry given by the correspondence between the *Prelude* and the *Postlude*, the latter representing the inverted and recurring variation of the first.

2.1 Writing

Some preludes are similar to the Bachian preludes through their rhythmic-melodic construction: interlude IV corresponds to the Prelude in D minor in *The Well-Tempered Clavier*, the common element being represented by the repetitive figural constructions based on which the sound discourse is developed.

Fig. 2a - J. S. Bach - W. Kl. [3] I, Prelude 6 in D minor, the first 2 systems

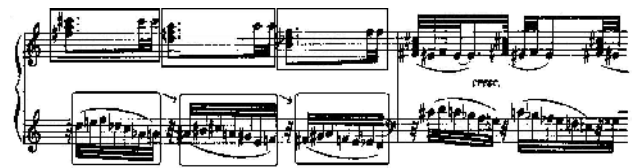


Fig. 2b - Paul Hindemith - Ludus Tonalis [4], Interlude IV



Various polyphonic procedures are used, the moments of polyphonic syntax alternating with the homophonic ones. Hindemith renews procedures and techniques, which he adapts to the new sound context, gives the development of the discourse a marked baroque character and at the same time achieves amazing correspondences with the Bachian preludes in *The Well-Tempered Clavier*. Among these one can identify **latent polyphony, double counterpoint, sequencing**.

Fig. 3 - Paul Hindemith - Ludus Tonalis, Interlude I, p. 7, systems 3-4, descending sequencing



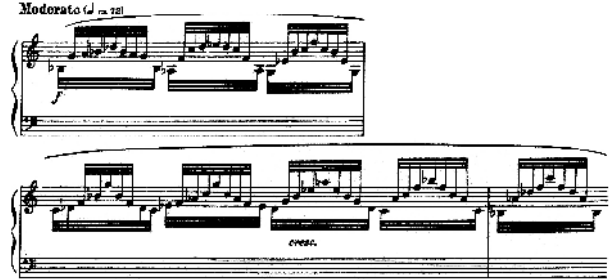
In the absence of a tonal focus, the transposition of the model on various phases is recorded at the level of a single voice; the others hold a line independent of sequencing, sometimes unremitting (see the last example), against the traditional baroque procedure, where all voices were subjected to sequential repetitiveness.

The most significant element of congruency between the two works resides in the complementarity of the voices in the polyphonic writing, chiefly used by Bach, but also by Hindemith in most of the interludes.

Fig. 4a - J. S. Bach - W. Kl. I, Prelude 1, system 1



Fig. 4b - Paul Hindemith - Ludus Tonalis, Prelude, p. 1, systems 2-4



This rhythmic-melodic fluency becomes in Hindemith the nucleus of some moments with motor character, less frequent in the Bachian preludes, a characteristic similar to one of the main fundamental features of the modern sound language, which individualizes the rhythmic factor, with the tendency of dominance in relation to the other language elements (see Interlude 1 p. 8 the last system, Interlude no. 8 p. 38 the first system).

4 The Fugue Form

In the 12 three-voice fugues of the Hindemithian cycle the composer defines the

concept of fugue reconfigured in the new mosaic-like sound context of the 20th century, achieved through the combination of the baroque traditional constructive techniques with the innovative principles of personal thought. Each fugue begins in the tonality of the previous piece and ends in the tonality of the following interlude (or in a different tonality, very similar to the latter), following the order of series 1, the circle of tonalities ending with the tonic of the C series.

Although Hindemith uses a novel sound material, reflected in the original harmonic constructions, the architectonic structure of the fugues is perfectly elaborated, equal to the perfection of the Bachian fugues. The three main moments of the baroque form can be found in Hindemith's fugues, each of these sections undergoing modifications, according to the polyphonic procedures that are used, as well as to the type of fugue which is approached: simple, double, canonic, with exposition in *stretto*, mirror, recurrent.

4.1 Exposition

4.1.1 The fugue theme is as diverse in all its aspects as the innovative Hindemithian language.

a. Melodic Aspects

If in the Bachian fugue one can identify the diatonic-chromatic predominance in the organization of the thematic articulation, the combinations of the gradual movement with the melodic leap and the dramatic implications of the latter (reaching the climax, fractioning the theme in contrasting modules, etc.), in the case of the fugues in *Ludus Tonalis* one can no longer speak of the consonant-dissonant duality, as the intervallic variety of the theme is based on the unexpected succession of ascending and descending leaps (often placed in a ninth or tenth in less than three beats), as well as the intrusion of the repetitive, symmetrical melodic formulas that direct expressivity towards the rhythmic area, (also see *Ludus Tonalis, Fuga nona*)

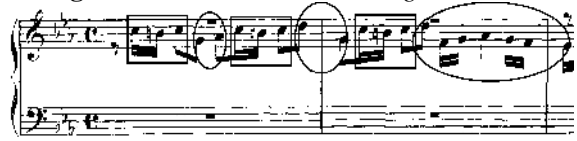
Fig. 5 - Paul Hindemith - *Ludus Tonalis, Fuga sexta*, the first 3 measures



Similar structures based on repetitions of the same melodic model can also be found in the

Bachian fugue themes, but they are used especially at the level of pure melodic expressivity.

Fig. 6 - J. S. Bach - *W. Kl. I, Fugue 2*



Another element related to the rhythmic aspect is represented by the beginning sound of the theme, which, in the Bachian fugue, due to the strict rules of imitative polyphony, was restricted to the two functions of tonality – tonic and dominant. Hindemith proves to be conservative in regard to the tonal implications of this aspect, most of the fugues observing the traditional rule. However, as in the case of *The Well-Tempered Clavier* [5], two exceptions can be discovered, demonstrated in reaching the T or D sound through an intermediary element or group of elements (in *Fuga quarta* and *Fuga quinta*).

Fig. 7 - Paul Hindemith - *Ludus Tonalis, Fuga quinta in E*



b. Rhythmic and Metric Aspects

Hindemith makes full use of the rhythmic side in his fugues, thus becoming a significant exponent of the new sound thought of the 20th century, which rediscovered the expressive values of the rhythm. In this regard, the baroque spirit is renewed through the use of a variety of rhythmic formulas, often interrupted by pauses which unexpectedly fragmentarize the discourse, as well as presenting some unusual measures (5/8 in *Fuga II secunda in G*). Nevertheless, analyzing the 12 fugue themes, one observes a double emphasis of the rhythm: on the one hand, an assertion of the freedom to combine formulas, with simple or multiple divisions, normal or exceptional, with accents or groupings of the values that shift the metric pulsation,

Fig. 8a - Paul Hindemith - *Ludus Tonalis, Fuga octava*, m. 1-2



and, on the other hand, an assimilation of some configurations similar to the Bachian fugues, characterized by great values (halves, quarters) and/or by theme delineation in contrasting motivic units.

Fig. 8b - Paul Hindemith - *Ludus Tonalis*, Fuga quarta, m. 1-2

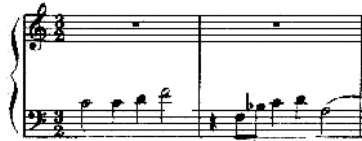


Fig. 8c - J. S. Bach - *W. Kl. I*, Fugue 22, m.1-2



4.1.2 The Imitative Principle

The imitative principle as a fundamental element in the construction of the fugue form, clearly determined in the interval between subject and response, manifests in *Ludus Tonalis* the same tradition-innovation duality previously emphasized in the expositive segment, as well as in the developing part; moreover, one can delineate an evolutionary trajectory of the transformation of the Bachian principle, from imitation in the fifth (in five of the 12 Hindemithian fugues), to the perfectly ascending fourth [6], up to the third [7]. The equivalence established by Hindemith between the perfect fifth and fourth, thus achieving an emancipation of the traditional technique, is illustrated in their simultaneous use in the expositions of the *fugues secunda* and *sexta*.

Fig. 9 - Paul Hindemith - *Ludus Tonalis*, Fuga secunda, exposition



As to the exceptional modalities of manifestation of the imitative principle in the

expositive sector, there can also be found fugues with two or three subjects (*fuga prima*, *fuga sexta*) and a fugue with exposition in *stretto* (*fuga duodecima*), the composer showing perfect knowledge of the baroque polyphonic techniques. In *The Well-Tempered Clavier* there exist three fugues with two subjects, a fugue with three subjects (II/14) and one with exposition in *stretto* (*W.Kl. II/3*), the polyphonic complexity of such constructions exceeding the initial didactic purpose of the work, the two typologies being subsequently developed in *Kunst der Fuge* and *Orgelwerke*. In *Ludus Tonalis* Hindemith follows the same line of clarity and relative accessibility, the approach of these agglomerated polyphonic structures representing constructive replies to the baroque model.

4.2 The developing sector

What makes *Ludus Tonalis* a modern reply to *The Well-Tempered Clavier* is the variety of procedures of thematic treatment used in the central section of the form.

The thematic sections bring in the Bachian cycle numerous elements of theme variation, from the tonal and harmonic ones to the most complex melodic aspects (inverted, augmented or diminished) to polyphonic variations (double or multiple counterpoint). The transposition of these modalities to give complexity to the monothematism in the Hindemithian language will eliminate the tonal-harmonic aspects, diversifying up to a maximum the counterpoint artifices operated with the theme, as well as its melodic aspects. Next to the mentioned variants, Paul Hindemith will also use recurrence, the reversal of recurrence and the intensification of the theme, in various mixtures.

Fuga tertia is the most elaborate in this regard, as its theme appears in all the four fundamental aspects of a melodic structure in the traditional counterpoint: direct, inverted, recurrent and the inversion of the recurrence.

Fig. 10 - Paul Hindemith - *Ludus Tonalis*, Fuga tertia, p. 13 systems 5, 6, p. 14, system 1





4.3 Final Section

In the last articulation of the form, with the role to reaffirm the initial tonality, Hindemith demonstrates a faithful observance of the Bachian model, given the tonal stream of his sound thought (a personal tonalism though), even using some functional artifices employed in *The Well-Tempered Clavier* and adapted to his own tonal system. Thus, while in Bach one identifies the subdominant-tonic relation, maintaining the fifth relation between theme and response, in *Ludus Tonalis* one finds in the final section of *Fuga octava* an augmentation of the principle up to the blurring of the initial centre due to its placement in a chain of ascending fifths: G-D-A.

Fig. 11 - Paul Hindemith - *Ludus Tonalis*, *Fuga octava*, p. 38, systems 1-2



4.4 Exceptional fugues

A special role within the *Ludus Tonalis* cycle is played by some particular types of fugue that, because of the polyphonic complexity, have no correspondent in *The Well-Tempered Clavier* cycle, but which were approached by Bach in his elaborate polyphonic works (*Kunst der Fuge* and *Musikalisches Opfer*):

- **the canonic fugue** used in *Fuga undecima*;
- **the mirror fugue** in *Fuga decima*, a fluent variant of the Bachian model; the form has as axis of symmetry the cadence in unison on the sound of the dominant (*lab*) at the end of the central section

5 Conclusions

Paul Hindemith's work *Ludus Tonalis* represents, through its complexity and practical value in the study of counterpoint, the most important and at the same time the most original work written in the aftermath of Johann Sebastian Bach's masterpieces.

The cycle of preludes and fugues simultaneously provides a synthesis of the polyphonic science and proposes the new concepts of tonal treatment specific to the 20th century. Hindemith's art is inevitably compared to Bach's due to the complex intertwining of voices endowed with their own vitality, accomplished not only as a result of a well-acquired technique, but also as an internal necessity.

References:

[1] „Das Wohltemperirte Clavier oder Praeludia und Fugen durch alle Tone und Semitonia sowohl tertiam majorem oder Ut Re Mi anlangend, als auch tertiam minorem oder Re Mi Fa betreffend. Zum Nutzen und Gebrauch der Lehrbegierigen Musicalischen Jugend als auch derer in diesen studio schon habil seyendern besondern Zeit Vertreib auf gesetzt und ver fertigen von Johann Sebastian Bach p.t. Hochfürstl. Anhalt. Cöthenischen Capell-Meistern und Directore derer Cammer-Musiquen. Anno 1722.” Introdúcere la reeditarea variantei Breitkopf und Härtel din anul 1947 realizat de J.W. Edwards, Ann Harbor, Michigan, U.S. A. Surce

<http://www.dlib.indiana.edu/variations/scores/abt8726/large/index.htm>.

[2] Staring from the acoustic phenomenon of the natural resonance, Hindemith “populates” the space of an octave with sounds that do not belong to the series of harmonics with a single generating centre, still through the function invested into the first six harmonics, one by one, each of them becomes fundamental, the second, the fourth and the fifth harmonic making up a chromatic scale, that he considers one of the most ingenious inventions of the human spirit, specific to the keyboard instruments, with equally tempered vibrations.

[3] For the examples from *The Well-Tempered Clavier* we shall use the abbreviation of the original title, accompanied by the corresponding number from book I or II and the registration number of the work

[4] The examples are extracted from the score, Edition Verlag Music, Moscow, 1964.

[5] There are two exceptions: the supertonic in *W. Kl. II/21* and the sensitive in *W. Kl. II/13*.

[6] Hegemonic in Hindemith's work, the fourth in one of the intervals that fits the first relating degree, along with the perfect fifth.

[7]. According to the same principle of the tonal relationship, present in the *tertia* and *quarta* fugues.