The relationship between sound/sonority and time/temporality in the structuring of the modern musical form

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Abstract: - This article presents some of the laws of sound matter in temporal organization, which I have discovered in European musical works of the early 20th century – the modern period. The research is novel through a demonstration of new principles of formal structuring, determined by the features of sound systems: tonal, modal, atonal. Alongside tonal functionality – a generally accepted law, now extended to post-romantic works, we propose intervallic functionality and the functionality of colour (of the complex sound).

Key words: - tonal, modal, atonal, functionality, form, structure

1 Introduction

In the first two decades of the 20th century, a parallel or simultaneous emancipation of every coordinate of the musical language is taking place, one that reaches beyond the limits of structure and expressiveness. The melodic turns into an integrating cyclic concept and into vertically-extended hyperthemes; rhythm becomes an organizing principle of the other sound features, gradually setting up the supremacy of pulse; the harmonic creates colour and temporal forms, polyphony evolves into linearism, but also towards textures with global effects; timbre steps into the foreground by becoming Klangfarbenmelodie, while traditionally-established forms move away from the language and mentality that had generated them and become generalized means of expression. It’s a time of excess and experiments that will inspire all directions of musical evolution right down to today. Through its complexity, this age allows a peek inside the entire universe of musical forms, as they define styles, but also as an autonomous field in the phenomenology of musical art.

Right at the beginning of this period, Hugo Riemann recognizes form as a logics-based organic structure connected to the ontology and dialectics specific for the art of sounds. His concept develops two levels of sound correlation – one is essentially musical and demonstrates the role of tonal functionality in the crystallization of formal principles, while the other interferes with the grammar of ordinary language, where it examines the connection and evolution of semantic units (cells, motifs, phrases, periods), according to rules of discourse [1].

Starting from the duality of the levels of formal analysis, achieved through the dissociation of the structuring from the discursive process – which in Riemann’s theory were, however, organically integrated -, subsequent concepts of the ’20s and after will tend to stress the absolute importance of each field, as a consequence of the experimental phenomena in the world of musical composition and other philosophic and aesthetic mutations. By absorbing further ideas from the psychology of form (gestaltism), musical phenomenology dwells on perception, on living the musical phenomenon as it unfolds, generalizing the dynamic, kinetic and temporal character of sound art, while the methods of structuralist analysis consider sonority to be an atemporal system (especially in the doctrinarism structuralism that applies Saussure’s linguistics) and concentrates on formalizing the layers of internal cohesion.

As a consequence, the theory of form acquired the dichotomy between form and structure. “The form in music – remarks Hermann Erpf – is experiencing a structure by hearing it (…) Two consequences ensue: 1. Structures come up in the sound relationships that one doesn’t hear, they cannot be actually heard – so they do not become form (…) 2. Form is realized only by the auditory subject, with structures as the premises that enable this experience. Sometimes structure is more or less than form. Form is always a premise and a part of the artistic experience” [2].
2 Problem Formulation

Contemporary thought goes through a new wave of integration of musical sonority and temporality. This is because the orientation of the theory of art towards “the genesis of forms”, towards that internal mechanism of production and transformation based on “diachronic structuralism” [3], the effort to discover the „internal determinism of the «biological» movement of the sound organism”, reflecting “the capacity of any form to structure itself” [4], starts from the concept of function-functionality.

At a maximum level of abstraction, any structure is a function [5]; if applied to the musical universe, this judgment leads to the observation that every system of sound organization (tonal, modal, dodecaphonic) is/has a propagating, directional and centrist function, which is manifest in the “relationships of contiguity and connection between the units of meaning” [6], that is, on the temporal level.

In other words, the laws governing the internal dynamics of every system of sounds become form-creating functions. This is why it was not only the seductive parallel with the phenomenon of determining musical forms through harmonic-tonal functionality – a law of composition proved many decades ago by German musicology – that prompted me to formulate another couple of implied connections between the fields of sound and time: intervallic functionality, an active principle in structuring the musical form and the functionality of colour (of the complex sound), an active principle in structuring the musical form.

Before analyzing the nature of every function in musical language, an observation is due: given the age of culmination in the evolution of all musical parameters, the laws of sound determinism do not come up in a pure state; they combine and overlap, but one of them usually becomes the fundamental law of formal construction, marking the stylistic affiliation of the work. If there is mutual neutralisation of these active principles, the temporal development becomes emancipated but does not spawn any new musical architectures; it unfolds according to traditional patterns. This is how we have come to formulate the fourth direction in structuring form: traditional musical forms, models that in time convey structure to the new language.

3 Demonstration

3.1 Tonal-harmonic functionality, an active principle in structuring the musical form

It is a well-known fact that at least for the past couple of centuries, tonal harmonic functionality has determined the internal structure of musical composition. Influenced in the romantic age by non-musical factors and the wish for self-expression, harmony develops, diversifies and differentiates its artistic capabilities through means long debated in the theory of music. However, the fundamental relationship of tonal determinism, D – T, continues to mark form, conveying chronology to the temporal development. Unlike the multiple ramification of harmonic paths, one can notice, moreover, a tendency of integration of all chord relationships with a functional or expressive role, however far apart, into the basic tonality. The concepts of mono-tonality and tonal regions, put into theory by A. Schönberg, constitute the structural base for cyclical forms. In this way, the configuration process of the genre as a macro-form, concentrating on a central idea which is developed, amplified, metamorphosed und underlined by confrontation with secondary ideas, is intimately related to the phenomenon of mono-tonality, which paradoxically cumulates the dynamics of harmonic transformations and a relativisation of tonal gravity, capable under different circumstances of destroying the system. The works we have in mind are the A. Schönberg’s sextet Transfigured Night, the Symphonic Poem Pelleas and Melisande, Quartet for strings no. 1 op. 7, Chamber Symphony op. 9, but also works by Gustav Mahler, such as Symphony No. 6.

On the other hand, the integration of modal relations within the complex of tonal functionality and the so-called tonal-modal system is responsible for all the extension phenomena in traditional dramaturgy, by generating thematic mosaics, splitting sections (dissociating them) and leading to an interpenetration of traditional formal principles, resulting in unprecedented architectural complexities. We are particularly thinking of G. Mahler’s Symphony No. 9 and G. Enescu’s symphonies no. 2 and 3. It clearly follows that the music marked by the German classic-romantic tradition cannot have its thematic component – usually the object of formal analysis – dissociated from the systematic concept of harmonic sonority.
3.2 Intervallic functionality, an active principle in structuring the musical form

First of all, this principle proves to be the formulation of a composition law in the modal music of Claude Debussy and those works by I. Stravinski and B. Bartók influenced by the French school. This stylistic area is dominated by a melodic-harmonic functionality with particular sound coordinations: the primacy of melody over harmony, the instability and variability of modal sonority, the modal structure arising on the tonal level of the opus.

Second of all, intervallic functionality can be applied to the atonal music of the second Viennese school, where the intonational cell as grouping of intervals is not only a unit of the temporal discourse, but above all, structurally-marked sonority.

By joining modal and atonal compositions within the application area of the same mode of analysis, we wish to underline that neomodalism and free dodecaphony share some fundamental features, although they have often led to clearly different results. Beginning with the final conquest of the chromatic totality – the space for sound construction and/or consistent reference – the two systems develop by geometric ordering of this referential framework, based on the functionality and expressiveness of the melodic and harmonic interval. Although the compositional sonorities and strategies in modal works also include the gravitational harmonic phenomenon (which explains, for instance, the transformation of the modal intervallic structure at the tonal level of the opus), the distance principle, materialising through complementarity, transposition and symmetry, is the common law of both sound organisation systems and of their temporal projection. As a consequence, the principle of cellular variation will dominate the level of musical form – as grouping of intervals, the cell is both a unit of the temporal discourse (particularly in the modal, where the melodic determines the harmonic) and/or structurally-marked sonority (especially in free dodecaphony, where horizontality and verticality are equal).

3.3 The functionality of the sound colour (of the complex sound), an active principle in structuring the musical form

Despite structural coherence at the intonational level and the application of the laws of proportionality and symmetry, the auditory perception of form in the avantgarde compositions of the modern period (in the modal-impressionist, modal-abstractionist, atonal-expressionist and atonal-abstractionist styles) relies on general reference points concerning the sound relief. Moreover, we can state that this period witnesses the first steps towards a shift away from the intonational reference, dominant for almost three centuries, and closer to the complex sound – equally pitch, intensity and colour. Through the increased contribution of timbre, the suggestion of space is augmented – colour amplifies depth -, thus generating new relations of time differentiation, such as: dense-rarified, opaque-bright, compact-sprayed, etc. The so-called space music, which appears in the following decades in works by E. Varèse, P. Boulez, C. Stockhausen, Y. Xenakis, starts from Cl. Debussy’s „sonorous” conquests and from geometrizing the intonational field of Webern’s serialism.

Let’s go over the factors that led to this transformation in musical thought:

- overcoming tonal functionality and treating harmonic complexes and some plurivocal segments by means of their sound quality (colour – a result of intonational combinations)

- the ongoing timbral differentiation in romantic music, from H. Berlioz to R. Strauss, both by the multiplication of pure timbres and by colour mixes, gradually leading to the structuring of timbral functionality (klangfarbenmelodie).

- the increasing freedom of the sound from the temperate system, through the discovery or invention of microtonal intonational systems, through a widening range of percussion intruments (tunable and not tunable), by experimenting new „instruments”, as a consequence of bruitist manifestations, through pitch relativization techniques (sprechgesang) in the body of traditional work (the emancipation of noise).

In the first two decades of the 20th century, neomodal and atonal music transforms the concept of sound by means of musical writing, notation and established sources: the two layers of sonority, the intonational and the strictly colourist, enter into a natural association, mutually strengthening their effects. In this way, the construction of form has a
double reference: towards the sound texture – the quality of sound that results from instrumentation, orchestration, registers and dynamics [7].

3.4 The traditional musical forms – models for the long-term restructuring of the new language of sound

If until now we tried to explain how the modern form was structured based on laws of sound determinism that were, in their turn, derived from the active principles of neomodal and atonal systems, our next intention will be to present a few aspects of a certain type of componistic thinking that developed in the first two decades, but remained significant throughout the past century; according to it, the two building blocks of the opus – sonority and temporality - are relatively autonomous.

Here as well, everything started with the disintegration of the tonal system. The evolution of harmony from its dynamic, process-related function, creating melody and form, to its colouring function with semantic and aesthetic contributions to the sound whole resulted, among other things, in the emancipation of the melodic [8].

We see three main directions in which the rhythmic-melodic level steers away from the general harmonic context:
- the post-romantic development of concrete and diverse themes, capable of sustaining the explicit level of the musical language; through an extension of the cyclic principle, these were furthered in atonal music to the level of hyper-themes;
- bringing temporal architectures and preclassical genres back to life as part of the tendency to re-appropriate the pure musical form. This was done by means of a composition technique dominated by counterpoint linearity and a figural “motor-driven” development;
- the primacy of rhythm in folklore-inspired compositions (but not only), imposed by various means and nuanced dosages until its final establishment as a main element in the construction of form with I. Straviski.

Under the circumstances of unprecedented language complexity by all parameters, the emancipated horizontality of the musical space requires centering the composition process on established models, that is, when capitalizing on the dynamic aspects of the new sound structures is not on the agenda.

As far as the application of this principle is concerned, we had in mind the way patterns of classical form develop in A. Schönberg and A. Berg’s atonal music and in the neomodal music of M. Ravel, B. Bartók and G. Enescu.

4 Conclusion

Although exemplified with works from the first two decades of the 20th century, the active principles I have formulated explain processes of formal construction in general, and anticipate in their succession the evolution of componistic thought in the last hundred years: from tonal-harmonic functionalism to modal-intervallic and/or cellular-dodecaphonic coordination and then to timbre colourist and rhythmically temporal determination. The new laws of musical determinism – intervallic functionality and the functionality of colour (of the complex sound) – together with the structural role of rhythm will come into prominence as composition principles and references for analysis in all music to follow, thereby confirming in retrospect Cl. Debussy’s visionary assertion: „music is colour and rhythm time”.

References:
[4] Irinel Anghel, Compoziția muzicală ca biosistem. Legea formalizării automate [The Musical Composition as a Biosystem. The Law of

[5] „function represents the mode by which structure exists” (Gheorghe Firca, *Structuri și funcții în armonia modală [Structures and Functions in Modal Harmony]*. Bucharest, Editura muzicală, 1988, p.85); “a modal structure is a function, as opposed to a mode, which is a set” (Solomon Marcus, op. quote., p. 259).


[8] The primacy of the melodic concept is also related to the aesthetics of plastic art and music that developed in the first decades of the century, as well as to E.Kurth’s theory *Energitism*, and with *Art nouveau*-type practices, which in their musical transposition declare the value and seraphic beauty of the „lineary arabesque” (See Gh. Firca, *Structuri și funcții în armonia modală [Structures and Functions in Modal Harmony]*, Bucharest, Editura Muzicală, 1988, p. 83).