

Aurel Stroe: Morphogenetic Conception on Music (The Entropic Uncertainty and the “Death” of Musical Structures)

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Abstract: *Aurel Stroe is one of the greatest composers and thinkers of the Romanian musical art in the post-Enescu period. Shaper of musical consciousness, author of great originality, he can be placed – in music and thinking – at the border between science and art, between art and music, between philosophy and mathematics. His art is infused by concepts taken over from all of these fields, out of which we will deal here with the ones connected to uncertainty, entropy and poeticism.*

Key-words: *uncertainty, entropy, mathematics, logic, composition.*

1. Introduction

Aurel Stroe is one of the greatest composers and thinkers of the Romanian musical art in the post-Enescu period. Shaper of musical consciousness, author of great originality, he can be placed – in music and thinking – at the border between science and art, between art and music, between philosophy and mathematics. His art is infused by concepts taken over from all these fields, out of which we will deal here with the ones connected to uncertainty, entropy, and poeticism.

2. The Entropic Uncertainty and The “Death” Of Musical Structures:

2.1. Entropy, Information and Uncertainty

In the tenth chapter of his study dedicated to morphogenetic music, Aurel Stroe resumes the discussion about UNCERTAINTY as a reflex of the POETICISM OF THE MUSICAL COMPOSITION, poeticism attached to high quality creations (the higher

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the degree of poeticism of the musical discourse is, the more consistent the value of the work of art is – claims a unwritten law of musical semantics).

Aurel Stroe has always placed the framework of his musical thinking at the crossroads of great values, great scientific and artistic domains in which, from an interdisciplinary perspective, music functions as a strong conceptual binder. Music, as part of the world's physical and semantic reality, cannot be placed outside these laws which govern them; it is natural for music to be integrated – not isolated – in this framework to which it has always belonged (fact which has been obvious ever since antique thinking).

UNCERTAINTY is one of the fundamental concepts of poeticism, without which it would not exist; in our world, so quantifiable, poeticism needs the clean and easy freedom of uncertainty, the only frame capable to let it breath, sing. Uncertainty and information are closely related concepts: “uncertainty is viewed as a manifestation of some information deficiency, while information is viewed as the capacity to reduce uncertainty. Whenever these restricted notions of uncertainty and information may be confused with their other connotations, it is useful to refer to them as information-based uncertainty and uncertainty-based information, respectively” (Klir 2006, XIII).

The concept of information is very broad at the level of its human manifestation (within communication, but also within the cognitivity it entails): “in each system, the relation is utilized, in a given purposeful way, for determining unknown states of some variables on the basis of known states of other variables. The **“generalized information theory” (GIT)** studies information-based uncertainty and uncertainty-based information in all their manifestations: this is intended to expand classical information theory based on probability” (Klir 2006, XIII).

ENTROPY is “the measure of a system's thermal energy per unit temperature that is unavailable for doing useful work. Because work is obtained from ordered molecular motion, the amount of entropy is also a measure of the molecular disorder, or randomness, of a system” (Britannica.com). The concept of entropy provides deep insight into the direction of spontaneous change for many everyday phenomena, and music is one of them – in Aurel Stroe's approach, for the first time in the national modern musical culture.

The idea of entropy provides a mathematical way to encode the intuitive notion of which processes are impossible, taking into consideration the fundamental law of conservation of energy. The musical discourse is a flow of energy, treated by Aurel Stroe according to the physical laws, laws which must be identified and investigated in his music. Aurel Stroe attempts to infuse unbalance in the entire musical system, in order to obtain tensions which, surpass the compositional frame regular at his time. Aurel Stroe saw the musical discourse

through the irregularities which it displays when it is subject to the major semantic pressures of modernity. Fragmentation, the intentional lack of discourse coherence, overlapping of plans and styles, joining incommensurable elements are only some of the means through which the Romanian maestro brings his musical masterpieces in the area of surrealism. For reversible processes the system is in equilibrium with its environment, while for irreversible processes it is not.

2.2. Aurel Stroe - Entropy, Information and Uncertainty

Aurel Stroe transposes all these realities of physics into the sound plane, articulating COMPOSITION SCHEMES for most of his creations: the dominant represents an absolute constant of his musical creation and thought, not just an isolated, local, momentary phenomenon. Thus, in his music we find, deliberately constructed, a displacement of the musical form and of a ritual under the de-structuring pressure of the dramatic text (Stroe, Georgescu 143). At one point the structure bifurcates at a "bifurcation point of a significant macroscopic fluctuation that will push the musical structure into a slow, agonic, degenerating process: this is a process of aging and death of a dynamic system, isomorphic to the action of the second principle of thermodynamics" (Stroe, Georgescu 143).

The result of this process will actually be the de-structuring of the musical work by means of a fluctuation that runs through the entire organization of the music, up to the level of the musical sound itself: thus reaching what Aurel Stroe calls "A MUSIC OF ABSENCE, OF THE DEATH OF SOUNDS" (Stroe, Georgescu 144). Fluctuations (organised insularly and progressively, locally reversible, but globally - irreversible) may even affect the structure of the work, reaching DESYNCHRONIZATION and DISSOLUTION, a PATHOLOGICAL state of the structural unit of the play: "the disturbance will affect the coordination of the musical form" (Stroe, Georgescu 144).

Moving from REGRESSION OF MUSICAL STRUCTURE to DE-STRUCTURING OF MUSIC, the end is "AN AMORPHOUS STATE OF DEGENERATE SOUND MATTER: the aging and death of music is a meta-structural expression of the message conveyed" (Stroe, Georgescu 144-145) by the subject of the work. Let's not forget to emphasize the fact that this is a logical, intentional process, thought in this way by the author through the prism of its concrete artistic consequences.

In the Concert for accordion and orchestra (2001) several faults are observed that lead to the destabilization and (conscious) destruction of the musical discourse under the pressure of the approach (joining) of "two CULTURAL worlds (more than strictly musical!) that face each other and they are only rarely confused in the work: an incompatibility due primarily to the timbres and their effect on the listener (the

classical one of the orchestra and the popular one of the accordion), giving rise to an overlap of diverse images located even on DIFFERENT TEMPORAL planes" (Arzoiu 2007, 80).

In the Dissipative Fugue (part II), the composer insists on the transformational veils of the thematic musical material, which dissolve under the action of the six counter-subjects that dilute the strict form of the fugue. This is a point where the balance of the work is lost in order to create an inner state impossible to find in the music of other centuries, other styles. The music dies, the fugue form dies under the acid action of countermelodies that endanger the whole musical.

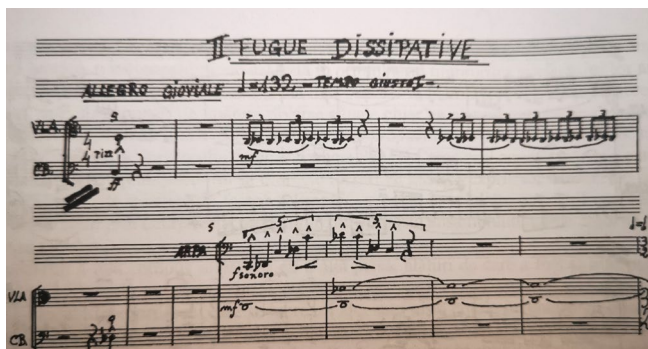


Fig.1. A. Stroe – “Concerto for Accordion and Orchestra, Part II, Dissipative Fugue”

Within the same Concerto for accordion and orchestra, the author intends to stabilize the musical discourse by concentrating the entire melodicy of the work in Part III (Accord-matrix): a point which, unlike the one analysed previously, represents a landmark in the moving route of the concerto. It rarely happens that the author balances the unbalanced situation through bifurcations, fluctuations, and structural-cultural incongruities, but the case of his last concerto proposes such a compositional scenario.

III. ACCORD - MATRICE
 ~ 12 sec.
 5 sec. poi, attacca IV.
 Flauto Piccolo
 Clarineti in Sib
 Clarinetto Basso in Sib
 C.F.G.
 Tromba
 Trombone
 Fuba
 Glockenspiel
 Perc.
 Vibra.
 Synth.
 Arpa
 Violina
 Viola
 Violoncello
 Contrabbasso

Fig. 2. A.Stroe – “Concert for Accordion and Orchestra, third part, Accord-matrice”

3. Conclusions

Aurel Stroe is one of the most original composers of the post-Enesian generation, nicknamed THE MUSICIAN WHO SEES IDEAS precisely because he did not limit himself to his own compositional act, but was an unparalleled thinker on the musical phenomenon in the art of sounds in the second half of the 20th century, on Romania's territory. Only Ștefan Niculescu and Anatol Vieru are on the same line from this point of view, duplicating an important creation with a significant musicological thought.

Romanian composer and teacher at the Bucharest Conservatory (1951–1956 and after 1993) and at the Mannheim Hochschule für Musik (1986–1993), Aurel Stroe studied harmony with Romanians M. Negrea, M. Andricu and Th. Rogalski,

and with M. Kagel, G. Ligeti and K. Stockhausen (1966–1969, at Darmstadt). “One of Stroe’s aims is the creation of a complex work of art uniting the various forms of visual art and music, dependent on the contribution of technology (...). Using all manner of contemporary techniques, Stroe carefully controls a range from powerful explosions of sound to the most delicate nuances; he has employed the mathematics of logic, morphogenesis and probability (with the aid of computers) and places the greatest importance on timbre. His highly original style explores unusual sonorities, mixing basic instruments (metal and wooden plates, gong and cattle bells to evoke the ancient world) with electronic sources, such as magnetic tape and organ. He draws on microtonal harmonies and explores vocal techniques ranging from Sprechstimme and spoken recitative to shouting” (Cosma V.).

However, Aurel Stroe ventures into territories unexplored by artists, into the areas of exact sciences that are related, from the perspective of music, to the sound act itself. An encyclopedic personality, connoisseur of the philosophy of science (which had gained unprecedented momentum in the years of his youth - 1950-1960), beneficiary of the most modern avant-garde ideas of Europe, Aurel Stroe was able to bring to fruition in his creation these elements of great novelty.

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