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THE SOUND LEXICON OF XXI-st CENTURY VIOLONCELLO AS COMPLEX ADAPTIVE SYSTEM

In 1965, Xenakis wrote “*Nomos Alpha*”, the cello solo composition which made the bomb-explosion effect signalling real revolution in the lexicon of violoncello’s expressive and technical capabilities.

Exceptional enrichment and complication of the musical vocabulary, appearance of multitude of innovative expressive means, composition principles, play techniques are the most specific, significant features of the XX-th century. At that, this process is determined not simply by the abundant neologisation of *single*, somehow closed in geography and time lexicon (what was typical for preceding music history), but rather by simultaneous appearance and coexistence of numerous diverse new lingual and semantic systems of musical expression. Thus, the situation in XX - XXI-st centuries differs fundamentally from any of previous epochs: instead of unified complex of common expressive means, confined by certain code of rules and standards, we state currently simultaneous existence of conglomeration of numerous differently-directed autonomous systems, and our epoch’s lexicon in whole is assembled today as complex multivariate and adaptive meta-system.

If to imagine the “classical” musical phonemics as the three-dimensional system: pitch - length - loudness, the intonational-sonoristic paradigm of contemporary music appears the four-dimensional one, adding the timbre&articulation parameters of sound as the equipollent coordinate; timbre&articulation gains in importance of independent paramount differentiating criterion. The model of musical sound broadens immense, getting all noise phenomena to the sphere of aesthetic. The mankind comes to the concept of infinity of the timbre resources and sound capabilities of the musical expression.

Our time is the epoch of *chromatisation* of all used sound parameters, which is based on strong, constantly deepening individualization of the composer’s style and language. This applies to any musical instrument, violoncello isn’t the exception. During the XX-th century, cello turned from its predominantly cantilena emploi of XIX-th c. into the bearer of exceedingly rich palette of intonational and sonoristic colours. Contemporary cello could provide incredible amount of timbre&articulation nuances. If to count the options of use the bow only (not taking into account crowds of versatile combinations because of usage of the left hand in different ways, a.o.), we come to the unbelievable number of 253.440 theoretically possible dissimilar articulations/strokes. But, all those vast thousands of options may be systematised as the complex of derivations of only nine different simple parameters of bowing!

The aim of this paper is to present the extended structural typology, created by the author probably for the first time in the world, of the contemporary violoncello’s expressive means and technical capabilities which form the CAS of its nowadays lexicon.