STUDY MODULE II
Higher Music Theory: 20th Century Music Semiography
Year I, Master Level

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INTRODUCTION

TERMINOLOGICAL ASPECTS IN SEMIOGRAPHY

The musical notation, also called *semiography* (Gr. *semeion*-sign, *graphi*-writing), is the process of writing music by using signs. Semiography represents a semiotic (is based on the sign) and semantic phenomenon.

The context in which the term *semiology* is used at present is extremely diverse. The concept was introduced in 1916 by Ferdinand de Saussure in his *Cours de linguistique générale [Course in General Linguistics]*, in order to designate a vast science of signs.

FERDINAND DE SAUSSURE (b. November 26. 1857 Geneva, Switzerland - d. 22 Febr. 1913 Morges, Vaud, Switzerland) - Swiss linguist coming from a family of illustrious scientists from Geneva, is considered the father of modern linguistics. Ferdinand de Saussure’s concern for the study of language was continuous throughout his life, continuing after the end of secondary courses studied at Leipzig’s most famous university of his time, specialized in philology. Upon graduation he occupied an Indo-European linguistics chair at a university in France. Later, he returned to Switzerland, where he received a linguistics department. There he taught, among others, Sanskrit, Lithuanian and general linguistics.

His theses about language were presented in the *Cours de linguistique générale* (1916, Romanian translation „Curs de lingvistică generală”) published by his students and disciples (Charles Bally, Albert Sechahaye) after his death, based on the notes they took during the lectures held by the famous linguist. Saussure defined fundamental concepts: the distinction between language, speech and individual speaking (known as *langage*/ *langue*/ *parole*), the synchronic / diachronic dichotomy (the difference between synchronic linguistics, which studies a language in the stage represented at a given point in time, and diachronic linguistics, which compares the different historical stages of a language), the *arbitrariness of the sign* etc. All these concepts have later inspired not only linguistic science, but also other areas of the humanities.

In the broadest sense, semiology deals with the study of communication systems, regardless of their nature.

Semiology uses the terminology of (structural) linguistics because it was found that whatever the object-sign (gesture, sound, image) it is accessible to knowledge only through language. Ever since the early decades of the twentieth century this phenomenon was underlined, stating that linguistics can become the “general patron” of the whole semiology,
although language is only one particular system.\(^1\)

In conclusion, semiology is seen as a discipline that attempts to analyze the signs of a certain domain, using models and approaches provided by linguistics. This intervention is necessary because there is no scientific notation that does not resort to specific secondary codes, which in most cases constitute transcripts which give the descriptions an explicit character.

Semantics is a branch of linguistics, but also of other sciences (philosophy, psychology, logic, sociology, anthropology, semiotics etc.) whose object of study regards the sense.

Semantics is referred to by specialists as “the poor relative of linguistics” because, besides the fact that it was the last to be constituted (approximately late nineteenth century), it presents difficulties in conducting an objective research on the sense employing strictly linguistic methods. From this point of view, the status of semantics resembles that of *stylistics*, also founded around the threshold of the twentieth century, of which Paul Valéry said that there are a multitude of definitions, corresponding to the diversity of its object of study.

Similarly, in the case of semantics, according to the different meanings of the sense, there can be defined several directions of research. However, a clear demarcation between *linguistic semantics* and the *nonlinguistic* one (in other domains) was possible due to the methodologies involved, which are also quite different: the semantics of language describes / studies the sense employing strictly linguistic means, while nonlinguistic semantics (also) makes use of extra linguistic means.

Bloomfield’s theses on *significance* confer great importance to morphology, syntax and vocabulary - but confine the *significance* within a single chapter. This is because in the American linguistic view the significance can not be described purely by means of language, as is considered in European linguistics.

A *linguistic form* is a *phonetic form endowed with meaning*. The linguistic form represents *the solidarity between a lexical form and a grammatical one*, therefore both the *lexical form* and the *grammatical* one are also endowed with significance.

- The significance of the lexical component is called *sememe*.
- The significance of the grammatical component is called *episememe*.

\(^1\) Opinion stated by Ferdinand de Saussure in *Cours de linguistique générale*, Payot, Paris, 1916.
The significance of a language form is represented by the solidarity between a sememe and an episememe.

As language forms name objects from the environment, these items must be described by means of the various sciences. Knowledge has not reached such a level of development so as to be able to describe exactly all objects denoted by the linguistic forms.

From this thesis, tributary to the logical empiricism, results that semantics can not aspire to the status of science, as it is unable to delineate itself from the contribution of other sciences regarding the question of sense. Therefore Bloomfield condemned semantics to a continuous provisional status.

Semiotics is a branch of mathematical symbolic logic dealing with the general study of signs. In view of this phenomenon, it seems inevitable an incursion within the area of the sign:

Seme is the term preferred by European semantics; American linguists prefer the terms component, constituent. The sign constitutes the unity of minimal significance, non-susceptible of independent achievement, which manifests itself only in a semantic configuration (or in a sememe), whose constituent element it is. Its distinctive value is determined in relation to a given set of lexemes.

Thus, the requisite to be minimal only appears in the relationship between the meanings of a given lexical-semantic (paradigmatic) class, within which there may be differences between the semes. The procedure for sem delimitation and formulation is based on a comparison of meanings in the given semantic class (lexical field, lexical-semantic paradigm of antonymy or synonymy type, etc.) and is a metalingual construction achievable by switching (seme substitution that highlights the correlation in the plane of expression).

Ferdinand de Saussure also defined the notion of sign as an element perceptible through the senses which represents, indicates or expresses something different from itself.

Signs are studied in terms of:

a) pragmatic (studies the relation sign-human)

b) semantic (the relation signifier-signified, has in view the sense, the meaning of the sound)

c) syntactic (the relationship between signs)

Music, as a field for analysis, presents two types of signs: the sonorous sign – which refers to the different meanings that can be induced by music. The science that studies the
meaning of sound formulations is musical semantics. It studies how a certain music is understood in terms of psychological, sociological, historical, emotional aspects etc.

Beyond its written expression, the sign has a relatively known semantic load, often intuited and highly subjective.

There follows the graphical sign, a musical note for instance, referring to a sound that defines it more or less exactly.

The notation of signs constitutes the object of semiography, therefore semiography denotes in music the system of music notation. It is a semiological phenomenon being the concrete support of this science but at the same time it is a semantic phenomenon. Its basic entity is the musical sound with its two components:

- the signifier – a component aiming at the exterior or acoustic aspect or of phonic values
- the signified- a component designating the idea designated by the sign

Between these two elements there are arbitrary relations, and the numerous investigations could not determine the boundaries of significance in music, the musical art being maintained in a highly permissive area regarding the exact notion of sense. Therefore, the uncertainty of the sign in music is not at the level of the signifier but of the signified, where the notional content has borders liable to change. There are also controversies regarding the minimum level at which significance begins in music (sound, interval, melodic cell, motif, phrase, etc.). Boulez, Xenakis, Daniélou and Nettiez conducted researches and formulated opinions in this respect.
LEARNING UNIT NO. 1.
THE SEMIOGRAPHY IN MUSIC OF 20\textsuperscript{TH} CENTURY

Contents

1. Composition trends in 20th century world music
2. Systematizations of musical semiographies
3. Factors that led to a variety of notation
4. The freedom of improvisation granted to the performer
5. Interrelations of representations specific to other arts

Objectives of the learning unit

The aim of the learning unit is to help the student to:
- become familiar with the stylistic trends manifested during the twentieth century;
- become acquainted with different views on modern, postmodern and contemporary music notation;
- gain knowledge about the factors that influenced the manifestation of various systems of notation;
- acquire knowledge about different criteria in measuring improvisation;
- gain insight about interrelations of representations specific to music and other arts.

Summary of the learning unit

Contemporary musicologists have formulated two basic directions for twentieth century music regarding the new composition trends:
- avantgarde or shaping new aesthetic positions, and
- mannerism or the return to the music of centuries past, from cultures outside Europe.

According to researcher Hugo Cole, the notation of our century can be divided into two broad categories: determined notations; indetermined notations.

Iwanka Stoianowa in the study \textit{Musique, graphie, geste} establishes that all notations invoke a mass of encoded events during an individual opinion, which is inserted within the life of society. The variety of music notations are seen as \textit{genuine and untranslatable transpositions} of a process of transformation which in reality does not tolerate accurate equivalents, because there is no set material, an immovable text that is not susceptible to a flawless translation. Verbal explanations of traditional music, graphic or textual, are considered attempts in view of a translation that wishes to \textit{grab the truth}, false and incomplete deformations of different systems (non-convertible).

Analyzing the semiographic processes encountered in twentieth century works, we consider that their diversity was largely determined by the following factors:
- broadening the sound domain;
- the freedom of improvisation granted to the interpreter;
- enrolling visual concepts in music.
1. COMPOSITION TRENDS IN 20TH CENTURY WORLD MUSIC

The problem of systematization of the sound phenomena (with the corresponding notation systems) manifested during twentieth century is extremely difficult. By virtue of the idea of renewing the substance of sound and breaking traditional patterns, there stemmed forth innovations both conceptually and in the technical interpretation. For example Paul Hindemith in his Suite 1922 wrote an explanation for the piece Klavierbarisch Ragtime: “Do not respect the piano lessons learned. Do not judge for long that D# should be sung with finger 4 or 5. Play this piece very wild and rhythmically, like a car. Consider the piano as an exciting percussion instrument and act accordingly.”

Contemporary musicologists have formulated two basic directions for twentieth century music regarding the new composition trends:

• avantgarde or shaping new aesthetic positions, and
• mannerism or the return to the music of centuries past, from cultures outside Europe.

Impressionism, expressionism, neo-classicism, verism are stylistic terms assigned to currents manifested through certain sounds, emotions and feelings, predicting working techniques appropriate to the newly shaped aesthetic precepts.

Tonalism, atonalism, dodecaphonism, serialism, modalism show the way of organising the sound material, the tonal systems envisaged accordingly triggering the expressive representation. The association of atonalism and dodecaphonism with expressionism, the use of the modal system (or of an enlarged tonal one) in impressionism, neo-classicism, verism does not exclude other interferences and various combinations among existing stylistic trends.

A demarcation following the historic criterion of the trends initiated by twentieth century composers, would integrate the existing movements in:

- modern music (from at the beginning of the century until the end of the Second World War), and
- postmodernism (1950s to present).

The Viennese School was in the avantgarde of music composition, keeping its ________

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3 The systematization belongs to the musicologist Valentina Sandu-Dediu and can be consulted in detail in the article Postmodernismul: un nou manierism? in Muzica Magazine nr.3/1995.
4 The classification belongs to the above-mentioned author, in the quoted study.
modernity throughout the century. If Arnold Schonberg was considered the initiator of atonal music, Anton Webern was designated as an exponent of the inclination toward abstraction in musical thinking (fully materialized in serialism) and Alban Berg, a representative of spontaneity and nostalgia of the past. These attributes can be observed in the creation of the avant-garde in the works of Luciano Berio, Witold Lutoslawski, György Ligeti. In European music of the 1950s the rules of serial music were also encountered with Pierre Boulez - Structures (1952) and Karlheinz Stockhausen – Kreuzspeiz, Punkte, Kontrapunkte (1951-1953).

The transgression of these last two composers at the opposite pole of absolute determinism – complete indeterminism - the main feature of aleatoric music, is marked by works such as Le marteau sans maître (1957) by Pierre Boulez and Gruppen (1955-1957) by Karlheinz Stockhausen.

An important role in the evolution of music was played by the laws of electronic composition, based at first on the rationality of the serial unit (as in the work: Elektronischer-Studie I (1953) by Karlheinz Stockhausen) and subsequently on the emergence of constructions promoting open and spontaneous forms.

The forefront of modern music includes also John Cage’s radical aleatorism. He saw the possibility of moving away from the traditionalist frameworks through total improvisation, when the composer notes only suggestions for music (ex. Music of Changes, 1951). At other times the composer turned randomly the impurities of the paper into musical notes (Music for Piano 21-52, 1965) or the originality of the piece provoked extreme reactions in the audience (as in Tacet-Stück 4’33", 1952, where the pianist sits in front of the keyboard without playing anything during the time required by the title).

The main feature of postmodernism is the return to the rules negated or destroyed by modern composers. This orientation is defined as a simplification of work /.../ it is a way out, an escape. At this stage the integral serialism, aleatorism, stochastic music, music textures, spectral music, minimalism, represent as many compositional techniques, and neoromanticism, the new simplicity, the new complexity, postmodernism are expressions that belong to a new category of aesthetic concepts.

The path of music in the 6th and 7th decades crosses a period characterized by constant

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searches, gradually leading to an overvaluation of improvisation and of chance, haphazard, revealing a wide range of individualistic experiments. Alongside the famous works by John Cage can be mentioned: *Flourish* by Wilbur Held (1974); *Threnody* by Murray Schafer (1966); *Makrokosmos* (Twelve Fantasy-Pieces after the Zodiac) by George Crumb (1973); *Vesalii Icones* by Peter Maxwell (1969).

In the music of the 70s and 80s many composers returned to the functional system, either through the involvement of minimalism or by leaning towards neo-romanticism. Composers such as Luciano Berio, Witold Lutoslawski, Bruno Maderna filtered the suggestions of the past without neglecting the gains of modernity. Relevant works of this period are: Fritsch KNüBEL - *Übersetzung von Emotion in Proportion* (1973), *Ikonen* (1971); Von Biel - *Für 2 klaviere I, II, III* (1971).


The last decades of the century include concepts such as freedom, subjectivity, introspection, contained in genres specific of the tonal-functional creation (sonata, quartet, symphony, lied), marking a return to the era at the boundary between Romanticism and the new music (the revival of Mahler, Janacek, Berg, Bartok, Strawinsky). At other times the composers continued the avant-garde line, predicting innovations on the level of the sound, highlighted in works such as: Alain Abbot - *Le cluster bien temperé* (1982); Joan Guinjoan - *Digraf* (1982).

Entire decades of the twentieth century were characterized by searches and experiments which have focused mostly on broadening the domain of sound. It is difficult and perhaps premature to attempt to systematize the directions of expression, as long as every day brings novelties in the field of electroacoustics, and the micro-soft complex receives an ever wider place in the creation and dissemination of sound. But certainly the moments of exploration mentioned had direct consequences on the sound manifestations in the keyboard instruments. There emerged new ways to valorise them on the technical level, innovations that have greatly influenced the conceptual line of these works. We mention some significant
moments:

Temperament, which led to the conventional division of the octave into 12 equal semitones, removed the piano from the native aural predispositions and human voice. Therefore the use of an untempered system in music communication, valorising multiple expressive resources in the piano creation, became the primary objective of some composers. They tried to address this world of sound through:

a) the simultaneous use of two pianos, one tempered in the normal tuning and the second with a quarter-tone below;

b) building instruments which enable the realization of intonations smaller than the semitone.

At the turn of the century, the composer Wichnegradzky designed for this purpose an armonium pitched in quarter-tones, whose keyboard contained some additional keys. If this instrument allowed composers to enter the world of quarter-tone sound, it had the drawback that it could not allow the execution of works in the ‘tempered’ literature (noted by J.S.Bach) of this instrument but with great difficulty. It also did not answer certain physiological needs of the hands in order to comply with certain specific configurations, remaining only an instrument which could facilitate forays into the world of microintervals.

The director of the Conservatory in Mexico, Julian Carrillo, found a saving solution to create a piano considered as a transposing instrument. He used for this purpose a piano pitched in 1/3 tone (not 1/2 tone as was commonly used). The keyboard was identical, but for example while the hand executes the following sounds:

\[ \text{\includegraphics[width=0.5\textwidth]{piano_example.png}} \]

there were heard other sound pitches, namely:

\[ \text{\includegraphics[width=0.5\textwidth]{piano_example_2.png}} \]

Theoretically, following this model there could be constructed pianos with multiple tunings: 1/4; 1/5; 1/6 tone, in subdivisions barely perceptible to the human ear. As these instruments were limited in realising a music that was only beginning to exist in the world of keyboards, further attempts have been abandoned, being considered uninteresting.

During the years 1949-1950, the American composer John Cage presented in Paris the
idea of the prepared instrument, which consisted of introducing objects between certain strings (indications provided by the composer in the score): metal plates, wood, rubber, some screws and coins. This process will start the alteration of the original timbre of the instrument by simply emphasizing some harmonics or blurring others.

The preparation of the instrument is done before the actual execution of music, taking care not to affect the normal tuning of the strings. An example: John Cage - Pieces for Piano Solo (The Perilous Night) the materials used in the preparation are:

- Rubber;
- Weather Stripping;
- Bamboo Slit;
- Screw and Weather Stripping;
- Wood and Cloth;
- Bolt and Nuts;
- Rubber Washer;

The preparation program is contained in a table containing the following columns:

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<td>Material used for preparation</td>
<td>Strings to be prepared (from left to right)</td>
<td>Distance from damper (in inches; 1 inch = 2.54 cm)</td>
<td>Material used for preparation</td>
<td>Strings from left to right</td>
<td>Distance from damper</td>
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This way were revealed a multitude of timbre possibilities, a new world of sound, considered strange by many musicians. Composers such as Pierre Boulez and Olivier Messiaen were attracted by Cage’s prepared piano and oriented their new experiments toward other researches, towards the domain of musique concrète. This gave them the opportunity to use new sound sources, which served as a basis for modes and series (eg. Olivier Messiaen: modes of values, intensities, attack and timbre).

Invented and theorized by Pierre Schaeffer, along with a group of collaborators (D. Milhaud, E. Varèse, P. Boulez, P. Hebry) musique concrète includes within its sphere both sound and noise. They become sonorous objects and special techniques of recording are obtained, where the sound (noise) is varied, mechanically processed (by changing the speed of
rotation of the magnetic tape, reverberation, echo, etc.), the phenomenon being perceived globally. The complexity of sound objects does not permit the usual notation, they spawn a music perceptible only in terms of sound, orally, free of schematism.

In À la recherche d'une musique concrète (“In Search of a Concrete Music,” Publishing House du Seuil, Paris, 1952) Pierre Schaeffer systematized the domains where the author can operate in this kind of music:

- on the timbre of the instrument (realizing the interruption of the attack or the return of the attack; the former leads in the sonority of the instruments to an enrichment of harmonics, while the latter is conditioned by the record on disk or tape recording). The timbre can be also modified through the addition of electrical filters, which remove certain low, medium or high frequencies. Pierre Schaeffer used this combination in his 5 Studies (1948);
- on the course of time, by involving electroacoustic devices that can vary the winding speed (and making changes in timbre, eg thick becomes sweet etc.);
- the introduction of the dimension of space, facilitated by the construction of different concert halls, the location of the interpreters and even of the audience.

Another trend visible throughout the twentieth century aimed at exploiting all the constituent parts of the instruments (both the inside and the outside), and the many possibilities of sound generated by operating the instrument to the full will impose a new image of the instruments: a huge sound body able to produce its own effects and sounds inherent to other sources. We may capture two aspects that stimulated the tendencies of the composers to operate with the constituent parts of the instrument:

a) different materials of which are made the inner and outer parts of the instruments: (their varied quality will influence the development and propagation of vibrations and therefore the - sound quality). We list some possible structures:

- metal - metal frame, bars, rods (of transmission), transmission levers, pivots, lead dampers, screws (for adjustment, on dampers, on the hammers), nails (on the tuning pins, hammers, dampers, etc.);
- wood - dowels, rods (for damping, fastening), hammers, nails, bridges, sticks (escapment);
- cloth, fabric - for hammers, dampers, the seals, the back rest of the instruments,
- leather – used for lining the drop screw.
b) Many components of the instrument can be activated for a single action (eg to dampen a sound are triggered: the hammer rest rail, damper levers, hammer shanks, backchecks, key bushings, action mount brackets, main action rails etc.), but the same gear can participate in different events in terms of physical-mechanical aspect in sound production. Preferential stimulation of some of these components, the integration or intervention of auxiliary objects (made of various materials) will yield new possibilities of timbre nuance.
2. SYSTEMATIZATIONS OF MUSICAL SEMIOGRAPHIES

Corresponding to the multiple stylistic trends manifested during the twentieth century, in the field of semigraphy emerged a variety of methods of notation, whose systematization became necessary due to their complexity. Many researchers have tried drawing up guidelines in the evolution of the notations endorsed, and of the observations outlined in this field, we mention the representative views for the literature.

According to researcher Hugo Cole, the notation of our century can be divided into two broad categories:

✓ determined notations;
✓ indetermined notations.

Although “an absolutely mechanistic control can never be achieved as long as the human relationship is included,” the promoters of determined notation have complied with the following four factors in addressing the new symbols:6

1) the limits of human interpretation, according to which ignoring the boundaries of human perception and of the real technical potential of execution would lead to inaccurate assessments;

2) the insufficiency in the specification of notation, in particular of the traditional notation in which timbre, attack methods, changes in dynamics and tempo are vaguely defined. An opposite direction was materialized in electronic music (with specific notations), where the composer has the opportunity to define the sound in all its aspects.

3) the expansion of spontaneous deviations from initial indications, a phenomenon that favours qualitative interpretative achievements;

4) avoiding to formulate authoritarian requirements, given that it is required a creative collaboration with the interpreter, which would determine the separation of tasks between composer and interpreter, each going along his own way and thus would contravene the need of a creative collaboration between text and interpretation.

Indeterminate notations were imposed as a response to the absolute determinism in music and they created ambiguity relations in the demarcation of the contribution between composer and performer. It is considered that all notations are indeterminate, as long as they

6Both the quotation and the factors mentioned are retrieved from COLE, H. – op. cit., p.128.
do not give a complete specification. In the opinion of this author conventional notation is also indetermined regarding the pitch, timbre, method of attack. Indeterminism, especially the approximation of writing, had its roots in the representations of serial music, where each sound taken separately constituted an element of a controlled series.

The approximation of details in indeterminism reached moments of maximum involvement through graphism and textcomposition. The former uses a type of notation called default (after H. Cole) and are notations that are implied and represent stimuli for the interpreter. Resulting in one or more symbols, the graphic score represents a starting point for the musical action, and aims to encourage a personal response to the visual impulses. Often the signs belonging to this category are puzzling and paradoxical, may or may not be related to conventional notation signs and take shape in objects, things, etc. They are not designated as reference points but are mentioned only to stimulate the interpreter while playing, using his associative-aesthetic abilities. Textcomposition uses a type of notation material-rule, an example of this kind being the work of Karlheinz Stockausen Interval (first performance - May 1972), which does not bring a musical text but different rules of execution. The piece is designed for two interpreters and the instructions begin with:

- play singular notes during irregular time intervals and dynamics;
- when the attack of an interpreter coincides with the attack of the second, add one note until you play on 10 strings ... etc.

Iwanka Stoianowa in the study Musique, graphie, geste establishes that all notations invoke a mass of encoded events during an individual opinion, which is inserted within the life of society. The variety of music notations are seen as genuine and untranslatable transpositions of a process of transformation which in reality does not tolerate accurate equivalents, because there is no set material, an immovable text that is not susceptible to a flawless translation. Verbal explanations of traditional music, graphic or textual, are considered attempts in view of a translation that wishes to grab the truth, false and incomplete deformations of different systems (non-convertible).

The author assumes that man does not have several distinct systems for the same relation of significations and classifies notations into:

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7 COLE, H. – op.cit., p.137.
traditional music notation;
musical graphism;
textcomposition, with:
   – text - impulse
   – text - action program
music to be read (Musik zum Lesen)
photocomposition (Photokomposition).

Another researcher, Costin Mioreanu, proposed the following ordering of notation systems existing to the present day:10

- Traditional notation that gives cues and can be:
  PUNCTIFORM, or
  NUMERICAL;
- referential notation (or proportional) which defines in this way the pitch, duration, intensity of the sound, while the timbre compartment or way of attack continues to be symbolic;
- functional graphism which constitutes a broadening of the principles of proportional notation;
- symbolic graphism, representing a first and timid attempt to waive the definition of sound, hypertrophied through traditional notation. The author states that this type of graphism is considered a PARAMUSICAL notation;
- notation through text, which he calls META-MUSICAL;
- photo elements, SPATIO-TEMPORAL notation.

The author adjoined the following table to his work:11

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10 MIEREANU, C. – op.cit., p.55
11 The table is displayed by Mioreanu, C. op.cit., p.67, and the references within the table designate:
a) Artificial music, formed by using the computer; in the output the program is numerical but after performing the decoding operation, the composer translates into the score the results in classical notation. This way is carried out a translation that leads to punctiform notation (see arrow direction).
b) Textcomposition can incorporate symbolic graphism, designed this time as viewing the text, therefore being subordinated to it. The transfer made modifies the symbolic graphism of a paramusical notation into a metamusical notation.
Erhard Karkoschka in *Das Schriftbild der Neuen Musik*\(^\text{12}\) conducted an encyclopedic inventory of the new methods of notation (the only one existing by this date), distributing symbols depending on the higher or lower degree of specifying the sound parameters into the following categories:

– precise notation (*Präzise Notation*)
– frame notation (*Rahmennotation*)
– indicative notation (*Hinweisende Notation*).

3. FACTORS THAT LED TO A VARIETY OF NOTATIONS

In the twentieth century the phenomenon of creation enclotted multiple and varied shapes, that could not be captured by traditional notation elements. There arose a number of innovations in terms of writing music that reflected these changes and transformations in the structure of the musical language.

From the multitude of factors that led to new methods of notation we mention:

- radical changes occurred in the concept of creation, embodied in forms and elements of expression different from the traditional ones;
- the use of new sound effects in the technique of instruments (without parallel in traditional music) that will generate modified sound timbre;
- the considerable broadening of sound sources through electronic means, which render available to the composer the entire possible sound material;
- the emergence and development of electronic music on this basis;
- employing the computer in the musical field;
- the emergence of aleatoric music promoting open forms, in which the interpreter is asked to compose and improvise himself;
- the tendency to convert into mathematics the relationships between elements of musical language and to work through strict mathematical calculations and processes;

The highly personal nature of the works in the field of experimental music, which brought some authors in a position to create their own way of scoring, with references to explanatory tables which typically include guidance on the various indications noted in the scores. Here 'instinct and subjective choice is the sole guarantor of the value of a work. There are no tabulatures with scientific criteria.'

According to the new possibilities of musical expression, the notation acquired a relatively large number of semiographic processes, which consist either of new symbols (ideograms, lines, geometrical shapes) or in combinations of numbers, mathematical relations, frequencies, algorithms and other items that removed sometimes completely from the score the traditional notation signs.

Research carried out within the existing notation systems in twentieth century music showed the direct relationship established between the concept of music composition and its

visualization through signs and therefore they systematized the new semiographic trends according to the following stages:

The emergence of *intellectual* and *visual* music derived primarily from the notation of music *written* after being *heard* or *performed*;

The emergence of music and some rigorously determined notations that lead to reducing the status of the interpreter (only renders what is indicated in the score);

The emergence of indeterminate music (as opposed to the total determinant) and establishing a new role for

Electronic music with the elimination of the interpreter.\(^{14}\)

These stylistic tendencies were generated by the elimination of the syntax having an overall value (as was the case in the tonal-functional system, where several patterns of musical forms such as the fugue, sonata, lied etc. were designed as universal) in favour of individual solutions. Every piece is expressed through its own code, each composer solves the problem of new symbols in his own way, hence the wide variety of semiographic systems. After implementing its own code of form, any work will establish its autonomous communication system, which will not be less individual. Thus, from the *symbolic*\(^{15}\) language with universal value, as was the notation of classical music, music in the twentieth century arrived to a *Babylonism* of signs, which led to the impossibility (even for a specialist) to read a score if it does not contain an explanatory list of symbols.

Analyzing the semiographic processes encountered in twentieth century works, we find that their diversity was largely determined by the following factors:

- broadening the sound domain;
- the freedom of improvisation granted to the interpreter;
- enrolling visual concepts in music.

**BROADENING THE SOUND DOMAIN**

Starting with the twentieth century, the assembly of all the sounds played on a instruments:, divided in registers according to the criterion of pitch, were insufficient. Therefore, in a first stage the composers tried differentiations of sonorities based on how the

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\(^{14}\) The classification belongs to COLE, H., as found in *Sounds and Signs. Aspects of Musical Notation*, London: Oxford University Press; New York, Toronto, 1974, p.122.

\(^{15}\) Symbolic in the same sense as is mathematical notation, having a relatively small body of concepts, defined in an univocal manner. In this framework, setting the pitch is proportional while the remaining three components of the sound are defined symbolically. Classical musical notation has the advantage of the intelligibility of the universal value, provided that one is familiar with its concepts.
sound is formed. In addition to details of the technical operation of the instrument, there are frequent indications which aim directly to the instrumental colour such as: *metallic sonority*, or *karate* blows on the instruments; as a *flash*, interferences, *halo* effects.

Soon, the dynamic differentiations, agogic fluctuations, enriched timbre events, all the techniques practiced have not satisfied the needs of renewing the musical language. We mention the impossibility of articulating on the some instruments: the intermediate pitches of the semitone, which in the event of approaching untempered systems would have reached an infinite number of sounds (unlike the temperate system, which theoretically can produce a determinate number of sound objects).

It became obvious the need to broaden the musical domain by valorising all parts of the instruments: - parts made of different materials - which once brought in operation (by actioning) widened the sound range of the instrument (until then considered to be limited). In the appendices of these works, the authors have addressed sophisticated technical terminology for specifying where the interpreter must intervene, treatises on technique included extensive construction schemes of the instruments; demonstrating the usefulness of knowing the instrument in order to develop an adequate technique.

The operation of all the components of the instruments was achieved by various means: directly, through parts of the human body (not just the fingers), or indirectly using intermediary instruments. Thus were obtained new sound effects, by striking with the palm various parts of the instruments; playing directly on the strings of the instrument etc., which generated the emergege of music timbre previously unencountered in compositions. There are suggestive in this regard the words of Artur Rubinstein at the beginning of the century on the sound possibilities of the piano: "*Do you think it is a single instrument? There are a hundred instruments in it!* "^{16}\)

Timbre, a quality of the sound determined by the number, intensity and duration of the harmonics of a fundamental sound, represented through the many technical possibilities of the instruments: an inexhaustible source of expression factors. Given the major importance that was given to this quality of the sound, contemporary composers often have left to the discretion of the performer to achieve the coloristic variety of the work, although other parameters were open. Contemporary scores have become increasingly complex in this regard, being annotated with detailed and numerous indications, or printed with different

graphic signs than the usual ones, drawn and explained in the appendices accompanying the works.

A borderline case to this extent is represented by the situations of preparing the instruments:, when the sounds can be changed by intervening on the strings of the instrument, throughout their extent or only within the perimeter of some registers. The introduction of different objects (sheets, plates, etc.) of special materials (plastics, paper, rubber, metals, cloth, etc.) helps create unusual timbre, novel sound effects. Such works are: Liviu Dandara – Triforium, Horațiu Rădulescu - Astray pentru saxofon și pian preparat, Cornel Țăranu - Responsorium.
4. THE FREEDOM OF IMPROVISATION GRANTED TO THE PERFORMER

With the development of aleatoric music, the performers were put in a position to improvise certain parts, to *fill* portions of the score as indicated by the authors. In the musical culture of the twentieth century the phenomenon of improvisation was conducted along three directions:

improvisation derived from aleatoric music and imposed as a reaction to the limits set by integral serialism (which arrived in the area of perception of the agglomeration of the sound phenomenon, resulting in textures, has lost its detail function making it possible to introduce improvisation in execution);

✓ free improvisation of the type envisaged by the representatives of the American school (John Cage and Earl Brown), aimed at the improvisation generated by extra-musical phenomena (drawing, painting, sculpture);

✓ improvisation inspired by the folk vein, within which it originated, manifested in our case by the works of George Enescu and Aurel Stroe.

The degree of improvisation of a fragment or work can be constant or fluctuating and is established in relation to the number of parameters left to the choice of the performers. One aspect extensively discussed among musicians was the establishment of the boundaries of improvisation, thus differentiating a spontaneous improvisation (linked to the inspiration of the moment) from the improvisation that is conducted according to default laws (situations encountered in their creations after 1950). Between the two aspects there are no limits, there are many aspects that combine both free improvisation and the one that follows certain patterns.

Another classification of the improvisation is linked to the way it is fixed semiographically, there being known circumstances of written improvisation, but also of improvisation unwritten in the score. Written improvisation can have multifaceted aspects, located between moments that comprise sketchy indications (in some aleatoric music scores) and the ones using a precise notation. In this last category can be integrated works by Enescu, which were created from a combination of folklore with improvisational character with strict construction of European type, indicating the smallest details.

Between these two limits are situated cases which adopt in notation sketches or other particular semiographic elements, because the graphical expression of the freedom of
improvisation granted to the performer required the creation of specific symbols, which in their turn are intended to signify, to communicate the musical message, being determined nonetheless by the endowment of the interpreter in terms of reception and communication. Through generalization and abstraction operations, the interpreter must be able to make analogies between the data provided by the author and sound achievement, thereby obtaining the connection between signifier and signified. According to the musical form and not least the graphic aspect, the interpreter will deduct the complex of the means of expression and will arrange them in the musical space-time continuum, observing the rules of a period, style or his own personality.

For moments of improvisation the composers often turned to elements of extra-musical notation, which represent only sources of inspiration for the performers. Among these are:

- visual elements: drawings, colour combinations, various pictorial forms;
- graphic elements: artistic or technical drawing, black and white or in colour, resulting in graphic musical score;
- semantic-type elements (like poetry or literary prose) encountered in textcomposition. In these works the author starts from a complex of data (from musical to philosophical ones), which are materialized in verbal indications, sometimes accompanied by graphic means.

Faced with such notations, the interpreter will begin by translating the message, recreating all the elements of musical language through his own operations. So he will not be operating within his inner aural system with elements of a graphic code as such (through a visual identification), but will encounter complex re-encoded data, processing tasks at various levels.

Therefore musical graphic and textcomposition through the notation means approached constituted visual stimuli inviting the interpreter to music representations in an associative way. These types of creation will generate unique sound versions (formed subjectively), the performer having the decisive role of establishing a contact between the visual and the acoustic world. The graphic score is by its own nature versatile and can take endless variations, without a mandatory resemblance between them.
5. INTERRELATIONS OF SEMIOGRAPHY WITH REPRESENTATIONS SPECIFIC TO OTHER ARTS

Outlining some new aspects of twentieth century culture was possible through the creation of new expressive, conceptual, theoretical, imaginative, pictorial and sound means. They were the result of multiple research and experiments, but also due to the new vision of complementarity projected among the various arts, science and philosophy. With the goal of visualising the musical message, composers have initiated a multitude of procedures, and within other arts (such as painting and poetry) were conceived diverse representations, between all these forms of artistic expression existing convergences and parallelisms.

We may note trends to encompass within the arts several new dimensions such as: relief, depth, spatial projection, and as a consequence of existing interrelations, they borrow some features from each other.

For example, if in music there is the question of the spatial perception of the sound, for which purpose composers employ a series of stage artifices, in contemporary poetry one may notice the tendency towards visualization, while in painting we may speak of making poetic the colour.

The premises of spatialisation of the sound ensemble loom in the rigorous serialism of Karlheinz Stockhausen (in his Kontrapuncte) and Pierre Boulez (Structures I pour deux pianos). The tendency of composers to lean toward “pictorial” elements is classified as a trend of programmatic spatializing specific to post-dodecaphonic music. In music this provision will reveal a new feature of notation: “the pictorialism of the musical message”17 embodied in the graphic spatialization of semiographic elements. The phenomenon has been extended with the invention of the stereophonic sound and use of electroacoustic equipment by Stockhausen. In Texte zur elektronischen und instrumentale Musik18 this author stated that “the graphic notation of music became decisive in time for the location of the composition.”

In contrast with music, the visual arts try to acquire temporality, while in poetry is emphasized the spatialization of the verses and of typographic characters, using specific patterns.

The researchers who studied in parallel these arts in the light of their characteristic

representations have questioned their accessibility to the mass public. It was concluded that if the painting through its manifestation forms (more accessible) achieved a positive contact, poetry, on the other hand, although it employs a semantic basis equivalent to that of spoken language (which should be accessible to all), denoted among readers a lack of interest, demonstrating that the call to an intelligible code is not enough.

The situation is similar in music, since the ways of visual design of sonorities cause difficulty in deciphering, and contemporary music is often difficult to understand and not well received. This is also due to a musical elaboration which is too abstract, the musical message being sometimes difficult to communicate. We can mention the absence of artistic education of the public, the forced submission (sometimes unintentional) to artistic forms considered at present obsolete.

Composer Sylvano Bussotti devoted to this problem a study entitled Sull’espressione grafica d’esperienze sonore, in which he argued the need to overcome the barriers imposed by the complicated notations of the twentieth century, because “once overcome the shock of the first encounter, susceptible only to induce charm and uncertainty, the double intention becomes obvious: on the one hand using the traditional repertoire of symbols in a unique context, which causes polyvalent meanings; on the other the autonomous invention of new, absolute signs, which maintain only an allusive relationship with the scholastic signs, that in the most extreme case is reabsorbed and eventually disappears behind the indecipherable musical appearances of authentic pictographies.”

The complexity and novelty of certain graphical expressions in the music of our century was valorised also by John Cage, who organized in New York an exhibition of sheet music which were sold as graphic works. They contained strange semiographies, meticulously drawn signs, miniatures belonging to mathematics, even notations on graph paper (in the case of electronic compositions).

Another suggestive example of the connection of music with specific elements of other arts is represented by its broad forms of syncretic performance emerged in the second half of the twentieth century, embedding in their framework theatrical or visual fragments, quasi-autonomous musical structures, sound effects, projections, choreographic movements and attitudes or simply taken from everyday life.

This way was born the happening, a theatre form foreshadowed around 1952 by John

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Cage, a *pictorial-musical* genre demonstrating the contamination of the arts with dimensions specific to related arts, for example of the visual arts with the time constant specific to music. The happening realized the constant involvement of the artist and the public in improvised creations that include visual systems accompanied by gestures, dances, words, music, proving the intention of transforming painting into action and show. The call on music in these syncretic productions is made in two ways:

- either in improvisational forms specific to aleatoric music (in which situation music responds to the general wish of these performances, namely the relativization of the differences between creator, performer and audience through their involvement - real or potential – in the syncretic flow); or
- in determined structures that provide unequivocally the composer with the design authorship of the whole performance.

Scholars of this genre, such as: Wolf Voestell in *Happening* or John Gruen in *The New Bohemia*, signaled the attributes of instrumental theatre in American composers such as Cage, Raik, Chiari, Warhol. John Gruen wrote in his book: “*Cage redefined the role of the interpreter and that of the listener. He showed how the techniques of other arts can be applied in music. He demonstrated that the performance should in fact include visual elements integrated in the execution, elements which might be themselves musical. He insisted on several occasions on the validity of the visual as something essential.*”

Among Cage's disciples who developed the tradition of the syncretic performance we mention: George Brecht, Richard Mawfielda, Dick Higgins, Allan Kaprow, Nam June Paik.

In the vast audio-visual syntheses posed by the new forms of the genre, it should be noted that the electro-acoustic recording and processing techniques contribute to broaden the sphere of representation of the performances and sometimes even to attracting the composer on the track of this kind of creation.

**The inclusion of visual concepts in music**

If painting and literature absorbed in their configuration fingerprints of science and philosophy, the musical art in its own means of representation connected dimensions specific to other arts, especially the visual ones. Thus, even the musical time, a notion specific to

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music both in a general sense (music is an eminently temporal art) and in a narrower sense (where it is a proper projection of its deployment in the psyche of the receiver), undergoes a radical change.

A new direction of time is captured in twentieth century creation - timelessness - the opposite conception of temporality. Since this issue concerns an inaccurate sense to the art of sounds, the concept is called by the estheticians of the twentieth century transtemporality and through its instrumentality “the eyes of the creators were directed toward the archaic civilizations, whose rule, norm of living was the lack of change, on their quest to eternity.”\textsuperscript{21}

This aesthetic orientation gave rise to non-progressive music, which was inspired in its constitution by music formulations belonging to E. Satie. In his \textit{Vexations}, Satie demanded that 32 measures be sung 840 times without variation.

The advocates of this view processed the idea in their own languages, through traditional notations or including new symbols. Among relevant works of this genre are: Aurel Stroe - \textit{Muzică de Concert pentru pian, percuție și alămuri}; Horățiu Rădulescu - \textit{Astray pentru saxofon și pian preparat}; Corneliu Dan Georgescu - \textit{Opt compoziții statice pentru pian}.

The new philosophical, aesthetic and scientific concepts which evolved in the twentieth century (concepts related to the idea of time, space or universe), gradually encompassed music, and resulted in a fertile communion between the various arts. The interrelations created, such as: music - visual arts - literature, will trigger the emergence of novel trends, even radical changes in the concept of creation (eg textcomposition, photocomposition, kinecomposition, electronic music). As a natural consequence of the interrelations mentioned above, notions belonging to the visual world - space, colour, form - pervaded music, leading to the formation of a new system of symbols.

Space, the pair notion of time (exploited especially in the creation of the representatives of serial music, such as Pierre Boulez), was considered an abstract element that did not exist in the reality of music, which is a purely temporal art. Initially space was a dimension addressed theoretically, in the sense of an imaginative projection of the musical processes that can take place in the mind of the creator, interpreter or auditor.

The design of notation elements led to the shaping of a new semiographic system,

wherein the expected symbols were arranged in space, treated in a particular manner by each composer. Rendering the elements related to spaciousness was achieved by adding terms such as up - down (indicating pitch) or near-far (indicating intensity). There are composers who in their writing targeted the spatial layout through stereophonic sounds. This effect can be achieved by a certain arrangement of instruments in the score, an order that can be chosen according to their position on the stage or in the audience.

The delineation of the spatial dimension is facilitated by the use of electro-acoustic devices, through which the sounds can be directed in multiple directions, the listener having the impression that he/she is in the midst of the sound sources. Stereophony, an electro-acoustic technique for spatial reproduction and of direct transmission of sound, was endowed with new facets through the means of electronic music, facilitating the creation of the spatial dimension within the art of sounds.

There are known numerous works in world literature created in this approach, namely based on stereophonic effects: K. Stockhausen - *Gruppen für drei Orchester* or I. Xenakis - *Terretektorh*, and in Romanian music: Aurel Stroe: *Arcade* and M. Istrate: *Concert pentru două orchestre stereofonice*.

The design of spatiality in the instruments: notation was accomplished on two levels:

a) elementary - thought to be abstract and translated into graphic symbols designed and understood through distances or elements of spatiality such as:

- approximate pitches in relation to a given intonation cue: Liviu Dandara - *Sonata pentru un pian singur*;
- the limit of employing the registers: Eduárd Terényi *Jocuri pianistice*;
- larger or smaller distances between the different values of notes, depending on the shorter or longer duration: Hans Peter Türk - *Rezonanţe pentru 24 de suflători, celestă, vibrafon şi glockenspiel*;
- the duration equivalent with the length of a horizontal line: Ștefan Niculescu - *Tastenspiele für Klavier I*;
- ornaments (glissandos) of an approximate duration regarding a visual cue in the appendix: Aurel Stroe - *Muzică de Concert pentru pian, percuţie şi alămuri*;

b) general – concrete, manifested in the attempts of composers to obtain a *spatial sound* via: the different layouts of the instruments: or the public in the concert hall (left, right, square, circular or amphitheatre), compositional techniques designed in order to establish the
sense of space.

Colour effects have resulted in twentieth century music in different ways of articulation and action on the instrument, through technical procedures which intermediated the attainment of such contrasts as: light-dark, ferocious, brutal, flimsy sounds, etc.

Observing the multitude of terms employed in order to achieve contrasts of colour, we can assert that: if initially the task was conferred to the pianist, who through various techniques of playing was supposed to differentiate the timbre of the sounds (even at the same degree of loudness) at a later stage the realization of timbre colour was substantially facilitated by the presence of external factors (objects added to the instrument) able to achieve sound contrasts.

The very preparation of the instruments; its operation with numerous intermediate materials (rubber, wood, glass, paper, mallets, electroacoustic elements) will give the possibility to obtain new sonorities in terms of colour such as: opaque, metallic, faded, rough, glassy sounds, different noises.

The idea of colour concretely associated with the musical text is not a surprise in contemporary creation, the performance full of light and colour synchronized with musical execution being one of the directions emerged in the world of musical performances in the twentieth century.

Another dimension in twentieth century music concerns the form, as creating a structure outside of time was a goal of many musical works. New ideas generated in this sector various orientations. Some composers, along the lines advocated by Iannis Xenakis, follow the objective laws of structural transformation through the application of modern mathematical theories in music (eg. Anatol Vieru, Dinu Ciocan). Others, through the tendencies of graphicising the scores will bring new aspects of construction, reviving dimensions used in music centuries ago.

Starting from the necessity of a balanced, symmetrical arrangement of the sound objects on an (imaginary) axis, the musical language will converge toward the separation in time and space of the boundaries of sound events. 20th century music started initially from a rediscovery of the ancient principles, for example that of symmetry, the composers showing interest in this idea in multiple directions: the architectural construction, language, dynamics, etc. The very construction of the series (in serial music) is based on symmetrical sections that allow recurrences or related inversions. The consequence of this phenomenon is the large
number of works which are written in an arched shape or with inner arched sections, in which symmetry was a basic principle, necessary for balance. For instance the composer Eduárd Terényi in Studiu de Czerny conceives sound “patterns” (which may be subject to multiple repetitions, can be executed in tempo or dynamics opposed to the one noted) joined by a dotted line that meets the need for execution in the indicated chronological order (possibly with one intervention of the refrain).

The symmetry of the form can be seen in the outline of the oblique dimension (common in contemporary music) which is employed as technical support in the accumulation or attenuation of sound tensions. Addressing this dimension involves two different parameters (eg. pitch and rhythm) in an inclined plane. Using obliquity is possible in all syntactic categories; its establishment involves factors such as density, agogic, music dynamic. Moments like this are found in the works of Aurel Stroe (eg. Arcade).

A new way of distribution of the sound objects (in monody, homophony, polyphony or heterophony) stipulates the dependence of the sound material to the density of noise events. There were therefore individualized three areas of defining musical syntax:

- detail area,
- agglomeration area - embodied in textures (which are perceived globally)
- rarefied area – targeting the distribution in the large area of the sound objects, creating a feeling of discontinuity in perception.

Returning to textures, the maximum density area, we specify that the genre imposed semiographic processes (associated with dense, congested visual images) outlining a new kind of writing. The emergence of texture in music is closely linked to the introduction of mathematical concepts that facilitate the realisation of such constructions.

With the desire to find new ways of expression, composers often approached open forms in their works. Through visual factors or using text, they suggest the interpreters the possibilities of formal articulation of the works. We note some ways of establishing architectural structures involving the improvisation factor: Adrian Raţiu noted in Monosonata I: “The interpreter can determine as a starting point any of the 15 sections of the piece. The succession of the following sections is to be played until the end of the piece, then follows a return to the first sections, leading back to the starting point. The interpreter has the possibility to set the tempo of the work: slow-fast-slow, or vice versa, several successive sections can develop in a single tempo. Optionally after the development of the entire musical
material, one section will be resumed with conclusive effect, but in a tempo opposite to that used in the first exposition.”

We consider that the author creates a circular form in this work. Circular permutations will be determined by the composer Mihaela Stănculescu Vosganian in *Trio Contraste pentru saxofon, pian și percuție*, where the opposing groups (continuous - discontinuous, in time - off time) are embodied in rhythmic categories (Aksak I, II, III - Rubato I, II, III) and are alternated either simply (ARA) or in a complex manner (ARI AII RII AIII RIII). The desire of the author is that for a complete, adequate perception of this work, the piece should be integrated in a concert, so that it can be alternated with other pieces between the sections mentioned.

Eduárd Terényi in *Staccato e tenuto* addresses various geometric shapes (triangle, trapezium) from whose intersection follow numerous possibilities for combination of elements resulting in the boxes thus constituted. The form is open, similarly to other parameters (pitch, tempo, dynamics) that develop within limited frameworks.

**Self-valuation test 1**

Answer to the following question:

a. Please mention two attitudes in composition from the twentieth century music?

b. Specify a classification of notations manifested in twentieth century music (e.g. Iwanka Stoianowa in the study *Musique, graphie, geste*)?

c. What are the elements of extra-musical notation which represent sources of inspiration for the performers in improvisation?

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LEARNING UNIT 2:

SEMIOGRAPHIC CHARACTERISTICS IN THE ROMANIAN MUSIC OF 20TH CENTURY

Contents
6. Aspects of vocal writing in 20th century Romanian music
7. Semigraphy in Romanian pianistic works of the 20th century
8. Notation of pianistic technique in Romanian works of the 20th century
9. Sonorous effects in the piano works of the 20th century
10. The cluster effect - connotations of performance and musical notation
11. Ornaments in piano works

Objectives of the Learning Unit

Upon reading this unit the student will:
- be able to form an overview on 20th century Romanian music;
- recognize the vocal and instrumental effects in modern and contemporary creations;
- learn about the evolution of the cluster phenomenon in music;
- have an overview of the innovative aspects in vocal / instrumental technique;
- gain knowledge about music creations by Romanian composers, written for piano;
- realize a classification of musical notations from the twentieth century to contemporary music.

Summary of the learning unit

On the whole, 20th century music brings an excessive technical approach of the voice, which requires a much work for drafting the sound, and the considerable broadening of the vocal writing, leading to the creation of interesting sound effects.

The complexity of the creative phenomenon in 20th century music could no longer be rendered with the help of traditional notation elements. According to the new composition techniques, the contemporary score acquired a large number of semiographic procedures, which consist either in new symbols (lines, geometric figures, ideograms), or in an appeal to mathematical figures or relations, frequencies, algorithms and other similar elements which have almost completely driven usual notation signs out of the score. The Romanian pianistic works, characterized by a diversification of the musical expression, manifested an interest in the exploitation of timbrality and stood out by approaching the piano from a new perspective: that of an instrument capable of many timbral colours and of a large expressive variety.

In the Romanian 20th century music the pianistic technique is approached under various aspects and treated as a primary request facilitating the gratification of certain expressive needs. Composers gave up on the traditional ideal of cultivating a round, no roughness pianistic sound and embraced the aesthetic principles of universal contemporary music. A proof in this respect can be found in the works where, in order to create the artistic image of every detail, a very judicious choice of tone and the cultivation of extra qualities are necessary: malleability and multi-direction of the pianistic apparatus. In this unit we refer to the requirements of conceptual-stylistic knowledge of the interpreter, as well as clarifications.
on the notational system used by the authors.

The pianistic creation of the 20th century, by the numerous techniques used in order to obtain various effects, gives any interpreter intense preoccupation. Starting from the arsenal of basic elements accumulated along the past centuries, the 20th century Romanian scores also began to use elements of subtle differentiation of attacks, different ways of execution, thus creating possibilities of highlighting the new sounds. From the necessity of enriching the sonorous image of the works, the composers initiated new expressive effects. Using the following tools: diversifying the sonorous dynamics and valorizing the extreme areas of human hearing; amplifying the sonorous masses; exploiting all the constituent parts of the instrument; intensifying the production of noise in music; extending the musical scale by employing electro-acoustic devices. The new concepts of musical construction are embodied in the minutely elaborated experiments on this instrument and rendered concrete in new sonorous effects, expressed through innovative notation procedures.

In the contemporary Romanian music ornaments have received a new direction of manifestation aiming mainly at virtuosity and reflected in their construction and high speed of proceeding. Irregular, abrupt, interrupted sonorous actions, with sounds as dissonant as possible or embraced by the pedals and executed at maximum speed, these are actually the main characteristics of the contemporary piano music ornaments.
6. ASPECTS OF VOCAL WRITING IN 20TH CENTURY ROMANIAN MUSIC

The vocal creation of the twentieth century points to the various possibilities of obtaining a more expressive musical discourse, resulting in execution techniques, sound effects and extremely diverse timbre colours.

Even from an initial reading of a score we notice the tendency to broaden the vocal writing, which calls for a development previously destined for instruments; we remark difficulties such as: the extent to the maximum of the ranges specific to each category of voices, difficulties in intonation and rhythm, or various vocal emission requirements, which need a rigorous work in elaborating the sonorities.

Frequently, the appendix of such works displays an abundant catalogue of technical terms, which includes multiple anatomic and physiologic possibilities for producing audible articulations with the voice: labial, labiodental, dental, prepalatale, pharyngeal, laryngeal, etc. Also, sometimes the composers detail the various ways of forming the sound: nasal singing, rolling the rs - Cântăreaţa cheală by Dan Voiculescu; singing in a gasping manner - Amorul doctor by Pascal Bentoiu; hoarse voice, thickening the sound, with white incantation voice, with loud free voice, with natural voice - Farse medievale by Cristian Misievici.

These requirements sometimes discard the precepts of bel canto, outlining a new direction of vocal technique based on declamation, reaching Sprechgesang and vocal effects of great variety. Voice emission becomes therefore a complex process, in order to resolve all technical and artistic challenges required by the score, where a thorough education represents a necessity.

With the intention of diversifying the timbre, composers employ unique solutions in the choice of voices that are to render the musical content, and in addition they dissociate the categories of voices on criteria such as: in relation to the stylistic period in which is specialized a certain voice; according to the level of vocal training of the interpreter (uncultivated voice, bel canto impostation, etc.), by using voice features specific to non-European cultures.

Such technical vocabulary is encountered in the choice of characters in Aurel Stroe’s Orestia II, where the trend of vocal specialization following distinct stylistic directions is obvious: Oreste is a baritone, preferably a voice specialized in Baroque music rather than a twentieth century opera voice; Clytemnestra: deep mezzo voice, amplified by a portable
microphone; Aegisthus: basso profundo, preferably a natural voice, less cultivated, in the manner of old Russian cantors or certain singers of negro spirituals; Choir: upper voices, jazz and rock voices, lower voices, harsh voices, chest voice, almost non-vibrating.

There are inserted consistent indications for sound realization, noted by signs that sometimes differ from one composer to another, as well as using a rich vocabulary of expressions detailing sound effects such as:

The falsetto represents a vocal technique offering the possibility of extending voices in the high register, creating a distinct timbre in the male voices (especially in the tenor voice). 20th century composers valorise in many instances this vocal effect, obtained by restricting phonation, for instance: T. Jarda uses the falsetto in Frumoase mâini, L. Glodeanu in Zamolxe claims for the execution of sounds as high as possible (in contrast to sounds as low as possible) and C. Misievici uses the falsetto in the numerous recitatives of the opera Farse medievale.

Vibrato, tremolo, are effects characteristic of instrumental music, being used mainly in the stringed instruments. If vibrato is natural to the voice, tremolo is performed almost like vibrato, requiring a change in the intensity of sounds, rhythmic and spasmodic contractions of the larynx and of the resonators. Pascal Bentoiu in Amorul doctor asks for glissando with tremolo, delimiting thus the two ways of execution.

The vibrato, an effect that brings a regular fluctuation in the sound, is found noted in contemporary scores in soft nuances, which creates technical difficulties since it is proper to the strong contractions of the muscles, therefore to the strong nuances. In terms of execution, the vibrato bears light resemblances with the vocal trill, requiring the fast achievement of oscillations in pitch, intensity and timbre. This explains the use of the trill (conceived as an equivalent of the vibrato) in combination with vibrated sounds (an element inherent to each voice in part) by A. Stroe in Orestia II.

The vibrato in the vocal creation of the twentieth century is a sound effect to be technically controlled, for authors frequently note indications such as: vibrated sounds: V. Timariu - Muzică pentru Eminescu, poco vibrato in crescendo: A. Stroe - Orestia II; molto vibrato with glottal attack, vibrato ad libitum, male voice vibrato: C. Ripă – Musichia, combined with Sprechgesang, intermittent execution or tremolo, framed in elaborated dynamic profiles, vibrato lento: C. Taranu - Frunzele eu ţi le-am dat.
Glissando \( \text{\textbullet} \) is the effect that facilitates transitions from one register to another (low - high or vice versa), being sometimes graphically outlined by signs that suggest not only the direction but also the density of intermediate sounds (eg L. Glodeanu in Zamolxe delineates dense glissando from thin glissando).

This ornament can have specified limits or ad libitum and is commonly associated with other vocal effects: held glissando on a spoken sound (E. Terenyi - Cântec de priveghi); glissando in legato: Eduard Terenyi - Cantata; glissando quasi parlato: P. Bentoiu - Vis; slow glissando: Șt. Niculescu - Aforisme; glissando preceded by appogiaturas: C.Rîpă - Musicia; annotated with multiple indications of dynamics (S.Toduță - Duce-m-aș, nu știu drumul).

The emotional content of a work is rendered through the dynamic profile, agogics, phrasation, an important role bearing the interpreter that decodes and translates on the sonorous level the graphical symbols contained in the score. Often composers combine these elements with indications as close as possible to the state of mind that is intended to be created: sad, painful, tender; at other times the works receive titles corresponding to certain emotional states.

For example C. Țăranu in Epitaf asks for: doloroso, calmo, esintando, grave; P. Bentoiu in Obârșii - dramatico, misterioso, gaio, ingenue, giovanile, pesante; G. Costinescu in Fabulă - scherzando, deciso; S. Toduță in 10 coruri pe voci egale - dull, colourless; H. Jerea in Zâne de rouă - con passione, delicato, divotamento, con dolore; Myriam Marbe in Baladă a ziselor mărunte - ironico; M. Jora in Alchimistul - serioso; Carmen Petra Basacopol in Zorile și mâna cerbii de foc - affettuoso con un poco di fretta, tranquillo; L. Profeta - Artiștii, agitato, doloroso, nostalgico.

The momentum created by gestures, verbal or stage actions of the interpreter (such as palm on the mouth, whistling, screaming, crying, laughing, interjections, onomatopoeia) creates scenic effects to be retrieved later also in the interpretation of instrumental music. In this context we can mention the noises produced by various actions of the interpreters: stamping and tongue clicking with the palm covering the mouth; C. Cezar - Flăcări și roții; finger snaps, foot stamping, or with the hand on a table; E. Terenyi - Gypsy Songs; trotting,
indoor usual noises made by a group of people (chairs drawn, papers rustling, etc.); C. Rîpă - Musichia.

In the musical discourse, the combination of the sung word with the spoken one, resulted in Sprechgesang, was a common technique in opera music of all times, a practice that gave rise to melodrama, where the recitation of spoken texts was associated to a musical background.

In the technical vocabulary of dodecaphonic and postserial music the notion of Sprechgesang has a limited sense, being considered the only element of rubato in the context of ultra-determination of serialism.

Entwining speech and singing in contemporary musical discourse makes use of: declamation, whispering, murmur, shout, special emissions of vowels and consonants; execution using multiple indications (eg. smack of tongue against the palate, slaps on the mouth) that will require appropriate graphic signs, most often than not different from one composer to another. For example I. O. Tuţuianu in Rugul pâinii, a choral poem consisting entirely of overlapping recitations, in singing or not (in diverse rhythmic formulas - 3, 4, 5, 6-et, combined with normal divisions) giving rise to mobile clusters, notes minutely the different possibilities of transition from one sound to another (glissando, portamento, tremolo) using his own signs, explained in the appendix of the piece.
Specified approximate pitches during moments of Sprechgesang are met also with other composers such as: C. Țăranu Supplex, St. Niculescu Aphorismes d’Héraclite, I.O. Tutuianu De doi.

Sometimes composers skipped entirely the mention of pitches, foreshadowing with approximation the rhythmic profile. In this way is noted the Sprechgesang by the composer C. Țăranu in Horea.

From expressive needs, the authors frequently resort to inflections close to theatrical speech, using intonations lower than the semitone, either strictly specified or lacking from the score.

On this concept is based Ritual pentru setea pământului by Myriam Marbe, a work built not on a proper melodic structure, but on rendering of a musical expression completed by the sonority of words or syllables. The composer employs microintervals in sections with dramatic character: Jelania Scaloianului, Invocarea pământului, in order to underline expression, bringing unsynchronizations of sung recitations, a procedure specific to heterophony.

The composer M. Moldovan in his Obârșii employs Sprechgesang, noted in boxes indicating the ad libitum execution of the fragment, all these moments being built on oscillations of quarter tones. The appendix states that the oscillation in microtonic music will be indicated by setting the pitch of a whole note, accompanied by undulating lines.

The entwining of speech and singing resulted in the outline of a mixed style of execution, according to the new means of musical drama. German music foreshadows a distinction between the played sound (Gesangton) and the spoken sound (Sprechton), joining effects such as: the use of declamation, whisper, murmur, some special emissions of vowels and consonants such as:
shouting, whispering - the composer C. Rîpă in A-Z (Abracadabra)

intensive whispering - S. Toduţă: Cântecul spicelor, where the author indicates “to be recited at the beginning through intense whispering, then a gradual crescendo leads to speech, and intonation is also raised”

shouting, whistling, A. Stroe Orestia II

intonated speech, singing with sounds resembling speech - Liviu Glodeanu Zamolxe

speaking: with wittiness, with disgust, with concern, with effusion, aside, carefree, with false politeness - P. Bentoiu Amorul doctor.

To these expressions aimed at the vocal timbre in detail, the composers join various indications of execution (nasal resonance, with glottal strokes etc.), even with varying degrees of opening the mouth: boca chiusa - L. Profeta: Artiştii, mouth half open - C. Ţăranu: Epitaf. Sigismund Toduţă in La curţile dorului (poems by Lucian Blaga) distinguishes between: con bocca chiusa; con bocca aperta e tono scuro; con bocca aperta e tono meno scuro; con bocca aperta e attacco glottale; con bocca chiusa e denti stretti.

On the whole, 20th century music brings an excessive technical approach of the voice, which requires a much work for drafting the sound, and the considerable broadening of the vocal writing, leading to the creation of interesting sound effects. Many of these experiments have remained at the level of vocal experiments that seek to explore the expressive musical value of the voice. The promotors of these innovations argue that experimenting with novel formulas extracts vocality out of its “stiff” traditionalism. Only that what is apparently a factor of progress sometimes loses from sight the expressive-human side of the voice. Certainly one of the fundamental precepts of vocal creation of the twentieth century is the use of Sprechgesang, on the grounds that the use of speech, of the shout and of onomatopoeia within the configuration of the musical discourse has the capacity of rendering a large sweep of feelings.

The Romanian composers were receptive to innovations in sound manifested on the level of timbre - embodied in sound effects, composing innovative solutions for the vocal genre.
7. SEMIOGRAPHIC ASPECTS IN ROMANIAN PIANISTIC WORKS OF THE 20TH CENTURY

The complexity of the creative phenomenon in 20th century music could no longer be rendered with the help of traditional notation elements. According to the new composition techniques, the contemporary score acquired a large number of semiographic procedures, which consist either in new symbols (lines, geometric figures, ideograms), or in an appeal to mathematical figures or relations, frequencies, algorithms and other similar elements which have almost completely driven usual notation signs out of the score. The Romanian pianistic works, characterized by a diversification of the musical expression, manifested an interest in the exploitation of timbrality and stood out by approaching the piano from a new perspective: that of an instrument capable of many timbral colours and of a large expressive variety attainable through:

· the utilisation of all physical and acoustical resources of the instrument;
· comprising along with the piano sounds the sounds and noises from the surrounding nature;
· the tendency to incorporate in the field of affective states an ever increasing range of human psychic states and aspects of contemporary life evoked in their temporality or atemporality;
· attempts to suggest the movement, the visual, the spatiality of musical events.

The fact that our century’s music knows no precise boundary in the relationship between the composer and the performer offers the possibility of integrating the musical message in an original vocabulary, so that in order to receive the musical message the performer must resort to an informational baggage gathered along an entire musical, social, human and affective practice. At the same time, contemporary semiographic communication faces the necessity of discovering its meanings through an association with other arts, phenomena or experiences.

Significant moments in the evolution of semiography

During its development Romanian music has exhibited a rich dynamic of stylistic currents which influenced the formation of entire generations of composers and of some remarkable personalities. As its own experience increased and its contacts to the universal creative environment became richer, new creative individualities stepped forward, causing a
permanent renewal and enrichment of the genres and of the expressive possibilities. Since its beginnings, which date back to the first decades of the previous century, Romanian pianistic art has known a continuous evolution, the climaxes of which are attributed both to George Enescu’s works and to those of some composers of the following decades.

George Enescu, [1] a composer “deeply integrated in the ancestral sonorous background and at the same time in the highly elevated climate of modern art” adopted with a great amount of sensitivity and fantasy the melodic and rhythmic features of the folk music.

His piano works range along several distinct compositional stages, during which the methods of instrumental approach undergo, from the first works to the mature ones, obvious transformations. In his first pieces we notice the influences of impressionist music, which are nevertheless organically assimilated in his specific language: Suite no. 2 op. 10 in D (1903); Suite no. 3 (without opus number) written between 1913-1916. Later on we can notice features of Romantic music, concretised in passages of instrumental bravery, such as in Variations for Two Pianos on an Original Theme Op. 5 (1899); Prelude, Scherzo and Impromptu (1900).

Enescu’s piano works find their own track in the Piano Sonatas op. 24, written between 1924-1934, which reflect a stage of crystallization of his quests in piano music, obvious in his synthetic power and in the absolutely personal mode of elaborating style elements.

Important moments regarding the improvement of his pianistic art are marked by the following works: Sonata no. 3 for Piano and Violin and the Suite Childhood Impressions. These works include elements specific to his general instrumental style which belong with predilection to violinistic writing such as: unisons, trills, tremolos, the improvisational character (rubato), abundant melisma (especially in the slow parts), the preference for dimmed sonorities produced with the help of the pedal play etc.

The richness of the interpretation clues in his piano works has facilitated sonorous ventures in the timbral plan (subtly varied), concretized in effects which were later explored throughout the 20th century. For this reason Enescu may be considered a forerunner of the sound innovations developed in 20th century music, even if as far as notation is concerned these configurations are clad in the traditional procedures.

For example in Novel Works (1915) the piece Melancholic mazurka brings: the notation of the effect of prolonging the vibrations of a sound (intervals, tunings etc) through
legatos without a fixed stop-point (quasi ad libitum); pedalization indications differentiated through particular signs.

In *Sonata III for Piano and Violin*, beside the chromatic cluster with specified limits (notated with note heights, not with special symbols), we encounter frequent oscillations of two sounds or tunings, as well as the extremely rapid repetition of a single sound, such effects being characteristic of string and percussion instruments.

In *Piano Sonata in F-sharp minor* (1924) the author uses the symbol specific to string instruments (from where it is taken) to notate flageolet sounds, which necessitate an execution *en resonance, sans frapper l'accord*.

In *Sonata III for Piano and Violin*, as well as in the Suite *Childhood Impressions*, Enescu accomplished a maximum enhancement of the expressive virtues of the doina and the ballad by means of improvisational configurations unrestrained by rhythmical symmetries, which are clad in richly ornamented forms combined with features of the recitative, evoking on the whole characteristics of Romanian folk music. To this purpose he often synchronizes different expressive plans such as: *ben sostenuto cantabile, con grave espressione, ben piano armonioso* (in the first of the two previously mentioned works), which necessitate simultaneity in a *tempo con slancio, ma ben sostenuto*.

In the first decades of the 20th century, together with George Enescu, musicians such as Mihail Jora, Mihai Andricu, Sabin Drăgoi, Marțian Negrea, Paul Constantinescu, Sigismund Toduță brought Romanian music to the level of the European art, their main impulse being the creation of a balanced relationship between the national aspirations and the inner requests of the sonorous art. Within their works one witnesses an evident modernization of the musical language, which nevertheless preserves its relation to the folkloric element, even though the latter undergoes a substantial transfiguration.

perceptible sounds come un soffio to **fff** possibile), the graphic differentiation of the phrasing through dotted lines (compared to the traditional articulation), scripts developed over three and four staves, timbral variations (through the subtle utilisation of the pedals and of the attack manners), the exploitation of the different colouring of the sonorous registers.

With a view to asserting the national character within the context of universal musical values, a path opened by G. Enescu, M. Jora, Marţian Negrea, the pianistic repertoire became considerably rich due to works of an amazing diversity such as: Marţian Negrea: *Sonatina for Piano op. 8*; Mihail Jora: *13 Preludes for Piano op.42* and *Sonatina for Piano op. 44*; Tudor Ciortea: *Sonata no. 3 and Sonatina for Piano*; Dumitru Bughici: *6 Pieces for Piano*; Alfred Mendelssohn: *Comments for Piano*; Sabin Drăgoi: *12 Miniatures for Piano*.

The evolution of the Romanian piano works reveals thus not only transformations of the musical language, but also technical, colouristic and implicitly expressive innovations. Their value however does not arise from the degree of folkloristic authenticity (the authors had no such ends in view), but mainly from sonorities foreshadowing particular stylistic elements due to confer a certain specificity to the patrimony of the Romanian piano works.

Through valuable musical pages, the Romanian composers participated in the adding of new aspects to contemporary music: Zeno Vancea in *Toccata for Piano* (1959) with an obvious tint of virtuosity through the richly ornamented tunings which denote an improvisational character; Mihail Andricu in *Suite for Piano op.81* (1959) with distinct signs for *quitez et laissez vibrer*; the same effect in Aurel Stroe’s *Piano Sonata* (1955); a large dynamic diapason with the differentiation of *bp – mp – p – pf – bf – mf – f* in Stefan Mangoianu’s *Burlesque; Expression study* (1958.)

**Innovating** sonorities are rendered in the 50s and 60s by the composer Alexandru Hrisanide in the works *Klavierstücke 1-3* (1956), where the author approaches within an extended setting (of 3, 4 staves) such effects as: clusters (within precise boundaries), sounds with prolonged vibration, varied and differentiated operation of the pedal system, using individual symbols and notations with ligatures. In the *3 Piano Sonatas* (I between 1955-56, II – 1956-64, III-1959) the same author gives up inscribing the musical text on the stave and lets the performer decide how to play certain parameters (height, rhythm, form). For instance, for *Sonata I* the author mentions that: the interpreter may perform the sonata wholly or partially, as the succession of the parts is not compulsory. The dynamic plan is exigently fixed, through such indications as: senza colore, oscuro, sombrio, **fff** olímpico, **ff** durabile etc.
and in order to render an expressive execution that remains faithful to the text, the composer sometimes annexes sonorous correspondents for the timbre which needs to be rendered (horns, oboes) or expressive ones in textual form: flames ... dualities etc. As he considers solving the problems linked to the timbral parameter to be essential, the author sometimes claims a certain construction of the instrument: ped. III Steinway.

Tendencies to develop, in a creative manner, the conquests of modern art, to fructify them according to the specific features of our music are highlighted in such works as: Modal Piano Inventions for Two Voices (1963) by Gheorghe Costinescu; Sonata No.2 (1966) by Liviu Glodeanu (with original differentiations in the pedal symbols); Suite II for Piano (1966) by Remus Georgescu (abundant use of the glissando); Piano Sonata (1966) by Dan Constantinescu; Sonatina for Piano op. 55 (1966) by Mihail Andricu; Eight Small Pieces for Piano (1964) by Vasile Herman (who exploits the grave register and often lets sounds resonate) and Music for Piano, Percussion and Brass (1968) by Aurel Stroe, a reference work due to the great variety of procedures in which the keyboard is operated (by different parts of the human body), as well as the highlighting of new sound effects.

In Piano Sonata (1969) composer Myriam Marbe frames in a complex writing on three staves sounds allowed to resonate along extended fragments or clusters written with note heights. We notice the volume Piano Pieces [3] (1962) belonging to the above mentions authoress, in which “the purpose of the work is the gradual preparation of the student towards the understanding of modern music [...] opening the taste towards a profounder analysis, towards a multilateral musical culture.”

We must mention that in order to achieve this purpose the authoress conceives pieces with differentiated gradations, to which she annexes the indications necessary for understanding and deepening the works. The volume was meant to be a theoretical and practical guidebook for 20th century music, with the didactic purpose of initiating the beginner in the following issues: A Few Words on Interpretation; About Modes; Some Harmonization Possibilities; The Simultaneous Use of Several Modes or Tonalities; Legato and Staccato; Rhythmic and Melodic Variations; Several Aspects of Polyphony; Examples of Polymetry. [3]

In 20th century music serialism had a forceful influence on the predetermination of sounds, which was technically initiated by the parameter of height and continued with the other parameters: duration, intensity, timbre etc. The art of the Romanian composers subordinated these characteristics to the necessities of their own style, more precisely
serialism of a modal essence, in which we encounter transfigurations of the autochthonous musical heritage. Composers such as: Ştefan Niculescu in *Inventions for Clarinet and Piano* (1963), Cornel Tăranu in *Contrasts I and II, Sonata ostinato* (1961), developed a labour that was essentially serial in nature, based on the principle of the maximum organization of the detail and concretized in special sound effects, with new graphic correspondents.

Many Romanian composers approached textures (the glissando effect is compared to the phenomenon), and the following composers wrote works of texturated nature: Liviu Glodeanu, Mihail Moldovan, Ştefan Niculescu, the origin of which is attributed to the act of group singing, where the repetition of a melodic formula, of a «mode» made up of several sounds, “(...) gives the impression of a plurality of voices. The origin must therefore be sought in improvisation, unison, the world of modes (diatonic or chromatic), the chanting repetition of formulas of folkloric essence.”[4]

Starting with the 70’s, the works of all composers exhibit a phenomenon of assimilating the initiated effects and techniques either through individual notations (unique symbols), or through traditional semiographic elements. Works comprising such effects: Nicolae Brânduș – *Sonata for Two Pianos* (1978); Diamandi Gheciu – *Piano Suite* (1975); Ştefan Mangoianu – *Three Pieces for Piano* (1972); Liviu Comes – *Melody* (1970).

However, individual graphical solutions also gained ground, embodied by symbols which confer the performer improvisational liberties, as in the works of: Cornel Tăranu – *Dialogues II* (1972), who uses particular signs for *lasciando vibrare* or involves the performer in actions such as *criard, come une exclamation*; Vasile Herman – *Sonata II for Piano* (1971) who uses values within clearly stated limits or *ad libitum*, varied types of *glissated clusters*, actions inside and outside the piano; Eduárd Terényi – *Pianistic games* (1974) with pages that contain graphical elements as well as varied sound effects.

Composer Adrian Ratiu in the work *Piano Music* (1971) which includes several independent pieces: *Accordic Study, Monodic Interlude, Toccata, Monosonata I and II, Constellation*, resorts to numerous new symbols, timbral combinations, liberty of form. For *Constellation* for instance the author states: the piece may be executed in three forms: piano for two hands, 2 pianos (for four hands) and piano + tape recorder.

Aurel Stroe in *Three Pieces Synchronized for Clarinet, Violoncello and Harpsichord (+piano)* reunites 3 different works, each of which is entrusted to one instrument – clarinet, harpsichord (+ piano) and violoncello – which evolve independently. The only means of
synchronization is given by the indication of the duration in minutes and seconds, which is written for every voice. Rigorously abiding by these indications, the ensemble synchronizes on its own.

In Liviu Dandara’s *Sonata for a Single Piano* (1974) the author fructifies the effects deriving out of the direct action on the instrument’s chords, stipulating repeated (and variedly notated) glissandi, combinations of chord actions (pinched, blocked, struck, plucked etc.). He ingeniously transposes the flageolet in the piano technique: blocked grave chord and emission with the help of the key.

The interference of the sound effects originating in the piano-orchestra relationship is revealed by Dan Constantinescu in *Concert for Two Pianos and Small Orchestra* (1979), an impressive work due to the associating modalities of the sounds and the ingenious use of the timbral colours.

The interpreter’s freedom of improvisation is reflected by composer Nicolae Brandus’ notation in his work *Phtora* (a term meaning power), where the five component pieces involve an elasticity of the formulas of instrumental ensembles: *Durate* – for an indefinite number of instrumental groups; *Match* – for two teams of instrument players; *Cantus arts firmus* – for piano and other instruments; *Ideophonie* – for voices and instruments; *Soliloque* – for any kind of structure.

The matters researched by Nicolae Brandus are present under a different form in Octavian Nemescu’s work *Concentric*, which comprises within six concentric circles all the degrees between the absolute invariability and the total variability of the four sound parameters (height, durations, intensity and timbre), notated by the initials H, D, I, T. All the moments represented by rectangles (which include one or more parameters) constitute border cases of certain improvisational situations to be found in contemporary creative works.

These works have revealed a new sound parameter – order [5] – that the composer may choose to pre-establish or not, both in the case of micro- and macrostructures. We find similar moments in Alexandru Hrisaniade’s *Soliquium X 11* where the elements established by the composer constitute two types of structures: immobile sonorous fascicle and mobile, directed sonorous fascicle; the same can be said about Ştefan Niculescu’s work *Heteromorphy*, where new elements of compositional technique are ably handled. Important mutations take place inside these musical languages, determined to a certain extent by the proximity and the fusion of different arts.
The complex musical thinking, the serializing and modal chromatization procedures, the creation of circuits in micro and macro-structure determined music’s evolution towards open formulas. Out of the desire to promote of a new generation of Romanian composers, the publishing house Editura Muzicala printed in 1983 a volume of *Pieces for Piano by Romanian Composers*, which includes the following works: Doina Nemţianu-Rotaru: *The Poppy Crossroads*; Fred Popovici – *Concentrics*; Marina Vlad – *Rondo*; Mihai Vîrtosu – *Toccata*; Irina Hasnaş – *Melismas*; Maia Cioabanu – *Da suonare*; Christian Alexandru Petrescu – *The Bagpipes of the Old, Tropota for Piano*.

Starting with the 80s many of the composers’ preoccupations were oriented towards the simulation of an explosive sound. The notation is virtually contained in the discourse mutation, when one ascertains the privilege offered by qualitative accessories such as:

- the spatial distribution of the sounds,
- the density of the writing associated to obvious visualizing tendencies,
- the involvement of the performer in the creative act.

The systematization of the notation procedures became hard to accomplish due to the original suggestions offered by the composers (leading to multiple solutions for the same sound phenomenon). We notice such works as: *Preludes for Piano* (1989) by Vlad Opran, *Triplum III for Clarinet, Violoncello and Piano* by Ştefan Niculescu, in which the piano parts are struck, beaten, handled rapidly, struck with varied positions of the hand: with the palm edge, with the open or circular palm etc. Numerous composers were attracted by intermediary solutions: Myriam Marbe: *Music for Harpsichord and Choral Ensemble* (1985); Irina Odăgescu-Ţuţianu: *The Torch Battle* (choreographic poem) 1980; Vasile Spâtârelu: *Pieces for Piano*; all these are works in which not the search for sound language or for sound effects contribute to the renewal of the piano music, but the presentation, in the sphere of artistic thinking, of elements meant to transform certain emotional experiences.

Aiming at initiating children in the compositional craft of 20th century music, at stimulating their imaginative-improvisational capacity and even their acting skills, composer Dan Voiculescu notated a cycle of piano works *A Book with no End* (1988) where the title suggests the objective proposed: *Atonal Piece; Symmetry; Heterophony; Three Storeys (Scheme of a Composition); Improvisation (Let’s Make a Composition); Actions; Imaginative Piece; Points (Free Durations), Piece with Speech, Figurated Accords (One Should Figurate) etc.

**Tendencies of comprising visual notions in music**

Whereas visual arts and literature absorbed into their configuration features belonging to science and philosophy, musical art connected its particular means of representation to dimensions belonging to other arts, especially to the visual ones. Therefore musical time itself is subjected to a radical change, even though it is a notion specific to music both in a general meaning (music is a primarily temporal art) and in a restricted sense (where it is merely a projection in the receiver’s mind that corresponds to its unfolding).

A new time direction is noticeable in the 20th century creative repertoire – atemporality – a concept opposed to temporality. Since this aspect refers to a meaning inappropriate for the art of sounds, 20th century aestheticians named the concept transtemporality, by means of which “the creators’ look was directed towards the archaic civilizations, whose rule or life norm was the non-change regarding their aspiration to eternity.” [6]

This aesthetic orientation gave birth to the non-evolutive music, whose constitutive model relied on musical formulations belonging to E. Satie. He requested in his work *Vexations* that 32 measures be played without variation 840 times.

The adepts of this vision processed the idea in their particular languages, by means of traditional notations or with new symbols. Among the works relevant for this genre we can mention: Aurel Stroe – *Concert Music for Piano, Percussion and Brass*; Horaţiu Rădulescu – *Astray for Saxophone and Prepared Piano*; Corneliu Dan Georgescu – *Eight Static Compositions for Piano*.

The new philosophical, aesthetic and scientific concepts that evolved in the 20th century (connected to the idea of time, space and universe) gradually come to light in the musical field as well and result in a fertile communion between different arts. The created
interrelations such as: music - visual arts - literature triggered the appearance of new orientations or even of radical changes of the creative concept (for example: textcomposition, photocomposition, kinecomposition, electronic music). As a natural consequence of the above mentioned interrelations, certain notions pertaining to the visual world – space, colour, form – penetrated music, leading to the formation of a new system of symbols.

Space, the pair-notation of time (used especially in the works of the serial music representatives, such as Pierre Boulez) was considered an abstract element, inexistent in the musical reality which is primarily a temporal art. Space was initially approached from a theoretical viewpoint, in the sense of an imaginative projection of the musical processes that can unfold in the creator’s, the performer’s or the listeners’ mind.

The conception of some notational elements led to the formation of a new semiographic system, within which space-placed symbols were foreshadowed that each composer treated in a particular manner. The notation of the spatiality-connected elements was accomplished by the adding of such terms as: up-down (indicating heights) or close-far (for intensity). In some composers’ writings the spatial aspect was dealt with by means of stereophonic sonorities. Such an effect can be obtained through a certain placement of the instruments inside the score, which may be chosen depending on their position on the stage or in the room.

The formation of the spatial dimension is facilitated by the use of electroacoustic devices, by means of which sonorities can be distributed in multiple directions, so that the listener is under the impression of being in the middle of the sound sources. Stereophony, an electroacoustic technique for the spatial reproduction and the direct transmission of sounds, knows new aspects thanks to electronic music and facilitates thus the creation of the spatial dimension in the art of sounds.

Many works of the universal literature have been created following this concept, that is to say they are based on stereophonic effects: K. Stockhausen – Gruppen für drei Orchester or I. Xenakis – Terretektorh, and in Romanian music: Aurel Stroe: Arcades şi M. Istrate: Concert for Two Stereophonic Orchestras.

The projection of spatiality in panistic notation was done on two levels:

a) an elementary one – considered to be abstract and concretized in graphic symbols conceived and understood by means of distances and elements of spatiality such as:

approximate heights in relation to a given intonational mark: Liviu Dandara – Sonata
for a Single Piano:

- the limit of register use: Eduárd Terényi *Pianistic Games*
- bigger or smaller distances between the various note values, depending on which duration is shorter or longer: Hans Peter Türk – *Resonances for 24 Wind Instruments, Celeste, Vibraphone and Glockenspiel*;
- a duration equivalent to the length of a horizontal line: Ştefan Niculescu – *Tastenspiele für Klavier I*;
- ornaments (glissandi) of an approximate duration related to a visual mark given in the score’s legend: Aurel Stroe – *Concert Music for Piano, Percussion and Brass*;

b) a general, concrete one, manifested in the composers’ attempts to obtain the spatial sound through: the different placement of the piano or of the public in the concert hall (on the left, on the right, square-shaped, circularly or amphitheater-shaped), all of these being compositional techniques conceived in order to create the sensation of space.

The colour effects were concretized in 20th century music in different techniques of articulation and of operating the instrument, through technical procedures that permitted the attainment of such contrasts as: light-darkness, ferocious, brutal, transparent sonorities etc. Noticing the multitude of terms used in order to obtain colour contrasts, we can assert that: whereas initially this task belonged to the pianist, who by varied operating techniques had to differentiate the sound timbre (even for the same degree of sonorous intensity), later on the accomplishment of the timbral colour was substantially facilitated by the presence of some exterior elements (such as objects added to the instrument) capable of creating sonorous contrasts.

The preparation of the piano proper, its handling with numerous intermediating articles (rubber, wood, glass, paper, sticks, electroacoustic elements) gave the possibility of obtaining new sonorities regarding the colouristic aspect: plain, dimmed, brutal, glassy sonorities, different noises.

The idea of colour concretely associated to the musical text does not surprise in the contemporary works, as the synchronization of light and colour to the musical execution constituted one of the directions adopted in the world of musical representations in the 20th century. To this purpose, composer Liviu Dandara uses in his piece *Sonata for a Single Piano* reflectors of different colours (green, red and yellow) fixed in the piano’s resonator and oriented towards the big lid, and asks that they be operated differently (according to the
colours) and only in certain moments of the piece.

Another dimension of 20th century music refers to the field of form, since creating a structure outside of time was the desire of many musical works. [8] This domain gives birth to ideas which will generate diverse orientations. Some composers, after Iannis Xenakis’ model, follow objective laws of structural transformation by applying certain modern mathematical theories to music (for example Anatol Vieru, Dinu Ciocan). Others, through their tendencies of score graphicization, brought to light new constructive aspects, bringing into the present dimensions used in music centuries ago. Starting from the necessity of placing sonorous objects in a balanced, symmetrical manner in relation to an (imaginary) axis, musical language will converge to distinctive temporal and spatial delimitations of the sonorous events.

20th century music started from the rediscovery of the old principles, for instance that of symmetry, and the composers manifested interest in this idea in multiple directions: in the architectural construction, language, dynamics etc. The series construction itself (in serial music) relies on symmetrical fragments, which permit recurrences or related inversions. The consequence of this phenomenon is the large number of works written in arch form or with arched interior sections, in which symmetry was a basic principle, necessary for the equilibrium. (Eduárd Terényi in Study by Czerny).

The form symmetry can also be noticed in the contour of the oblique dimension, (frequently met in contemporary music) which is used as technical support in order to accumulate or attenuate some sound tensions. Approaching this dimension involves the incidence of two different parameters (for example height and rhythm) in an inclined plan. The use of oblicity is possible in all syntactic categories, its constitution involves such factors as: density, agogics, musical dynamics. Such moments can be found in Aurel Stroe’s works (for example Arcades).

A new manner of distributing the sound objects (in the monodic, homophone, polyphous or heterophonic framework) refers to the dependence of the sonorous material on the density of the sonorous events. Three zones relevant for defining the musical syntax stand out:

the zone of the detail,
the zone of the agglomeration – concretized in textures (to be perceived globally),
the rarefied zone – which refers to the distribution of the sonorous objects in the wide
space and creates sensations of discontinuity in the perceptive field.

As regards the textures (the zone of maximum density), we mention that the genre imposed semiographic procedures (associated to dense, agglomerated visual images), contouring a new type of writing. The appearance of textures in music is closely connected to the introduction of the mathematical notions, which facilitate the way to constructions of this type.

Out of the desire to find new ways of expression, composers have often approached open forms in their works. By means of visual factors or with the help of the text, they gave the performers suggestions on the possibilities of articulating the form of the works. We highlight several ways in which the architectonic structures implying the improvisational factor can be constituted: Adrian Rațiu in the work entitled *Monosonata I* writes: “The performer can choose the starting point out of any of the 15 sections of the piece. Then one must follow the succession of the following sections until the end of the piece, after which one goes on to the execution of the first sections and arrives back at the starting point. The performer is also allowed to set the tempo: slow-fast-slow, or the other way around, so that several successive sections may develop in a unitary tempo. Optionally, after the entire musical material has been played, one of the sections can be resumed as a conclusion, but in a tempo opposed to the one used in the first performance.” [7]. In our opinion, the author creates a circular form in this work.

The composer Mihaela Stănculescu Vosganian introduced circular permutations in *Trio Contrasts for Saxophone, Piano and Percussion*, where the opposing groups (continuous-discontinuous; in time-out of time) are concretized in rhythmic categories (Aksak I, II, III – rubato I, II, III) and are alternated either simply (A.R.A.) or complexly (AI RI AII AIII RIII). However the authoress’ desire is that, for the complete perception adequate to this opus, the work should be integrated into a concert and alternated with other pieces between the mentioned sections.

Eduárd Terényi in *Staccato e tenuto* approaches different geometrical shapes (triangle, trapezoid) from the intersecting of which arise many possibilities of combining the elements foreshadowed in the cassettes constituted in this way. The form is open, similarly to other parameters (height, tempo, dynamic) which unfold within border frames.

In 20th century music the renewal of musical art is also revealed in the expressive structures, in the new sonorities which tried to capture the vastly extended contemporary
world. We witness a reformulation of the manners of expression, starting from simple improvements or changes of the existent ones and leading to the invention of new sound structures.
8. NOTATION OF PIANISTIC TECHNIQUE IN ROMANIAN WORKS OF THE 20TH CENTURY

The pianistic creation of the 20th century, by the numerous techniques used in order to obtain various effects, gives any interpreter intense preoccupation. Starting from the arsenal of basic elements accumulated along the past centuries, the 20th century Romanian scores also began to use elements of subtle differentiation of attacks, different ways of execution, thus creating possibilities of highlighting the new sounds.

In a noteworthy treatise on pianistic technique the musicologist Theodor Bălan emphasized that the interpreters were striving to obtain “a timbral variety as wide as possible” and showed that they have foreseen an extremely complex instrumental technique in the music of the 20th century, which required an enrichment and a rephrasing of the traditional pianistic technique: “we have reached the moment of the creation of a new contemporary expressionist pianist in the pianistic typology, illustrating the extraordinary diversity of instrumental methods.“

Trying a systematization of the execution procedures (on the piano) present in the contemporary Romanian score, we need to delimit the main areas of the piano to be used:

the keyboards of the piano; parts in the interior of the piano (strings, resonator, metallic parts); parts on the exterior of the piano (front lid of the piano, wood at the end of the keyboards, back lid of the piano, music stand etc.); pedal system.

Sounds can be differentiated according to the instrument used to act on the piano (graphically represented by signs): with the hand – closed (laterally, diagonally), open (or perpendicularly on the direction of the keyboard); with the edge of the hand; with the palm of the hand; with the fingertips; with the fingernail; with the second phalanx of the fingers in a closed fist; with the fist; with the elbows; with the shoulder;

b) indirectly, by using instruments: (noted with the same symbols by most composers)

- wooden wand (†)
- felt wand (‡)
- metal wand (§)
- steel little broom (¶)
- rubber, little stones, glass pieces, metallic elements (nails, screws, wire, blade).

The basic elements of traditional pianistic technique, including the ways of attack,
coexist with new techniques of action on the instrument in 20th century music. However, their detailed presentation in the works of Romanian composers is certainly necessary.

**Techniques of acting on the keyboards**

The keyboard represents the central point of the musical discourse, although the touch doesn’t represent the same notion as it did in the past centuries (when the care for obtaining pleasant sounds was the most important). The roughness of the attack sometimes completely corresponds to the new aesthetic categories and the composers ask for a large number of touches from the interpreter, variating between extreme nuances. Ex. Vlad Opran in *Preludes for piano* asks for *lucent touch with slightly touching the keyboards*. The effect has to be *ethereal, airy* like a... *halo*, or indications of *crystal, ethereal piano, legatissimo* as a *gamelan* in pianissimo, dynamic contrasts between pianissimo and fortissimo, where the sound has to be hit like a *flash*.

We present other ways of touching the keyboards:

- *silently* touched;
- silently and energetically touched (Ștefan Niculescu – *Triplum II*);
- *mutely touched*, the hammers not touching the chords (Eduárd Terényi – *Pianistic games*);
- wiped, with a completely relaxed hand (Aurel Stroe – Music for a *Concert for piano*, percussion and brass);
- percussed, with the fingers in the air (Vlad Opran – *Preludes for piano*).

We can also mention the innovative technical indications joining the timbral requirements:

strings of chords with *clenched fingers* (Eduárd Terényi – *A la Strawinski*)

- *karate* hit on the keyboards (Vlad Opran – *Time without time*)
- rolling of the hand from low to high register (Aurel Stroe – Music for a *Concert for piano*, percussion and brass)
- to be played *percussed*, with the fingers *very lifted* (Vlad Opran – *Mechanical games*).

We can thus conclude that: determined by the tendency of the composers to cultivate various sounds, the interpreters will make a mutation of the concept of pianistic “touch”, foreseeing a much more varied embracing of sounds in the typical sphere. “We can say that
the most beautiful sound is the one that best expresses the content, the artistic image” so the intention is not to obtain a standard sound, like the ones which are bright, soft, enveloped etc.

We intend to enter the area of attack ways used by Romanian composers, approaching them from the traditional perspective, as well as from the point of view of the new ideas.

The legato, born out of need to offer continuity to the melody and executed with some difficulty on the piano (unlike on the string instruments, where it is easily executed with the help of the bow); pianistic practice has two main gradations of playing in legato:

poco legato, which, from a technical point of view, is obtained by active articulation

legatissimo, a singable legato, where the fingers remain on the keyboards in order to obtain maximum of expressivity and cantability.

The musical writings of the 20th century bring along with several sub-gradations of the legato, also the use of the legato in atypical contexts, or its intrusion among other ways of attack. Sounds requested by the 20th century composers (ex. a clogged, mate, colorless sound or the opposite – sounds hit in ff like a flash – V.Opran – Preludes for piano), requested modifications of the pianistic technique and compelled interpreters to invent particular movements and ways of touching the keyboard. For example, in order to obtain the legato by slowly clogging the key and keeping it pressed for a little while the following technique is needed: pushing down the key with the weight of the arm (using a slight movement of the wrist) and an articulation of the fingers close to the keyboard.

The various gradations of the legato will be realized by using the arm most of the times (as much as necessary) in order to counter balance the force of the keys. We mention a few typical aspects in using the legato with its gradations to be found in modern scores: Fred Popovici in Concentrics - together with the legato in mezzopiano, he also requests for this manner of execution on parts of strong nuances. Dan Voiculescu in Neverending songs and Dora Cojocaru in Epitaph II differentiate legato leggero from legato espressivo. Alexandru Hrisanide in Klavierstücke 1-3 asks for: legatissimo, ben legato, molto legato, legato in crescendo from p-ff. Cornel Țăranu in Contrasts considers the legato made by the fingers to be insufficient and requests legatissimo con pedale.

Sometimes, along the compositions, the legato is noted in melodic (rhythmic or harmonic) configurations making this request technically impossible to realize. We consider these cases as extensions of the concept itself (of legato), the main understanding of the term being the embracing of sounds in a dynamic, timbral or other type of unity.
It is under the imperative of obtaining a conceptual unity (on different levels) that we have to understand, for example, the passage comprising mixtures of chords (impossibly to tie together with the indication senza ped.) in the work Klavierstück 1-3 by Alexandru Hrisanide, who notes the indication legatissimo.

The opposite of the legato is the non-legato, considered, in the technique of keyboards instruments, the basis of the perlatura. The fingers play an important role in the execution of this request, the rest of the pianistic apparatus having only the role of adding or reducing, by its weight, the intensity and color given by the force of the fingers. Apparently easy, this procedure is conditioned by respecting certain requests in order to create an impression of staccato. For two sounds to be non-legato they “have to be sufficiently distanced (not to give the impression of legato) and sufficiently close at the same time, that is without empty spaces between them (not to give the impression of staccato)“.

This way we can justify the tendency of composers to replace this term with others, asking for a detached execution of sounds. Among them we mention: articulato with several possible sub-gradations (ben articulato, articulato con suono, articulato semplice), or the term implying the non-legato, marcato. The former is often associated to rough, ample sounds and is sometimes seen as a way of articulating consecutive sounds, in very different situations from the point of view of composition.

Another aspect to be mentioned regarding the legato and non-legato techniques in 20th century music is the fact that the composers don’t use them in extended fragments, but rather (combined with others) on few, sometimes isolated sounds. Often a sudden alternation of ways of touching the keys is noticed. The situations where the authors leave to interpreters formerly important parameters (range, duration) but minutely note the technique of execution, show the multiple preoccupations of 20th century composers to diversify sounds, often resulting in solutions validated by time and expressed in novel acoustic material.

Ex. in this respect: Liviu Dandara – Sonata for a single piano:

Vasile Petculescu – The hora of the seasons (Suite for children’s choir and piano)
Another possible way of attack is staccato, which, in a traditional understanding, reduces the execution of a sound to half of its noted value and gives it a jolting character, slightly accentuated.

From a technical point of view this effect can be realized by various techniques, implying different uses of the pianistic apparatus:

- with the fingers, by precipitating the last two phalanges of the fingers towards the interior of the palm;
- with the wrist, with two possibilities:
- from the level of the key, by touching it suddenly;
- from a certain height, when one can lift the wrist before the attack;
- with the forearm, with a free or fixed wrist, as the case may be;
- with the entire pianistic apparatus, when the staccato is noted in sounds of f and ff, or in the extreme form of the martellato.

As in the case of legato, the optimal execution of this request is conditioned by dynamic factors of agogics and register. Staccato is easier executed in a slow tempo, where it is easier to obtain the necessary pauses between sounds. Altogether, the scores where it is requested in a fast tempo are not rare, then the pauses shorten and the attention of the interpreter has to aim at not transforming the staccato into non-legato. The highest intensities are optimal for this attack (from mf to ff), as the effect is suited for strong accents. It is difficult to obtain the staccato in p and pp, because of the disagreement between the need to energetically jolt and that of overshadowing the sound. The proper register for staccato is the discant, as it favors the acoustic effects of the mechanism. The base, having more harmonic sounds, prolongs more the sounds, thus resulting in a blurred sonorousness.

In 20\textsuperscript{th} century music, the atypical, unexplored areas of obtaining the staccato will be explored, as it can be seen in the following examples: the composer Dan Voiculescu in the work Fripta (no.80) from the cycle Never ending book vol. 2 requests: "the chords will be short (staccato) or maintained (tenuto) upper or lower on the keyboards, but also with different intensities: p, f, pp, mf, ff, sfz" and later asks for "sound of choice – piano and staccato" (so independent from register). In the mentioned cycle, this composer also creates various sub-gradations of the staccato:

- quasi staccato: The sledge (no.60) and Dance (no.67);
- less staccato: Imaginative piece (no.75);
normal staccato, noted with dots or by its characteristic notation.

The composer Eduárd Terényi in *Pianistic games* chooses not to use the signs corresponding to this effect along the composition and even from the beginning of the part entitled *A la Strawinski* he adds to the indication of tempo-presto that of staccato – as a request to evidentiate the character of the work. Another piece from the mentioned cycle, *Staccato e tenuto* offers the interpreter the freedom of choice (from the musical material graphically suggested), the manner of attack between staccato and tenuto, within the frame of the indications of tempo (from veloce to lento) and nuances (ff-pp) (Annex 1, pag. 124).

Tenuto is often approached as the opposite alternative to staccato, although they often appear in alternation, as in Aurel Stroe’s – *Music for a Concert for piano, percussion and brass* and Dan Voiculescu’s – *Never ending book*.

In the score of modern music the usual notation of staccato is relinquished, the same effect being created by the indication of shortly or rapidly hit keys, with different technical possibilities and various sub-gradations:

- hit as rapidly as possible (Dan Voiculescu – *Sonata no.1 for piano*);
- without hitting them with the entire hand (Dan Voiculescu – *Fables*);
- hit the key without pressing it all the way down (Vlad Opran – *Preludes for piano*);
- sound hit in ff like a flash (Vlad Opran – *Preludes for piano*).

Another effect to be mistaken for staccato is portato, as from a rhythmic point of view it (generally) also requests the half-way execution of the sound (sometimes it can be more). That is why it is considered a sort of staccato and, from the point of view of pianistic technique, the incisive accent element is eliminated. In portato, the fingers enter the keys, they don’t attack them (as in staccato per se) and it is executed either with the entire pianistic apparatus, or with certain parts of it.

According to Karl Stockhausen’s model, Romanian composers also have preoccupations to differentiate the ways of interrupting contact with the piano, marked by stopping the sound. Thus it is not surprising when composers note the staccato way of attack and the interruption of contact with the keys that precise moment. Solutions can be varied: Violeta Dinescu in *Echoes I for piano* requests: “attack in staccato then the key has to be silently lifted, faintly retaining the echo of the sound”. Ştefan Niculescu in *Triplum II for clarinet, cello and piano*: “after the attack of the sound in staccato immediately, silently press
the same keys in order to capture the resonance of the strings“.

Suitable as an indication to accentuate the staccato, martellato is obtained on the piano by a detachment willingly jolted of the sounds attacked in forte. While most composers treat martellato this way (ex. Alexandru Hrisanide – *Klavierstücke no.1-3*), different situations can be found in this stage of the staccato, too. For example Eduárd Terényi in *A la Strawinski* requests for “martellato without pressing the sound“ or limits the sound of the effect by various attacks. In *Cracking noises* from the cycle *Pianistic games* he notes: “martellato by hitting the keys with the fingertips, the sf has to be dosed in such a way as, by a slight hit of the hammers, the strings should resonate, thus, with the help of the pedal, chords are formed from the noises produced“ or “martellato by hitting the keys with the four knuckles (2-5).“

**Techniques of action inside the piano**

In order to obtain new color effects, the 20th century composers will also act on other parts of the piano, obtaining, by interference of the harmonic sounds, a great variety of timbres.

Analyzing contemporary works where the legends of abbreviations and symbols comprise a division of the areas of influence on the piano (ex. *Kaleidoscope* by Liviu Dandara where the execution is divided in: execution on keyboards and inside the piano), we can say that the exploitation of interior and exterior components of this instrument is an aspiration of the composers, intensely used in order to satisfy the timbral demands.

The interior parts of the piano were the primary focus, used by numerous composers interested in obtaining new sounds. The strings of the piano were initially solicited in different registers (acutе, medium, grave) and with multiple possibilities of vibration: by *pinching, hitting or rubbing*. With the conquest of this territory, in pianistic works we will find sounds formerly only partially approached due to the keyboards’ restricted possibilities. It is the case of glissando, ornament specific to string instruments with a bow, which, on the keyboards of the piano requests an uncomfortable effort of rapidly passing of one’s fingernail (with the thumb or the middle finger) over the white keys, or of the back of the hand over the black keys.

The possibility of obtaining this effect by direct contact with the strings of the instrument will create the need to operate inside the piano, either with parts of the human body (fingers, fist, elbow, arm) or with the help of instruments (wands, sticks, glass).
Sometimes composers note the direction in which to act on the strings in producing the glissando: *along* the strings or *lateral* (Liviu Dandara – *Sonata for a single piano*). Glissando can also be differentiated in:

- *continuous* gliss. (quasi tremolo) executed with uninterrupted movements (from right to left) directly on the strings, in the indicated register – Liviu Dandara – *Kaleidoscope*;
- *rapid* gliss. executed directly on the strings with a wooden wand – Ştefan Niculescu – *Triplum II for clarinet, cello and piano*;
- *gliss. ad libitum* (for 5 seconds) – Adrian Raţiu – *Constellations*;
- *gliss. with the right hand on the copper strings* – Violeta Dinescu – *Echoes I for piano*.

The piano strings can also be hit, stricken, pinched, pressed or blocked. We mention a few examples in this respect:

- *press* slightly on the strings all the way down: Violeta Dinescu – *Echoes I for piano*;
- *strike* the string with a timpani stick: Dora Cojocaru – *Epitaph II*;
- *grave string, blocked* with the finger on a determined harmonic, emission with the help of the key: Liviu Dandara – *Sonata for a single piano*;
- *pinched* string or combinations of pinched strings: Liviu Dandara – *Sonata for a single piano*;
- *pizzicato*: Ştefan Niculescu – *Triplum II for clarinet, cello and piano*;
- *hits* on the strings (with hand, palm, fist or fingers): Doina Nemţianu-Rotaru – *The poppies’ crossroad*;
- *noises* on strings (with paper or maracas): Eduárd Terényi – *Capriccio for the left hand*.

The metallic part of the piano can be a source able to produce unexpected sounds. Various actions can be done here, which, together with other sounds, produce new effects. Ex. of action: wipe the metal parts with a percussion brush: Violeta Dinescu – *Echoes I for piano*.

Above the strings, inside the resonator, there is a section where objects foreign from the piano can be attached (ex. *a speaker* or spotlights (red, green, yellow) – Liviu Dandara: *Sonata for a single piano* – or it can be put in “resonance“ by various movements: hitting the resonator with the palm of the hand, with the indicated heights: Liviu Dandara – *Sonata for a*
In Romanian musical literature there are entire works for piano conceived to be executed on the parts inside the instrument. We mention *Timbres* by Liviu Dandara where the action of the interpreter concentrates on the strings (which can be pinched or slided up and down) and the resonator which has to be hit in various registers. Together with the pressing of the right pedal, these actions will create new effects, not specific to the piano sounds and they are semiographically represented by distinct signs.

**Techniques of action on the exterior of the piano**

The exterior of the piano is approached when it is necessary to create sounds or effects of the same type (in time, they have been replaced by electro-acoustic devices).

With this purpose the following exterior parts of the instrument can be hit (from left to right, upright or downright), slammed, closed or open (with parts of the human body or instruments):

- **The wood at the end of the keyboard:**
  - action with *rubber or felt* on the wood at the end of the keyboard: Eduárd Terényi – *Capriccio for the left hand*; noises to be made on the wood at the end of the keyboard: Eduárd Terényi – *Capriccio for the left hand*;
- **The lid above the keyboard:**
  - strongly *hit* the front lid of the piano: Vlad Opran – *Mechanical games*;
  - *percussion* of the front lid of the piano either with the right or with the left hand: Dora Cojocaru – *Epitaph II*;
  - *strikes on the front lid of the piano*: Dan Voiculescu – *The dilettante Mister Goe*;
  - *accompaniment* on the front lid of the piano, *with a thin stick*: Eduárd Terényi – *Capriccio for the left hand*;

- **The back lid of the piano:**
  - *gliss.* on the strings stopped on the back lid of the piano: Eduárd Terényi – *Lasciar vibrare*;
  - *hit* with the finger on the back lid: Vasile Herman – *Sonata II-a for piano*;
  - strongly *strike* near the music stand: Vlad Opran – *Mechanical games*;

The lateral parts of the piano (straight or waved):

- Near the piano:
• execution with the feet on the pedals or on the floor: Constantin Rîpă – *Trio for violin, cello and piano*.

There are fragments or even entire works conceived on these areas, without the use of the keyboard, thus proving the tendency of composers to treat the piano as a percussion instrument. For example the composer Eduárd Terényi in *Scherzo with intermezzo* notes under the title “directions for the actions during intermezzo” the following actions on the front lid of the piano:

• with a sudden move, slam the front lid of the piano,

• the interpreter has to uphold in his elbows on the front lid of the piano,

• with a slow, cautious and insecure movement, the interpreter has to lift the front lid of the piano.

The use of all of the parts of the piano: keyboards, interior and exterior shows us that, from the point of view of the 20th century composers, the piano represents a complex acoustic body, able, by its total exploitation, to create multiple sounds and effects similar to those of the surrounding environment.

**Techniques of action on the pedal system**

The use of the pedal in 20th century pianistic art is regarded as a technical means used to renew musical expression. While for a long time the pedal only used at repairing the dryness or shortness of the pianistic sound, starting with the musical creations of the 20th century the pedal is organically integrated in the complex of pianistic art, constituting a complex system and helping to the creation of various sound effects.

From a technical point of view, by acting on the right pedal (sustain pedal) the following effects are obtained:

• enrichment of the volume of the sound, caused by the free vibration of the strings obtained as a result of lifting the entire device of blurring found on top of them;

• timbral modifications realized by the resonance superior harmonics and facilitated by the same technical phenomenon;

• diminishing of the physical effect of keyboards’ attack due to the reducing of the weight of the mechanism belonging to every phenomenon, the pedal taking on the weight of the dampers.
The left pedal (soft pedal/una corda), also called mute, has the role of varying the timbre by striking a single string instead of three, phenomenon generated by the gliding of the hammer mechanism to the left.

In the pianistic creation of the 20th century the pedal system is used in order to obtain the following imperatives:

- the creation of distinct colors, of special sounds as well as the impression of acoustic paste, of fog, of mate timbre. As in these cases the system satisfies timbral needs, the pedal is also called color pedal or timbral pedal. We also notice that sometimes the left pedal is used to obtain beclouded sounds, accompanied by a decrease in intensity;
- the individualization and underlying of harmonies, the pedal being changed at the same time with every harmony, or, on the contrary, by not being changed, it overlaps two or more different harmonies. It is called harmonic or disharmonic pedal;
- the rhythmic pedal, is used on certain rhythmic configurations in order to either dilute or highlight them;
- pedals used simultaneously with other ways of action on different parts of the instrument in order to obtain special sound effects, which, in many cases, can resemble the specific sounds of other instruments. Among them we mention:
  - the simultaneous use of both pedals (procedure also to be found in Romantic and Impressionist composers’ works)
  - dosing the use of the pedal, technique attributed to Franz Liszt, who used the half and quarter of pedal, but modern creation has reached other limits, for ex. $\frac{1}{2}$; $\frac{1}{3}$; $\frac{1}{5}$ etc
  - vibrated pedal: Cornel Țăranu – *Contrasts I, Sonata ostinato*; gradual freeing of the pedal or pressing it after the attack of the note: Violeta Dinescu – *Echoes I for piano*;
  - rapid change of the pedal or the use of the pedal with frequent and short interruptions: Eduárd Terényi – *Pianistic games*
  - the left pedal pressed with interruptions: Valentin Timaru – *Sonata for piano*.

The differentiation of the pedal function and its consequent use has become a pretentious operation and interpreters often find themselves in front of difficulties which can
only be solved by assimilating a thorough technique. Therefore, nowadays it doesn’t seem odd to say that “the interpreter has to be aware that his legs have to be as free as his hands“.

In modern music, the boundaries of precision circumscribing the use of pedals oscillate according to the componistic-notational concept embraced by the author. Consequently, we witness situations where either their use is very strictly mentioned (the pressing and freeing) – Liviu Dandara: Kaleidoscope (Melopoeia, Fortepiano, Timbres) – up to situations where only one moment of the sound has to be accompanied by the pedal (ex. pedal pressed after the attack of the notes: Violeta Dinescu – Echoes I for piano) mentioning the exact moment of freeing it (on the sound or immediately after); or composers let interpreters decide on the use of the pedal. By the indication ped. ad libitum, the interpreter, according to his needs, has the possibility to chose how to use the pedal in order to variate the intensity, the color or the duration of sounds, to connect chords etc. Such examples can be found in: Eduárd Terényi – Pianistic games; Liviu Dandara – Kaleidoscope.

Returning to the situations when composers mention not only the way the pedal is used, but also its moment of attack, we consider appropriate to describe a little the physical area where the sound is produced, as the acoustic phenomenon in itself is known and used by composers and interpreters of the 20th century. The following drawing visualizes the physical and acoustic stages preceding the articulation of a sound and can motivate the choice of different moments to press the pedal.

![Diagram of sound production stages](image)

Moment A coincides with the striking of the string with the hammers. The situation corresponds to an un-qualitative area of the sound as it encompasses mechanical sounds involved in producing it. By pressing the pedal at this point we can obtain rough sounds.

Moment B, in time, immediately succeeds moment A and brings the maximum amplitude of the sound. If it is synchronized with the pressing of the pedal (so immediately after hitting the key), the sound is bright, rich in harmonics and of high quality.

Moment C brings a diminishing of amplitudes. The pedal pressed at this moment is not very efficient; it creates a soft, faint sound.

If in classical theory the problem of the optimum moment of pressing the pedal was focused on moment c, the opinions of modern composers (validated in time) reflect the
opposite. This supposition is also strengthened by the thoroughness with which they noted the way and the moment of pressing the pedal system, formerly considered a technical means that was “outside of any precise notation” depending on “the internal hearing of the interpreter, the sound of the instrument, the acoustics of the concert hall and many other imponderable elements.”
9. SONOROUS EFFECTS IN PIANO WORKS OF THE 20th CENTURY

New sonorous effects

The initiation of new sonorities, complex in their execution, represented a consequence of the numerous searches of timbral diversification and they knew several tendencies in the music of the 20th century: some were validated in time, other were perfected and many were abandoned, these being only individual solutions, resulted from the composers’ preoccupations for renewing the sonorous substance. Since these searches and trials constituted connection ties for the complexly formulated effects in the last decades of the century, we try to describe some of the reference moments in the evolution of the mentioned experiments, even if they were semiographically fixed through already sanctioned procedures.

On the level of intonation several composers tended to exploit the extreme notes of the keyboard. We notice such instances in the following works:

Dora Cojocaru – Epitaph II;

Constantin Ripă – Către soldat (from Cântece despre soldat): In Peisaj cu lună (from 8 Piese pentru pian), the composer Vasile Herman notes: „background with the deepest sound to be kept for many bars“.

When the intonational parameter is noted approximately or left at the free choice of the performer, the composers note the area of the melodic pitches only by the register in which the performer is to take several actions, leaving at his choice the conception of the melodic, harmonic or polyphonic structures.

Dan Voiculescu in Trei etaje (Carte fără sfârșit) embeds the intonational configurations in three registers: I high, II medium, III low.

Eduárd Terényi in Rondo pentru mâna stângă (Jocuri pianistice) suggests: with distinctive signs: the upper and lower limit of the registers.

On temporal level, a direction opposed to fixing with approximation the musical parameters was constituted by the notation with maximum of precision of the duration of the fermata. The composer Vlad Opran in the context of the Preludiilor pentru pian measures in seconds the length of the pauses, or writes general indications: „calculate so that the moments of silence are not equal”. He notes the length of the tempos also in the following way: pauses measured in seconds.
Ştefan Niculescu in *Tastenspiele für Klavier* differentiates:
– rest of medium length, \( \text{\textbullet} \text{-\textbullet} \)
– rest until the complete exhaustion of the sound.

Violeta Dinescu in *Auf der Sucse nach Mozart* uses the following undifferentiated rest signs:

\( \text{\textbullet} \text{-\textbullet} \text{-\textbullet} \)

Doina Nemţianu-Rotaru in *Răscrucea macilor* measures in seconds the length of the rests:

In the same way proceeds Alexandru Hrisanide in *Sonata No. I for Piano* : G.P. = 5-6”.

The moments of silence are interestingly caught by the above mentioned composer in *Sonata II for Piano* (Called the Picasso Sonata), where the sonorous fragments of maximum density are frequently interrupted by pauses, graphically represented through various symbols.

We mention that the notation of the pause accompanied by the prolongation point is not done in the context of ternary meter, the symbol initiates irrespective of the meter in which it appears a longer duration of the pause, compared to the one fixed by the sign unaccompanied by the point.

In the sphere of diversifying and renewing the sonorous substance of the piano, many authors are preoccupied with the extension of the expressive register, materialized in adapting new expression, dynamics and tempo terms. The connection and communication by the means of the music score – between the composer and the performer – constitutes a problem of great importance, on which basically depends the correct and inspired rendering of the artistic message.

Even since the beginning of the 20th century the composer George Enescu marked new possibilities in this direction, by the minuteness of noting the emotional content in his works for piano and in the novelty of the desired sonorous effects.

Enescu was intensely and continuously preoccupied with the acoustics of the piano, he studied and revised its sounds, colour and expressive features. He processed and adapted to his composing technique the avant-garde methods encountered within the universal literature of his contemporaries. Along the works for piano he wanted to confer on the sonorous matter a picturesque nuance, to create sonorous timbres of maximum subtlety and diversity. The
means employed by the composer to this end were extremely varied: contrasts of registers, playing with the pedal, several sourdines, oscillating dynamics, a large sweep of indications for expressing emotional states. They all imagine a wonderful dosage of timbres and nuances, which impose a perfect sonorous balance.

If in the field of dynamics we may notice a diverse area of nuances less used in previous times (fp, pf, bf, bSf) or psf pfz, prfz, with sudden passing from one area to an opposing one (e.g. in Sonata III for Piano and Violin on the duration of a single bar there is a sudden passage from bp to ppp and then mp, or from fff to bp-pp leggierissimo), on the territory of the musical expression there is minutely noted an inexhaustible chromatics of terms and nuances of interpreting in an artistic-emotional manner his music. Of course the concise formula of each of these terms is sustained by the elements of the language anticipated by the author, by all the emotional force of his music. We note for instance the dynamics of the terms comprised in the Sonata No. 1 for Piano op. 24 part III: estopé, volonté, dolcissimo, armonioso, dolcissimo teneramente, con intimissimo sentimento, lusigando, con espress-doloroso, p con luminosita, pp murmorando legatissimo, dolcissimo languido, dolce senza rigore, pp delicatissimo mesto semplice, con grazia etc.

The tempo indications often follow the achievement of subtle movement variations, which begin and return most often to a slow movement in moderato or lento. In the first part of the Sonata III for Piano and Violin, fixed in a moderato malinconico, for the duration of only 28 bars he asks for the following temporal subdivisions:

\[ \text{Tempo Subdivisions: } \frac{\text{B}}{\text{C}} = 60, = 63, = 66, = 58, = 60, = 58, = 40, = 52, = 56 \text{ etc.} \]

George Enescu started in the process of his works from fundamental characteristics of the Romanian folk song, which he vested in a new composing vision. He highlighted along his works new elements: of heterophony, continuous rhythmical-melodic variation, emancipation from form, more and more mobility of the scale degrees of several modes which led to the overpass of the chromatic total of the temperate system. To these can be added the diversity of the piano writing employed and the minuteness with which he noted his intentions on the level of all musical parameters. Given the complexity of the mentioned factors, the composer George Enescu is considered a forerunner of many major tendencies in contemporary music.

In the light of these achievements, the Romanian composers will later continue the tradition of expressive exploration of the piano sonorities. Ştefan Mangoianu called one of his
works for piano Studiu de expresie (from Trei piese pentru pian) and within the piece he uses terms such as: carezzevole, supplicando, languete, scorrevole.

Sometimes solving the problems connected with the musical text needs a laborious work of forming the sound: for example the composer Eduárd Terényi in Pocnituri (Jocuri pianistice) notes: „the sf must be dosed in such a measure that by a slight stroke with the hammer the strings begin to resonate, so that, with the help of the pedal, chords are formed from the produced noises.”

In the multitude of new effects and procedures conceived in the piano playing this century, we intend to comprise them in a more concise area, related to the factors which are combined to obtain them. The differentiation of the sonorities has in view mainly to obtain them according to the evolution of two components:

- The ways of technical realisation (subjective factor, which becomes relative in relation with the technical and hearing capacities of the performer);
- The physical-acoustic potential of the instrument.

We try in what follows to present the main effects traced in the Romanian compositions for piano, as well as the ways of semiographical notation used in the precise details of the technical-expressive content which needs to be accomplished.

**Sonorous effects adopted from the technique of other instruments**

The piano was considered a complex instrument due to its range and the timbral resources it possesses. In the view of the modern composers this fact was reflected also in employing some effects used in the technique of other categories of instruments.

Researching the percent of the piano in the total of the existing instruments and its usage in the sonorities of the symphonic orchestra, we have noticed the role and the different angle of approaching it along the 20th century, intensely used in the ensemble of the orchestra or in various instrumental combinations, the piano contributed in achieving new sonorities, most often directly opposed from a timbral point of view from the Romantic or Impressionist ones. In the works in which it represents a constitutive part, the piano may have only timbral or rhythmical functions (similar with the percussion instruments), or may be a balancing factor in achieving the desired effects. For instance in a certain context, the bass can be

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23 We mention some instrumental structures: Aurel Stroe – Muzică pentru pian, percuție și alămuri; Ștefan Niculescu - Triplum II pentru clarinet, violoncel și pian; Cornel Țăranu – Mozaicuri pentru saxofon în si b sau clarinet, cvartet de coarde, pian și percuție; Constantin Rîpă – 2P+2p (2 piane + 2 percuții).
slightly strengthened with the sombre and metallic sonorities of the piano, and the instruments which are played in the high register may be conferred a certain vigour by superposing the sharp, crystalline timbre of the piano in that register.

In the works intended exclusively for the keyboard instruments, the composers will seek to use the mentioned functions, being favoured by the possibility of exploiting all the constitutive parts of the piano (the interior and exterior ones).

We therefore consider necessary an evaluation of the sonorous effects also from the viewpoint of the borrowings from the technique of other instruments, even if on the level of the notation this phenomenon can be highlighted only by the simple enunciation of the procedure to be executed on the piano. These effects can be divided according to the instruments they were adopted from:

**Effects characteristic to the percussion instruments**

The percussion instruments in their great variety of component elements and the numerous colours and timbral effects were intensely valorized by the composers of the 20th century. Conceiving sonorities that can resemble the ones made by these instruments, especially the one from the category of the undetermined pitch (kettledrum or bass drum, gong, castagnets, bells) represented in the music for piano an obvious trajectory in diversifying the sonorous substance.

Many composers tried to recreate the specific timbre of the percussion instruments with the means of a specific technique of the fingers (touch sensitivity), since a certain dosage of the weight of the arm and an efficient articulation may facilitate the rendering of metallic sonorities, rich in harmonics, resembling the bells. Therefore the composers employed indications that make reference to this way of playing the keyboard and noted:

- George Enescu: *Sonata in fa#* op.24 nr.1 – *quasi campane*;
- Valentin Timaru: *Sonata pt.pian* – *quasi campane*;
- Maia Ciobanu: *Da suonare – campane*;
- Gh. Alexandru Petrescu: *Cimpoaiele din Bătrâni – lontano comme une campane*;
- Alexandru Hrisanide: *Sonata I pentru pian – assai sonore quasi campanelli*;

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24 A testimony in this sense is the piece of the American composer Edgar Varèse – *Ionisation*, in which to a piano are associated 42 percussion instruments.
The same author, in *Klavierstück 1-3*, associates to several rhythmical-melodic structures dynamic signs or references to sonorities foreign to the piano: *ben p* and *lontano quasi celesta; f* on a note in the high register and *quasi xylophone*; on a long note-*cloches*; on poignant rhythms—*tam-tam* etc.

In fact, the sonorities of the percussion instruments will be accomplished by using two of their basic features: the realisation of the main way of producing the percussion sounds – action by striking (directly or with auxiliary instruments).

In this context, the sonorous effects could be divided according to the parts that are produced by striking (directly or with auxiliary instruments), namely in relation with the materials of which these parts are made of:

a) effects which create metallic sonorities, strident and with dense harmonics. These are obtained by striking the metallic parts of the piano, with the fingers (with several parts of the human body) or with sticks made of several materials:

– covered in felt or rubber (generate velvety sounds),
– bare wood (generate rough sonorities);
– covered in leather (make less rough sounds),
– covered in sponge (dry and ugly sound).

We present some instances of these cases, adding also the graphic symbols or the indications corresponding to them:

Eduárd Terényi: *Capriciu pentru mâna stângă*
– stroke with the fist on the strings

Dora Cojocaru: *Epitaph II*
– powerful stroke, with the fingers or with a timpani stick on the lowest string

Liviu Dandara: *Sonata pentru un pian singur*
– palm strokes on the resonator
– palm strokes on the resonator on two separate pitches

Doina Nemțeanu Rotaru: *Răscrucea macilor*
– palm strokes (left or right hand) on the strings
– striking the strings with the fist
– striking the string with the finger

All of these actions are conducted on the register pointed out: I – high

II – medium
Liviu Dandara: \textit{Caleidoscop}

– palm strokes on the resonator on three distinct pitches

– strokes on the strings (in the four equal areas of the register)

Violeta Dinescu: \textit{Ecouri I pentru pian}

wiping the metal parts with a percussion brush

b) effects which determine dry, wooden sonorities and which produce sounds by the vibrations proper to the wooden parts of the piano. These effects are achieved through the action of the performer (directly or indirectly) on the following parts of the piano: the lid above the piano, the large lid of the piano, the stand, the piece of wood at the end of the keyboard etc.

From the point of view of the semiographic notation, we notice the following statements and graphical contours:

Eduárd Terényi: \textit{Capriciu pentru mâna stângă}

– accompaniment which can be realized with the fingers or other objects (felt) on the wood at the end of the keyboard

Dora Cojocaru: \textit{Epitaph II}

– the striking of the lid of the piano with the left hand ( and the right hand ()

Vlad Opran: \textit{Jocuri mecanice (Preludii pentru pian)}

– strike firmly the lid of the piano, if it is has tail, strike near the stand

Timp fără timp

– sound stroke in ff like a flash

– key stroke without being completely pressed

\textbf{Effects specific to the string instruments}

The essential quality of this group of instruments consists in the cantability and lyricism and therefore in the musical world of the 20th century these instruments did not always find an effective usage. Although they dispose of a great variety of colours by the very sonorous building of each of the strings, they were less used in the modern era. Related to the exclusion of this section from the work \textit{The Rite of Spring}, the composer Igor Stravinsky stated: „I placed on the first place the woodwind instruments, drier, more precise, less rich in
expressive resources and therefore more moving, in my opinion”. [1]

Gaining a new space for the sonorous exploration in the works for piano – on the inner strings – conferred the authors the occasion to create effects specific to the strings instruments such as: *pizzicato, vibrato, glissando, flageolete*.

Pizzicato is a well known effect in the literature of the string instruments and in the scores written for the piano it is noted either with the notation pizz. Or a cross placed above or below the sound to be pinched (the signed is taken from the technique of the strings instruments, where the notes marked with a cross are produced by pinching the string with the left hand and the ones which do not have this mark are played with the bow). Pizzicato is obtained on the piano by directly pinching the strings with the fingers. It can also be produced with other parts of the hand, as with:

Ștefan Niculescu: *Triplum II pentru clarinet, violoncel și pian* pizz. With the fingernail directly on the string  \( \text{pizz.} \)

This type of action will generate a soft vibration of the string and shaded sonorities, according to the register in which the effect is intended: soft sonorities in the lower register and drier ones in the high register. There were created graphical sign to indicate the necessity to pinch the string.

The Vibrato is the effect which results from the regular fluctuation of the sound in height, intensity and timbre. With the string instruments it is obtained by a characteristic of the technique (of the left hand) by which there are added vibrations to the ones produced by the simple rub of the string with the bow. On the piano this is obtained with a sleight oscillation of the finger on the string (an action synchronized with the emission of the key), an operation which implies both the hand and the wrist.

Although this is an effect not specific to the keyboard instruments, the vibrato is used with an expressive implication in the request to vibrate the hand propped on the keys: *Contraste II* – vibrato senza pedale, or creates intensity variations in the moments of oscillatory execution of the pedal: Vlad Opran: *Preludii pentru pian* – vibrated pedal; Violeta Dinescu: *Ecouri I pentru pian* – to vibrate a little the right pedal.

The Flageolet is an effect often met with the string instruments and in the technique of the wind instruments. It consists of stimulating the producing of the harmonics of a sound and the technical procedure differs from one instrument to another. The flageolet is classified after the degree of strength of the harmonics into:
– natural flageolets (noted with ♩) which in the string section are obtained by the simultaneous action of two fingers: one pressing on the string and the other touches slightly the strings which correspond to the interval distance of perfect fourth or fifth or minor or major third;

○ artificial flageolets – noted with empty rhombic symbols which designate the intended action of a sound simultaneous with the pinching of a string placed within a perfect octave (in this case one hears the octave of the note which corresponds with the point on the string which is pushed with the index).

The modern composers tried to transpose this effect to the works for piano, adopting several technical solutions. From a semiographical point of view we notice nonetheless a certain unity, the rhombic shape being popular with many authors.

**Effects specific to the wind instruments**

The wind instruments are composed of sonorous pipes in which the air is put in vibration by the breath of the instrumentalist. If from a technical point of view it is impossible to produce sounds in this manner on the piano, the timbral structure of the wind instruments (clear, sweet, strident) is the coordinate intensely varolized in modern compositions and realized from a technical point of view through traditional technical procedures.

For instance, the composer Sigismund Toduță in his work *Passacaglia* invokes the clear, transparent timbre with shining nuances of the flute with the indication – flautando; Alexandru Hrisanide in *Sonata II pentru pian* uses a writing specific to the oboe, in the proper register and sonorities on the black keys, notes incisive nuances and adds the indication-oboe; in *Sonata II pentru pian* the foreshadows metallic, round resonances, on which he notes – horns; in *Sonata I pentru pian* at a shining sf in the high register adds – quasi tromba.

**Effects taken from the vocal technique**

In the centuries old musical tradition the composers imposed the terms cantando as a transplant from the sphere of the human voice into the one of the instruments of the smooth, undulating and flowing execution. This projection of the sounds on expressive level is also met in the music of the 20th century, e.g. the composer Cristian Alexandru Predescu notes in *Cimpoaiele din bătrâni*: molto cantando or adds the terms corresponding to the vocal technique: -mormorando, sospirando etc. The composer Mihail Andricu on *Suită pentru pian*
op. 81 foresees a writing characteristic to the vocal recitative, to which he adds the indication: \textit{parlando}.

The innovations in the vocal world of the 20\textsuperscript{th} century are reflected in the sounds of the piano, since openly declared or not, there are often visible fragments conceived in vocal writing (of the choral type), dressed in sonorous structures specific to contemporary music. These moments are found ever since the compositions of George Enescu who in the cycle \textit{Lucrări 80ica80str} notes a choral as a piece of its own; with Alexandru Hrisanide: \textit{Klavierstück l-3}, where the author mentions: choral; with Vlad Opran in \textit{Momento}, a piece in which is planned a choral of clusters or with \textit{Jocuri pianistice} by Eduárd Terényi where one of the component parts is entitled: \textit{Choral}.

A sonorous effect exploited for many years in vocal music and afterwards in the instrumental one is to direct the sonorities by the technique of the echo. A procedure often met in the polyphonic music of the 15\textsuperscript{th} and 16\textsuperscript{th} centuries, the echo will be used also in the instrumental writings of the baroque under the form of repeating in piano of a phrase previously presented in forte. In the compositions of the 20\textsuperscript{th} century this effect was facilitated by the involvement of the sophisticated devices of sonorous rendering and realization, in the first place the technique of the stereophony will impose the means necessary in the rendering sonorous the effect. As a dynamic principle, it will be evoked in the works of the Romanian composers (for example \textit{Preludii pentru pian} by Vlad Opran) but the experiments created on the keyboard instruments also had in view the producing in essence of the phenomenon. The composer Vlad Opreanu solves this request through actions inside the piano signalled with indications such as: \textit{echo inside the piano, echo like a halo}. Violeta Dinescu in \textit{Ecouri I} and \textit{III} for the piano seeks in the first place the reproduction of this effect, which she makes concrete from a technical and semiographical point of view in the following way:

\begin{itemize}
  \item Key silently raised; \textbullet\textcircled{5}
  \item Attack in staccato, then the key is silently raised retaining the weak echo of the sound.
\end{itemize}

Dan Voiculescu in \textit{Domnul Goe diletant (Carte fără sfârșit)} notes: a vocal produced inside the piano and synchronized with the execution of a glissando in the pedal, and afterwards one listens to the echo.

\textbf{The effect of prolonging the vibrations}

In the literature for piano the prolongation of the vibrations represented a way of
sonorous differentiation, attractive both for the performers and for the composers as well. This effect is understood as a prolongation of the sound after the halting of the emission source and constitutes up to a certain point of its development a natural phenomenon, also known as the resonance of the sound.

Musical acoustics delineates two main components of an instrument which are involved in producing the vibrations and which stimulates the timbral variations.

The vibrator (the string) put in vibration by the action of the performer (also called transmitter);

The resonator (the box of resonance) where the sound of the vibrator (usually of low intensity) is amplified and enriched with harmonics (also called receiver).

The timbre of a musical instrument is determined by the number, distribution (order) and intensity (relative) or the harmonics in the following way: the higher their number, the richer and more ample is the timbre, and the lesser the number of harmonics, the poorer, dull and lacking importance is the timbre. Effects of timbral colour also produce the following factors: the height of the fundamental note, the distance to the sonorous source, the way of attack in the sonorous emission and the material of which are made the sound emitting sources.

The phenomenon of producing harmonics is called in physics natural resonance of sonorous bodies and has a major importance in obtaining many of the effects desired in the music of the 20th century. As any natural phenomenon, the resonance is exhausted in a certain amount of time which may vary on the scale of time values. This quality of the vibrations of evolving in time is called continuity and has its correspondent in music in the sonorous duration. Measuring the continuity of the vibrations is made in the science field with units of objective value (absolute) of the solar time: minutes, seconds, or subdivisions of those.

In the piano technique the prolonged persistence of the sounds (with a certain time after the halting of the emitting source) was achieved through:

Creating certain conditions of multiple reflexion of the sound, with the pedal system;

Maintaining the keys pushed long time after the attack, action in which the hammer does not return to the rest position, and remains in an intermediary one in which the string is left to vibrate.²⁵

²⁵ We note that from the point of view of the construction of the instrument, the mechanism which offers the possibility of halting the hammer in this position is called a mechanism with double escapement. A simple escapement designates the fact that the hammer is not rigidly tied, escaping at a certain moment. A second ... designates the arrangement in which the hammer stays in the air following the
The requests of prolonging the resonance of the sounds were expressed in notation with several signs. In the centuries old musical tradition, the composers used the fermatas with the intention to prolong some note values or pauses, the goal of prolonging the vibrations being evidently sought by the composers who noted grace notes (prolonged or *ad libitum*) on sonorities of the pedal and left in this way until the complete extinction of the sound.

In *Lucrări inedite* by George Enescu one finds aspects of this kind, the piece *Mazurka melancolică* ending with sonorities left to resonate.

The same effect was in view by the usage of verbal indications by Cornel Țăranu: *Sonata ostinato – lasciando vibrare*; Mihail Andricu: *Suită pentru pian op.81 – quittez et laissez vibrer* (lifting the hands and prolonging the duration of the sonorities by pressing the pedal).

Subsequently the composers noted this effect through the means or legato signs which were attached to the symbol of the sound. The sonorities created by the reverberation of the harmonics of a chord (on a longer note), mixed with the one resulting from parallel rhythmical-melodic developments will impose a new direction of diversification of the sonorous substance in the music of the 20th century. We notice moments of this type in the *Suită de cântece şi dansuri* or in *Passacaglia* by Sigismund Toduță, where in the context of a complex writing (noted on four staves), the composer maintains in legato a certain chord (in discant or in the low register) for the duration of 6, 9 or 10 bars.

**Pedal effects**

In the writings of the 20th century the system of pedals was endowed with a special importance and was valorized in the following stances: to facilitate the prolongation of vibrations after the halting of the emission of the sound, to contribute to obtain sonorous effects and to enable the obtainment of sonorous agglomerations.

To meet the technical demands existing in the modern scores (where the composers employ subtle and various ways of using the pedals) he performer is asked to master a real *virtuosity* of manoeuvring them. With the means of a proper technique, the pedal can dampen the sonorities*26*, creating a blurry and light and shade atmosphere, to mark with bright accents

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26 Tendency originating in Impressionist music and present in the writings of the French composers Claude Debussy and Gabriel Fauré.
the rhythmical pulsation of a segment or to realize various sonorous masses.  

For the semiographical rendering of the important operations of pressing the pedals (with or without the pedals, pressing and lifting or pedal ad libitum), the composers often conceived distinct symbols.

From the technique of playing the keyboard, the composers took the new procedures of stimulating the sonorous timbre and transposed these execution techniques in the area of the pedal system. The keys if the pedals can thus be vibrated interrupted, suddenly pushed, noisily released, pressed in staccato or pinched.

**Effects produced by noise**

In an objective manner the noise is considered a sound as well (therefore a product of vibrations), having intensity, frequency and an undetermined spectre of harmonics, given the disorderly variations in time. If along the passing of time the noise was avoided in the performing act, beginning with the 19th century with the aspirations of imitating the sounds in nature (the rustle of leaves, the murmuring of water etc), noise began to be valorized in the musical compositions. On the other hand, being known the fact that in producing a sound there is inevitably created a certain quantity of noise, it was perceived that it favours the quality of the sounds, especially for the instruments with a poorer timbre of harmonics.

In the music of the 20th century the old distinction between the musical sound and noise was surpassed, now being considered that any sonorous event can create an aesthetic feeling, the phenomenon depending on a large scale on the psychological relation established between the performer and the audience. There disappeared the old precepts according to which the noises were harmful from an artistic perspective that everything must be done to avoid them; on the contrary, „*noises can provide music with a certain indispensable expressivity, they are in face of the pure sounds as the dissonances from the consonances, or, in speech, as the consonants from the vocals.*“[2]

In this sense is revealing the indication of the composer Dan Voiculescu in *Fripta (Carte fără sfârșit): „the beauty of music results from noises and the fall of arm”* [3].

In the treaties of musical acoustics is highlighted the fact that in music it is not possible the realisation of pure sounds unaccompanied by noises, a fact which would lead to a

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27 For example large portions of chords tied in the pedal may create cluster effects. Such moments are found in *Jocuri pianistice* by the composer Eduard Terenyi.
impoverishment of the timbral colours. Given the mentioned phenomenon, there are no stable boundaries between sound and noise. The problem is relative and is delimited in relation with certain factors taken into consideration:

Subjective factors, related to the sensibility of the human audibility limit;

Objective factors, among which are included the state of technicity of the instrument as well as its degree of degradation in time.

There are sonorous effects which according to the limit of supportability and sensibility of the receiver, from tolerable may become annoying (for the example the noise of pinching the piano strings or the noise produced by pressing he piano keys and its mechanism), or may have slightly different sonorous consequences, in relation with the instrument played, of its quality. This way are justified the requests of the composers to play the compositions on certain types of instruments: e.g. Alexandru Hrisanide in *Sonata I pentru pian* asks: Steinway piano or ped. III Steinway.

In the 20th century appeared the tendency of the composers to intensify their wish to produce noises in music, and the phenomenon passed through different stages of approaching:

The appeal to agglomerations of nearby notes (chromatic clusters);

The use of bruitism in music;28

The variation and extension of sonorous dynamics by the excessive valorization of the noises.

In the music of the last decades were employed the natural noises, more precisely the ones taken from everyday life: the sound of the car horn, the phone ring tone, and several traffic noises, which were handled with modern recording techniques. There entered the vocabulary specific notions, such as white sound, a complete sound whose spectre and frequency is continuous. On the other hand, with the complexity of the radiophonic apparatus (microphone, loudspeaker) there was possible a decrease in the level of the distortions in the recordings. This way was covered completely the spectre of musical sounds and of noises and the sonorous phenomena were transmitted with fidelity.

With reference to the situations in which the noises were willingly approached by the Romanian composers in the writings for the piano, we divide the procedures of semiographical notation according to the technical criterion of realizing the effect into:

28 A tendency surfacing at the beginning of the century, which resided in organising the sounds into a music based on indefinite sounds.
noises obtained through the direct action of the performer on the:
Dan Voiculescu in *Fripta (Carte fără sfârșit)* notes:
-noise obtained by the strike of the hand or of both hands;
Eduárd Terényi in the piece *Capriciu pentru mâna stângă (Jocuri pianistice)*
-not notation for noises to be realized on the wood on the edges of the keyboard, with the
indicated fingering
-noise on the keyboard,
Constantin Ripâ: *Trio pentru vioară, violoncel și pian*  
– execution on the floor with the feet;  
b) noises obtained with the help of auxiliary objects
Eduárd Terényi: *Terțiine di Dante* noises with pebbles or glass fragments
Ştefan Niculescu: *Triplum II pentru clarinet, violoncel și pian* -continuous and complete noise, realized on the metal or wood parts with plastic, metal or wood materials
Eduárd Terényi: *Capriciu pentru mâna stângă*  
– the twisting lines of the staff represent the producing of a noise, paper rustle, short

**Effects generated by verbal or scenic actions of the performer**

Unlike the first half of the 20th century, when the composers drew their attention to the
acoustical valorization of the piano, creating different possibilities of expression in tight relation with the timbral component, in the second half of the century the works for piano were diversified also by the overlapping of verbal or scenic actions on the musical text.

The contemporary pianist must dispose of not only a varied scale of energies which will be applied on the keyboard for obtaining timbral fluctuations, but also notions if vocal emission and even theatrical requests. The performer must be capable from a vocal and theatrical point of view to achieve a relatively large scale of actions, from simple articulations of interjections and onomatopoeia to the invocation of complicated emotional states or creating scenic effects characteristic to the dramatic arts.

Within the limits of the vocal exigencies, we notice in modern compositions for piano the presence of the following configurations: short literary texts, simple melodies to be sung
with the voice, scales which require the intonation of microintervals, singing with mezza voce and in piano, spoken singing, shouting, laughing, frightened singing etc.

For example in the piece *Epitaph II*, Dora Cojocaru noted between staves several words or „texts of vocal wailing to be whispered by the performer;„ asks the intonation „barely perceptible of some micro-melodies with text or onomatopoeia”, „the pronunciation of the consonant ‘k’ in a very sonorous manner ( ), several onomatopoeia with indeterminate duration, „intonational movements” indicated with straight or curved lines ( ) or even moments of sprechgesang (xxx).

Constantin Rîpă in 2P+2p asks: short whistling that can be performed with the mouth; Cornel Țăranu in *Dialoguri II* requests „criard comme une exclamation“; Dan Voiculescu in *Fripta* from *Carte fără sfârșit* notes: „you may laugh, shout briefly «ha», murmur briefly mm, bzzz, cșș“. In the piece *Domnul Goe diletant* by the same author, the performer must pronounce interjections, sing mute sounds and the action asks for evident actor qualities since the character to be enacted by the performer is compelled to cry, to shout, make noise.

In the work *Piesă cu vorbire*, Dan Voiculescu asks the performer to speak in verbal lines accompanied by gestures: raising the hands and arranging his hair, to take the hands off the piano and stay still, stand up from the piano, whistle 2-4 bars and leave the stage jumping joyfully. His emotional involvement is necessary, since in relation with the content of the text, the pianist must approach an innocent state, fascination, fear, seriousness, hastiness, concentration, frowning, indifferent etc.

The necessity of entering the inner world of the performer, of creating emotional states or the most various and contrasting kinds are obvious in the works written for the piano, even from the tempo indications or the character ones which accompany short musical fragments. For instance in the piece *Sita lui Eratostene* (strings quartet with piano)by Anatol Vieruone must sing:: *absently* ( ), *calmly* ( ), *brutally* ( ) and *nervously* ( ). Alexandru Hrisanide in *Sonata I pentru pian* notes under the staves the expressive … of the musical text: „flames", „dualities, the earth; rotation axis is .. by a convulsive laughter. Vlad Opran in *Timpul fără timp* (from Piese pentru pian) alternates the tragic moments (36) with tempo calmo (82) or states of furioso, electrical, decisive, noted with indications on the side of each staff. In *Clopote* from the same collection, the author compels the performer to an execution in a large tempo, *with some fear.*

As a consequence of the relations existing between composition-reception, author-
performer, in the music of the 20th century appeared new and various forms of art performance. These will comprise representations and effects extracted from the surrounding environment and will include elements specific to other arts, which will merge in a syncretic whole. A large part of the new syncretic forms are derived from the theatrical performance known under the name of happening, from which was borrowed the free, fluctuating structure, the unforeseeable of the developing (a result of the collective improvisation on the structure of given elements).

In the syncretic complex resulted, the role and importance of the musical elements vary, having either a minimum presence, or possibilities of coordination and supra-ordering of all the other components of the ensemble. These productions constitute the so-called instrumental theatre and here music represents not only the ground artistic matter of the manifestation but also its structural foundation. The performer is involved in the syncretic flux through multiple and complex actions, so that there has been formed a relative demarcation between the contribution of the performer and the one of the creator in the realization of a musical piece.

In the pieces for piano, the composer Eduárd Terényi is involved in this conception of creating a musical work and notes in Scherzo cu intermezzo some Advice for the action during the intermezzo:

1. General pause bar
2. The lid covering the keyboard must be thrown with a sudden gesture
3. The performer is to rest his elbows on the lid covering the keyboard
4. Long pause
5. The performer is to lift the lid covering the keyboard with a slow, precautious and uncertain movement
6. comodo: C major scale
7. the scale is suddenly transformed into a glissando
8. the repetition of the scherzo.

The composer Dan Voiculescu entitled some of his piano pieces from Carte fără sfârșit – instrumental theatre. We try a short incursion in the action of the piece Fripta, which arranges the actions of two children (the piece is written for four hands). It begins with the
familiar children’s game, is continued with executions on the keyboard which alternate noises with chords randomly obtained by fall of the arm. It is a musical work which invites the children performers to play, and therefore the composer notes: „it would be well if the two pianists do not end the play with reddened hands, and nor should the piano suffer too harsh strikes”.

In *Domnul Goe diletant*, a child aged 9-11 will mimic and execute standing (without a chair at the piano_ a complex happening, which develops in several stages: the entrance on the stage; sonorous executions on the lid of the piano (… with the palm of the right hand); pinching the strings in the low register of the piano with the right hand; playing on the lid of the piano (alternating with clapping the hands); execution on the keyboard of the piano accompanied by speech and stamping the feet; sitting on the knees under the piano, the performer playing with both hands on the pedals; from the same position he plays the keyboard; makes noise; sings mutely (mimics) difficult chords, scales and arpeggios; dances with the feet in a precise rhythm, while the hands are leaning on clusters; at the end „the action is suddenly interrupted, and Mr. Goe starts to cry and shout… he leaves the stage in a protesting fashion, shouting Mother……” [3]

Effects resulted from the preparation of the piano

The preparation of a piano creates the alteration of the sonority by introducing between the strings several objects (sheets, plates etc), built from distinct materials (metal, wood, plastic, paper, linen, glass). This action preceding the performance may be realized along the whole keyboard or only in the perimeter of some register or sounds, which the author wanted to be conferred special timbres.

Despite the multiple combinations and ingenious solutions of arranging the piano in this sense, the sonorous effects obtained create only two types of sonorities:

a) dull sonorities, realized from the contact of a string of the piano (or even more extended areas) with pieces of rubber. The sound obtained this way is comparable with the one obtained on the wind instruments when using the sourdine. The composer Dora Cojocaru noted in the piano score of the piece *A3 pentru clarinet, percuție și pian* the necessity of introducing a rubber on the entire time of the performance, between the notes: A-Bflat-C-Dflat-Dsharp-E in order to obtain a dry sound.

b) metallic sonorities, facilitated by the introduction of one or two screws between the strings, or of metallic objects respectively. Knowing the fact that to the majority of the sounds
of the piano there correspond three strings of the same height, and the timbral quality can be altered by the varied dosage of the harmonics, the composers positioned the metal objects in certain places (among the three strings), highlighting the lower or the higher harmonics.

Liviu Dandara in *Sonată pentru un pian singur* notes with a distinctive sign the realization of such a preparation, noting:

\[\text{= sul corda gravissima} \quad \bullet\]

There is also the possibility of double preparations, as below:

\[\frac{1}{2} \quad \bigcirc \quad \frac{1}{3} \quad \bigcirc\]

Pressing the pedal in this situation determines a change of register. In the double preparation the height of the sounds is not the same with the pressed keys, there are produced sonorities in which the parameter of the height is fixed in general limits.

Each height (graphically marked by individual symbols) is connected with a particular timbre, but in performance there is followed a pre-established scheme. The procedure was valorized by the composers: Cornel Țăranu in *Responsorium* and Horațiu Rădulescu in *Astray pentru saxofon și pian preparat*.

Sometimes the preparation of the piano is left at the wish of the performer, as in *Concert pentru două piane și 89ica89ica 89ica* by Dan Constantinescu, where is noted: the II piano may be prepared ad libitum.

A visual preparation of the piano is considered to the the action of attributing the sonorities simultaneous visual effects. For example the composer Liviu Dandara in *Sonata pentru un pian singur* employs the placement in the resonator of the instrument of several objects: spotlights (green, red, yellow) oriented to the lid of the piano and graphically signalled with a special sign ( \(\bigcirc \bigtriangleup \bigcirc\)) which is to synchronize distinctive moments in the development of the piece. \(\bigcirc \bigtriangleup \bigcirc\)
10. THE CLUSTER EFFECT - CONNOTATIONS OF PERFORMANCE AND MUSICAL NOTATION

The term cluster is an English word (meaning bunch, bundle, group), used in music to indicate a group of notes played at the same time\(^29\). The concept is used in various areas to denote an iterative process, being perceived and studied at a macro-structural level – a concentration of elements (partners, producers, professional training providers, institutions) interconnected in a system –, and at a micro-structural level – a stage in which only the elements composing an object (cluster) are interrelated.

Although the cluster technique has proved useful in a wide range of activities related to medicine, psychology, engineering, economy etc., there are many areas in which the concept of cluster has not yet been clearly defined. There are statistical procedures and methods of cluster analysis, used particularly in cases where there are no hypotheses of systematization, and which in research are used as early as in the experimentation stage. Cluster analysis determines how many elements, groups etc. there are in the same sample, identifying a different number of algorithms that compose the constituents of a system. At the macro-structural level of analysis of the cluster, the examination is carried out in relation to different rules of inclusion of the constituent elements, considered as micro-clusters (composing their own micro-structure).

Researchers have proposed different classifications involving: hierarchical clustering (Hartigan, 1975; Kaufman and Rousseeuw, 1990), mixture-model clustering (McLachlan and Basford, 1988, McLachlan and Krishnan, 1997), learning network clustering (Grossberg, 1976; Lippmann, 1987; Tsao et al. 1994, Kohonen, 2001), objective-function-based clustering and partition clustering (Bezděk, 1981, Yang, 1993)\(^30\).

Economic practice has imposed the use, within a cluster, of common programs for complex infrastructures, distinct for each field of activity, and this has caused a mutation in the micro-structural meaning of the concept of cluster. At this level, the term is used with different meanings in different contexts: in physics, cluster refers to a small group of atoms or molecules; in sociology, a technique used in statistical sampling; in the field of energetics, a

\(^{29}\) Goudarzi, M., Ansari, J., Clustering Decision Making Units (DMUs) Using Full Dimensional Efficient Facets (FDEFs) of PPS with BCC Technology, Applied Mathematical Sciences, Vol. 6, 2012, nr. 29, pp. 1431-1452.

\(^{30}\) Ibidem.
cluster is a group of connected objects (there are sustainable energy clusters); in the technical field, there is the concept of innovative cluster; in psychology, the cluster analysis developed in the 30s by Zubin and Tryon is a set of techniques for the classification of the cases included in a database, a procedure that does not lead to a unique solution.

In music, the cluster was initially defined as a group of adjoining notes, major and minor seconds (sometimes micro-intervals), played at the same time. The theoretical foundation of this effect was laid by Henry Cowell (between 1919 and 1930), a composer who revolutionized the American school and among whose students were John Cage, Lou Harrison and George Gershwin. Cowell adopted a micro-level approach to this concept, considering the cluster as the product of the upper harmonics, or as resulting from a glissando played on the white and black keys of the piano. In 1935, Pierre Boulez drew an analogy between cluster (considered as a vertical tone density) and glissando (the same density, but produced obliquely).

1. According to the Collins English Dictionary – Complete & Unabridged 10th Edition 2009 © William Collins Sons & Co. Ltd. 1979, 1986 © HarperCollins, the term dates back to the year 900, the verb cluster, clyster, cognate with Low German kluster, meaning to gather into a cluster or clusters.

The use of obliquity is common in many syntactic categories and determines the configuration of the musical parameters of density (of texture), agogics and dynamics. Mauricio Kagel (1959) uses clusters in his music, distinguishing between static clusters, with a constant length, and moving clusters, with a variable length.

Regarded as an individualized product of modern music (Witold Lutoslawski, Iannis Xenakis, John Cage), the cluster is used as a compositional principle in György Ligeti’s works, where the different range configurations acquire macro-structural significance through chromatic and diatonic relationships, as well as through internal movements of the pitch densities. In their works, Romanian composers Adrian Rațiu and Alexandru Pașcanu employ the cluster effect in its diatonic and chromatic form, by using a vertical organization of the modal structures, or a vertical agglomeration of pitches. Dan Voiculescu brings a new analytical perspective by establishing a hierarchy of these sound conglomerates according to

31 Krippendorff, K., *Clustering Scholarly Commons*, http://repository.upenn.edu/asc_papers/311
range/length, content of tones and half tones, forms of presentation (spaced, broken), register, dynamics, vocal or instrumental nature, placement in the work.\footnote{32}

**The trichotomy of the sign**

Although in musical practice the concept of cluster designates the same type of sound effect produced, usually, by overlapping several tones and half tones, the explosion of signs manifested in the second half of the 20\textsuperscript{th} century – as a result of the rhetoric of aleatorism, of the continuous timbral explorations and of the demand for visualization of the creative act – led to a broadening of the concept of cluster in the field of music as well. In order to understand the rhetorical valences of the cluster, it is helpful to start from the diverse forms of symbolic expression of this sound effect, identified by S. Peirce\footnote{33} at the beginning of the 20\textsuperscript{th} century, in his theory of the Trichotomy of the sign.

The typology of the sign, according to Peirce's theory, depends on the type and meaning of the iconic signs, on the context in which they occur or which is specified, and on its reception. According to Peirce, “a sign is something which stands for something else to somebody in some respect or capacity”\footnote{34}. Peirce was the first to use the term semiosis (Gr. semeiosy – semeiosis ) to designate a process involving a cooperation between three subjects: a sign, an object and its interpretant (“by semiosis I mean, on the contrary, an action, or influence, which is, or involves, a cooperation of three subjects, such as a sign, its object, and its interpretant, this tri-relative influence not being in any way resolvable into actions between pairs.”\footnote{35}).

Thus, as the sign becomes an object of reflection, it exhibits three aspects (which in turn generate the so-called Peircean trichotomies):

- aspects of the sign (the sign in relation to itself),
- aspects of the object (the sign in relation to the object) and
- aspects of the interpretant (the sign in relation to its effect on someone).

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\footnote{33} PEIRCE, Charles Sanders *Semnificație și acțiune*, text selection and translation by Delia Marga, Editura Humanitas, București, 1990.

\footnote{34} MARCUS, Solomon *Semnificație și comunicare în lumea contemporană*, Editura Politică, București, 1985.

\footnote{35} VERON, Eliséo *La semiosis sociale*, in *Documents de Travail et Prépublication*, ’64, Urbino, 1977.
Klaus Oehler explained the triadic structure of the sign with a view to establishing a terminology for the types of signs. He identified the following qualities of the sign, both at the semiological and at the phenomenological level:

<table>
<thead>
<tr>
<th>PHENOMENOLOGICAL LEVEL</th>
<th>FIRST</th>
<th>SECOND</th>
<th>THIRD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in relation to itself</td>
<td>in relation to the object</td>
<td>as a triadic relation</td>
</tr>
<tr>
<td>qualisign (sensorial quality)</td>
<td>icon (e.g. sketch, word)</td>
<td>rheme (isolated)</td>
<td></td>
</tr>
<tr>
<td>sinsign (individual state)</td>
<td>diagram</td>
<td>diceisign (statement)</td>
<td></td>
</tr>
<tr>
<td>legisign (the type generated by the sign)</td>
<td>index (e.g. symptom)</td>
<td>argument (sign based on reasoning)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMIOTIC LEVEL</th>
<th>The reflective nature</th>
<th>The object</th>
<th>The interpretant of the sign</th>
</tr>
</thead>
</table>

**Aspects related to cluster notation in the Romanian piano works**

An overwhelming majority of the Romanian composers who have used clusters in their works considered this complex of chords as a form of summation of a sonorous mass, a phenomenon which in piano music was approached in various ways. In the early decades of the 20th century, composers determined the level of sound density in a cluster by using specific symbols representing the simultaneous action on white, black or mixed keys, as follows:

- diatonic cluster – played on white keys and notated with a white symbol;
  - chromatic cluster – involving the simultaneous striking of black keys and notated with black symbols;
  - partially chromatic cluster – involving the striking of black and white keys, notated with half-black, half-white symbols.
According to their range, clusters have been divided into:
- clusters with a constant range (static clusters) and
- clusters with a variable range (moving clusters).

The limits of a cluster are defined (or not) by inserting the symbol in a determined space. Here are a few symbols used to differentiate clusters:

Liviu Dandara: *Kaleidoscope*

Adrian Raţiu: *Music for Piano*

Aurel Stroe: *Music for Piano, Percussion and Brass*

The sound of a cluster also depends on the manner of execution on the keyboard, which is why composers employ various technical solutions by incorporating different parts of the piano apparatus in the performance: fingers, hand, fist, elbow, forearm, shoulder, and thereby adding a percussive, “tough, rebellious” element to the perception of this effect. Here are some of the solutions employed:

Aurel Stroe: Music for Piano, Percussion and Brass

– simultaneously with 4 or 5 adjacent fingers (chromatic)

– with open palm (chromatic)

– palm closed, stretched laterally, perpendicular to the direction of the keys (chromatic)

– with the edge of the palm

– with the back of the hand

– with the second phalanx of the fingers bent in a fist on white keys

– idem on black keys and with the back of the hand on white keys (chromatic)

– with the fist (only forte)

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36 VOICULESCU, Dan, *op. cit.*, p. 104.
Vasile Herman: *Piano Sonata No. 2*

– sliding clusters by rolling the palm like a blotter (over white and black keys)

The cluster effect can be perceived with timbral variations: by changing the area of execution, the cluster is expanded to include the strings or different parts of the piano; when intended for ornamentation purposes, clusters are played glissando, tremolo or as trills, with appoggiaturas etc.:

Eduárd Terényi: Piano Games – melody formed of flowing clusters

Cornel Ţăranu: Contrasts II – clusters played tremolo col pugno

The compositional approach of the cluster at the micro- and macro-level is highlighted in Eduárd Terényi’s Cluster-Melodia and Improvvisazione from the cycle Jocuri pianistice [Piano Games], where the second piece draws the graphic contour of the previous one within certain time limits, while the performer is invited to recreate the previous page within limits imposed by the sound density.
We notice the predominance of graphical elements in the two scores, even if the first piece contains precise indications of tempo, manner of execution and pedal use, all of which parameters represent micro-structures of the macro-cluster.

**Connotations of notation and performance**

The sound innovations gained by the piano in Modernism, Post-modernism and contemporary music are correspondingly reflected in the field of graphical notation, by changing the relationship between the signs used and the performer/receiver of the music. The composers' highly personalized approaches to the graphical representation of clusters have determined the appearance of mutations in relation to the object (instrumental execution), given that:

- several symbols have often been used for the same effect,
- regarding the level of improvisation granted to performers, there are precise or relative values for the setting of sound parameters.

In the dynamic development of indications and signs indicating the simultaneity of certain actions performed inside or outside the piano and which, overall, create cluster-like sonorities, a tendency to detail the micro-structure can be noticed:

Liviu Dandara: Triforium

Dan Voiculescu: *Piano Sonata No.1*

Trio for Violin, *Cello and Piano*

Aurel Stroe: Concert *Music for Piano, Percussion and Brass*

Eduárd Terényi: *Piano Games*

Liviu Dandara: Kaleidoscope – clusters on strings

The visualization of the manner of execution appears in the foreground, while the traditional significance of the signs is abandoned:

Vlad Opran: *Preludes for Piano*

- cluster played with the fist
- cluster played with the shoulder
Nicolae Brânduş: *Sonata for Two Pianos*
– cluster played with the forearm on white keys

Vasile Herman: Piano Sonata No. 2
– chromatic cluster

Expressed in various forms of notation, the cluster effect is frequently used in the piano works of composer Violeta Dinescu. In order to grasp the complex nature of this effect, a few innovative approaches are worth highlighting:

Ex.1, Schlachtfeld von Marathon – für Klavier V-er Teil: Wie aus weiter Ferne, visualizes the structure of several static and moving clusters over the entire range of the piano, which are randomly transformed into (ascending and descending) circular movements played glissando. Played in contrasting dynamic nuances (f - p sub., fff - p sub.) while pressing the right pedal, the clusters create a full sonority in the area of tightly packed density.

Example 1: Violeta Dinescu, Schlachtfeld von Marathon – für Klavier V-er Teil:
Wie aus weiter Ferne

In Example 2, quoted from Echoes II – für Klavier mit Schlagwerk, the composer develops, along a specific dynamic path, a (vertical and horizontal) synthesis cluster involving a chromatic cluster played glissando and perceived as an aggregation of the sonic micro-structures composing the cluster:
Example 2: Violeta Dinescu, Echoes II – für Klavier mit Schlagwerk

In the piece Klavierheft II Flugbilder und Silhouetten der Vögel im Duett 5. Mauersegler (Ex. 3), the author creates a texture of variable density, visualized by means of chromatic and mixed clusters, a graphic image suggested already in the title of the work (Images and Silhouettes of Flying Birds in Duet):

Example 3: Violeta Dinescu, Klavierheft II Flugbilder und Silhouetten der Vögel im Duett 5. Mauersegler

The semiographic and interpretive connotations of the last three examples can be synthesized in terms of the significance of the signs, and related to the three trichotomic aspects suggested by Peirce:

<table>
<thead>
<tr>
<th>Example/aspects of notation</th>
<th>Aspects of the sign</th>
<th>Aspects of the object</th>
<th>Aspects of the interpretant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ex. 1</td>
<td>Chromatic cluster</td>
<td>Static and moving clusters spanning the entire range of the piano</td>
<td>Macro-structures with variable intensity</td>
</tr>
<tr>
<td>Ex. 2</td>
<td>Moving cromatic cluster</td>
<td>Synthesis cluster (vertical and horizontal) with a specified dynamic range</td>
<td>Macro-structure with variable dynamics</td>
</tr>
<tr>
<td>Ex. 3</td>
<td>Chromatic and diatonic cluster with variable density</td>
<td>Texture with variable density</td>
<td>Macro-structure consisting of diatonic and chromatic micro-structures</td>
</tr>
</tbody>
</table>
The cluster sound effects are perceived in different ways and trigger different reactions. The level of musical reception has deep socio-cultural implications, and therefore the relationship between music and public becomes highly subjective. The dynamic transformation of the level of perception and understanding of music in relation to language evolution, along with the technological advancement of the musical performance entails a strong individualization of musical perception\textsuperscript{37}.

**Conclusions**

Nowadays, the cluster is a sui-generis concept benefiting from a specific approach in each field of activity, and applied both at the micro- and at the macro-structural level. In the field of research, the cluster phenomenon becomes a multidisciplinary space that determines the formulation of new perspectives, hypotheses of research, or even concepts. Through this interdisciplinary approach, new directions of study can be created, so that nowadays, the concept of cluster designates complex, unique and innovative processes.

In the musical field, the cluster effect was initially approached on a micro-structural level, with the macro-structural approach subsequently deriving from the initial rules of construction. Perceived broadly as a thickly packed density, the cluster requires distinct forms of notation (often associated with graphical images), outlining complexes of sounds based on musical units, each of which represents a cluster in itself and which, by addition, becomes a macro-structural cluster.

The perception of these sound effects depends on their semantic decoding by the performer, as well as on their aural perception, which is subjectivized by the sonic result and by the listener's level of musical training.

11. ORNAMENTS IN PIANO WORKS

Treatises on music or music lexicons define ornaments as “grace-notes”, “embellishments”, “decorations” of the melody, marked by means of distinct graphical configurations.

The question arises whether a gruppetto or mordent are ornaments only as long as they are marked by abbreviations and whether they cease being ornaments when they are notated in extenso. The role of ornaments has been controversial ever since the time of C. P. E. Bach, who argued that, since they contribute to the expression of a composition’s meaning, they are not only necessary, but in fact indispensable, for without them the melody would seem empty and meaningless.

The issue concerning the importance of ornaments has never ceased to arouse interest. At a congress in Vienna in 1908, Adolf Loos asserted a principle which was shocking at the time, namely that a „a well designed construction needs no ornaments”[1]. As a paradox, 1908 is the year when Gustav Mahler - a musician regarded as the last ornamentist composer - wrote Das Lied von der Erde.

The signalled arguments seem to arise from a necessary distinction between the two basic aspects of ornamentation: form and function.

The entire literature written on this subject has stressed the form (ornamentation signs and formulas) and only little attention has been paid to their deeper meaning, to the intrinsic forms which created these patterns and symbols. In order to clarify these issues, musicologists distinguish nowadays between ornamentation and ornamentics, offering a solid basis for the organization of the complex material accumulated in time. Matters belonging to the sphere of ornamentics are thus analyzed: figurations, embellishments, decorations, melisma, improvisation.

In order to point out the differences between ornament and ornamentation, we start from the following assumption: ornamentation is “a procedure of varying a vocal or instrumental melody which consists of adding notes or groups of notes, of shorter accessories, named ornaments”[2], which can generate musical forms. It has not always been considered a purely linear concept, but one which interferes with the harmonic and polyphonic fields. These interferences also exist in the case of ornaments, such as the interrelations between ornaments and harmony in the treatment of dissonances in the classical era, which
recommended working with foreign notes according to strict harmonic and rhythmic laws (strong and weak beat): delays, long or short appoggiaturas, the beginning of trills etc.

While attempting to compare ornamentation and ornaments we become aware of an obvious feature of the latter category: they are added, they are not indispensable and not always essential. Regarded in relationship to their function, ornaments can be classified into:

1. added ornaments, those “embellishments” and “decorations” (a term found in medieval treatises) added to compositions by their performers with a certain degree of freedom on their part – practices used ever since the 16th and the 17th centuries.

2. essential ornaments, which are written and possess but a small degree of improvisation, so that they cannot be omitted without destroying the nucleus of the musical idea, without making it unintelligible.

3. structural ornaments, which represent the meaning and the essence of the composition. In Hindu music for instance, ornaments are inseparable and almost identical to the melody; it is therefore completely unacceptable to separate the melody from its unadorned versions, since that would lead to a theoretical, abstract, unreal skeleton.

As a consequence, we consider that an analysis and classification of ornaments from a historical, evolutionary perspective is a necessary step. We shall begin from two relevant viewpoints, the first belonging to Ernest T. Ferand (in the above mentioned work) and the second to Adolf Beyschlag [3] in *Die Ornamentik der Musik* (Breitkopf &Härtel, Leipzig 1953).

In the first author’s opinion, “a history of music in the light of ornaments” would comprise the following periods:

1. the epoch of free, creative, improvised or written ornamentation to be found in monodic and polyphonic music beginning with 1450;

2. the epoch which brought about a standardization of the diminution practices and techniques in the monodic and polyphonic music. (By diminution we understand an ornamentation procedure consisting of freely dividing a note according to the performer’s will). As a rule, diminutions appear at the reprise of a slow piece or at the second couplet of the arias. This epoch corresponds approximately to the period between 1536-1650, a time of manuals and other didactic works dealing with “embellishment” techniques (authors: Herbst,
3. the propagation of ornaments in piano music from Chambonnières to C. P. E. Bach (1650-1750);

4.a growing tendency of incorporating ornaments in the context and in the visual aspect of music, a period extending from J. S. Bach to L. van Beethoven (1720-1820);

the last ornamentist composers: Chopin, Liszt, Mahler, who distinguish between:
- pianistic (chromatic) ornamentation;
- orchestral (colouristic) ornamentation (1820-1910).

A. Beyschlag divides his manual of ornamentics - *Die Ornamentik der Musik* - into two large chapters:

- „Die Ältere Ornamentik“ (older ornamentics)
- „Die neuere Ornamentik“ (newer ornamentics)

He conducts this classification following a thorough analysis of embellishment methods, from the oldest adepts of these techniques to the authors at the end of the 19th century, Liszt, Brahms and Wagner. However, in order to approach ornaments in contemporary music, we need to look into their use during different stages of style evolution.

**Baroque ornaments**

The French compositions for harpsichord offer a first point of reference, due to their abundance in ornamental figures marked by various signs that require the appending of explanatory tables. F. Couperin for instance uses 27 such figures, described in the prefaces to the works *L’art de toucher le clavecin* and *Pieces pour clavecin*, to which he appends “Explication des agrémets”.

After analyzing the ornaments depicted in the explanatory tables and in the works proper, we decided upon the following classification:

- coulée ornaments, which suggest the attainment of intermediary sounds always placed, from a rhythmical viewpoint, on the unstressed part of the beat. We encounter an ascending, as well as a descending coulée, each with a corresponding sign – a descending or ascending slash. The term also designates a manner of action, since it requires an intercrossed performance without interrupting the cursivity of the melodic line.
- lié ornaments, which, irrespective of the employed flourishing, require a “legato” performance and a delayed attack of the ornament.

- détachée ornaments, which are performed with short interruptions, in specific rhythmical configurations that the composers described and claimed.

In 1731 (the birth year of *Pieces pour clavecin*), another representative of the said period, J. P. Rameau, used signs that indicate the execution of ornaments: with interruptions and without interruptions - next to which he also mentioned the indication “suspension” or “demi soupir” (mezzo-sospiro in Italian), using the same sign as Couperin, who had called it “détachée” (avant un trimblement, avant un prince etc.).

D. Scarlatti, composer and harpsichord player, composed approximately 560 sonatas for harpsichord, which opened the way for modern piano technique. His works abound in the “decorations” used by his predecessors combined with ornaments specific to his own system of notation. In his sonatas we notice the abundance of mordents and trills (which, when played at high speed, become similar to mordents), of tremolo flourishes as well as of appoggiaturas, which he uses in two hypostases:

articulated on the strong beat, for which he uses a personal sign

articulated on the previous weak beat with sounds close to the main note, which are simultaneously heard on the strong beat (acciaccatura)

the gruppetto, born out of the traditional French “double” (for which Scarlatti established fixed rules, such as the differentiation of the gruppetto of four and five sounds, notated above or after a real note).

The way to “the new ornamentics”, as A. Beyschlag named the system of ornament notation with homogenizing tendencies which appeared after J. S. Bach, goes through G. F. Händel’s work.

In *Aus The Harpsichord* Händel enumerated the “grace-notes” used in his works,
append a table with the details necessary for execution.

Despite all the explanations provided, the mordent and the trill (as Beyschlag also stressed) are confusedly notated in his works, due to the fact that the manuscripts contain a large variety of abbreviations for the same sonorous phenomenon. The aforesaid ornaments appear either accompanied by appoggiaturas notated in extenso or in combination with the gruppetto; but in order to establish the (superior or inferior) oscillating sound the signs are not used consistently, only the indication “tr.” (in letters) specifies the sound which will alternate with the superior sound and which always begins with the real note. The use of ornaments seems clearer in the works of J. S. Bach, due to the explanation provided by his son W. F. Bach in *Clavier Büchlein* from 1720, where he placed a table explaining “the manner of executing ornaments in J. S. Bach’s work”. Beyschlag brought his contribution in the form of a “Liste der Verzierungszeichen” belonging to J. S. Bach.

On a first analysis, we notice Bach’s predilection for combined ornaments such as: appoggiaturas with trills, trill or mordent with gruppetto, notated by corresponding signs. We also notice that the gruppetto possesses new graphical forms, so that the specific sign can be marked: horizontally – for a regular execution (being made up of five sounds), vertically - after a long note, and obliquely – when the gruppetto begins with the superior sound.

In spite of the subsequent explanation, Beyschlag points out in his manual the confusion extant in the notation of the appoggiaturas, showing that Bach used notes in smaller type and of different values, without marking them with an oblique stroke and without specifying whether they are stressed or unstressed, so without dividing them into short and long appoggiaturas. These appoggiaturas were later rewritten by various publishing houses as short appoggiaturas.

The merit for having ordered the extant ornaments and systematized the entire range of employed signs belongs to C. Ph. E. Bach. Beyschlag placed the aforesaid author at the turning point between “the old ornamentics” and “the new ornamentics” and included all tables of ornaments in his treatise.
C. Ph. E. Bach included these tables in his work *Versuch über die wahre Art das Clavier zu spielen* which started from a systematic study on one of J. S. Bach’s works and appeared three years after his father’s death. The author pays special attention to “manners” (as he calls them), which he considers to be as necessary for music as ingredients are for food.

**Classical ornaments**

Beginning with the classical epoch, one notices the (almost) exclusive use of typical ornamental formulas, regarding both notation and execution; one also becomes aware of a tendency to notate in extenso, probably out of the desire to create no ambiguities for the performers and to assure a high fidelity in the execution of the musical text.

However, W. A. Mozart made attempts of escaping the rhythmic-melodic patterns set by C. P. E. Bach. Therefore, according to Mozart’s desire that piano art should reflect the cantability and melodicity specific to vocal art, his works contain frequent long appoggiaturas, always placed by the sound immediately above or below the real note, noted in smaller type and unmarked by an oblique stroke. Due to the frequent use in his works, it is also called long Mozartian appoggiatura and “expressive appoggiatura” because of the expressive character it confers.

Already in Mozart’s compositions we notice attempts to push the height of the appoggiatura note further from the neighbouring sound (a procedure characteristic to the following epochs, partially due to the development of the piano technique); in many of his sonatas, the long appoggiatura gives birth to leaps in the form of octaves, sixths, fourths etc. This tendency in the ornamentics of his piano works caused us to divide his ornaments into:

- vocal ornaments
- instrumental ornaments

The first category includes, next to long “espressivo” appoggiaturas, the gruppettos, which begin to be notated in extenso (with notes in small type and undetermined durations) and are usually encountered in the slow parts. The large diversity of the gruppetto abbreviations (in the consulted editions) led us to believe that Mozart intentionally let the performer decide on their execution (that is to say, he permitted a certain degree of freedom), out of a desire to allow the manifestation of the performer’s expressiveness and naturalness.

The category of instrumental ornaments includes, besides trills and mordents, grace-notes, which are frequently encountered in the slow parts of his sonatas and concerts. They
reach different dimensions, sometimes resembling a melodic cadence (from vocal music), being also specific to bravura cadences in concerts, with an obvious accent on the technical side.

In L. van Beethoven’s work we notice how ornaments may represent defining moments for the performer’s virtuosity, as they require solutions for special technical problems, such as:

- overlapping trills on each sound of the accord, which must be solved by the simultaneous execution with different fingers of the same hand.

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<td>Allegretto</td>
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trills notated along several measures (over 30) which are conceived as a background above and beneath which the musical discourse unfolds naturally (as is the case in Piano sonata op. 57, part II);

- trills with preparatory appoggiaturas bringing sounds located far from the trill’s beginning note;
- simple and double appoggiaturas made up of sounds located far from the real note which cause technical problems because they must be executed at an utterly rapid tempo.

In order to assure accurate executions for his works, Beethoven incorporated in their rhythmic-melodic configuration a range of ornaments which had once been notated by means of abbreviations. An instance thereof is the notation of the appoggiaturas: when they are marked with notes in small type, they are always executed, from a rhythmical viewpoint, prior to the strong beat. This chapter gave birth to huge confusions, because Beethoven did not point out (by an oblique stroke) whether he had notated long or short appoggiaturas; therefore, while Beyschlag considers them short appoggiaturas, the Czerny editions for instance regard them as long ones. Our conclusion is that the tempo was responsible for their transcription as follows: rapid tempo - long appoggiatura, slow tempo - short appoggiatura. When Beethoven intended the appoggiaturas to be stressed, he notated them in the usual way and incorporated them in the general writing without using notes in small type. He used the same notation for double, triple and multiple appoggiaturas when they must be performed in an unstressed manner, during the precedent beat.
**Romantic ornaments**

In the end of the 18th century, the interest in ornaments decreases and in the following centuries only isolated cases are to be noticed. We can mention a few significant moments in treating and notating the ornaments at Romantic composers, studying this category in the stages coexisting during Romanticism either at its climax, or during Post-Romanticism.

They are as follows:

- ornaments marked by abbreviations, such as those found in the works of: F. Chopin, R. Schumann, F. Mendelssohn, F. Schubert, who use the ornaments in a “classical” form, with preferences for certain categories. For example Chopin uses ornaments of different dimensions, on tempo rubato (with the indication poco rall) in most of his nocturnes, preludes or ballads. Schumann’s works are full of appoggiaturas, from the simple to the multiple ones, but clearly defined from the notational point of view. Probably avoiding to confuse the interpreters, some composers don’t use the abbreviation of the mordent, using double notation appoggiaturas, before or after the strong beat, the inferior group being notated with the usual abbreviation, but cut by a vertical bar.

- written ornaments, incorporated in the rhythmic-melodic configuration. We are bound to mention here the numerous cases where, in the rhythmic-melodic writing, changes belonging to the traditional ornaments can be noticed, but they are notated with values and heights in ordinary characters. We can find such examples in the works of all Romantic composers.

- atypical ornaments

Among the atypical configurations we mention:

- appoggiaturas which bring the sounds in various melodic combinations or touch a considerable amount of sounds (Brahms, 8 sounds in the configuration of an arpeggio), simple appoggiaturas at different interval

![Brahms - Sonata op. 2 Finale](image)

trill preceded by appoggiaturas as varied as possible from the point of view of height, or a sequence with short appoggiaturas in trill
108 - trill articulated before the strong beat, notated by a legato with the strong beat
gruppetto followed by other ornaments – for example a group with short appoggiatura
repeating the final sound of the group
- gruppettos which no longer follow the strict rhythmic rules
- arpeggiated chords with extremely large range, or, on the contrary, only on two
neighboring sounds

Although during Romanticism we find various ways of treating the ornaments, from
the point of view of the melody and rhythm the problem refers to the knowledge of the
phenomena which led to the disappearance of these “decorations”, as after the “climax” of
Romanticism the ornaments entered an obvious crisis. Possibly generated by the lack of
creative solutions in connection with the main groups of “embellishments” or, in general, by
the exhaustion of everything these categories could express with more “sensitivity”, we
witness a clear intentional avoidance of everything reminding of the old ornaments during the
following decades.

Ornaments in 20th century music
There are two contrary tendencies in treating ornaments in the 20th century music:
approaching them in one of the three forms of notation (especially with the neo-
modalist composers)
avoiding everything characteristic to ornaments, while specific configurations rarely
appear, but with a rhythmic role (the serialist and post-serialist composers).

For the first category we mention the following composers: G. Enescu, B. Bartok, I.
Stravinsky, who transpose the “colors” of ornaments in their works as a consequence of their
interest in folklore. Therefore, ornaments are present in their creation in their atypical form,
but they are introduced in the rhythmic-melodic context and notated in normal characters (for
example, chain mordent – Baroque sequence).

Olivier Messiaen, creator of the “oiseau” style in music, will write down the
ornaments specific to the song of the birds such as: all categories of appoggiaturas, many trills, glissandos facilitating the abrupt changes of register.

We can also notice innovative ornaments from the perspective of construction and notation such as:

- short appoggiaturas made up of chords (Enescu, Bartok);
- the juxtaposition (for the two hands) of multiple appoggiaturas with a different number of sounds:
  - (2 – right 3 – right)
  - 3 – left 4 – left) Olivier Messiaen
- the notation of the short appoggiaturas as two sounds in an arpeggio, at a small interval (Bartok, Enescu);
- trills with appoggiaturas of preparation and closing sounds very far apart as height is concerned from the real note;
- trill with the anticipation of the following note;
- trill ribatutta (on sostenuto accelerando);
- trill with the oscillation notes between sounds very far apart;

  1. Stravinski - *Sonata pt pian*, p.1

  ![image](image.png)

- tremolo preceded by different ornaments;
- arpeggiated chords in different ways for the two hands
- timbre indications together with ornaments.

In the tendency of the serialist composers to avoid the language of the past centuries we notice the avoidance of melodic-rhythmic contours reminding of ornaments. Rarely, appoggiaturas or arpeggiated chords are notated as a rhythmic abbreviation. Nonetheless, the main characteristic of appoggiaturas remains the anticipation of one or several sounds from the following chord.

In Romanian musical creation, although some authors avoided the use of certain rhythmic-melodic contours reminding of the traditional ornaments, numerous composers made use of these decorations (especially the neomodal composers) as follows:

- ornaments with an expressive function, where ornaments keep the connection between the content and the musical expression (a technique inherited from the vocal music
The appoggiaturas

The appoggiatura is the ornament made up of one or several notes, usually written in smaller characters near one of the main notes of the melody and is frequently noticed in the piano works of the 20th century. All forms of articulation of the appoggiatura have been used: the anterior appoggiatura, the simultaneous and the posterior one and regarding their construction, the following new aspects can be noticed:

- appoggiaturas made up of sounds far from the real note;
- building appoggiaturas from sounds bringing double or triple leaps which simultaneously converge towards the same real note: Cornel Taranu – Sonata ostinato;
anticipative appoggiaturas which come before sounds with prolonged resonance: Cornel Taranu

appoggiaturas which settle the limits of the cluster they precede: Vlad Opran

The trills

The group of trills contains the following ornaments: the mordent, the trill, the tremolo and the vibrato and is not very used starting with the 20th century. The mordent is especially used in the traditional works and it is notated either in the form of short abbreviations or by the indication of a trill to be played in a fast tempo, so with a simple oscillation of the real note with the neighboring sound.

This ornament can be found in the following works: George Enescu – *Sonata III for piano and violin*, Adrian Ratiu – *Monodic interlude*, Vasile Herman – *Eight compositions for piano*. In the Sarabanda of the *Suite for piano op. 10*, George Enescu uses this ornament in order to render the elegant atmosphere of the Baroque dances and the sign is often accompanied by the expressive term “noblement”, which shows just the expressive character of this ornament. In the cycle *Preludes for piano*, Vlad Opran frequently notates mordents made up of cluster like overlapped sounds, alternating white and black keyboards.

The trill is extremely rare and when it is used it can bring about transformations in construction and notation:

- nota
- ted in extenso (with sounds) or with the current abbreviation throughout the fragment: Mihai Vartosu – *Toccata*;
- made up of precise sounds comprised in a graphic symbol with angular aspect (as a paper clip) or with chosen sounds (disposed inside the same symbol) in *Terzine di Dante* by Eduard Terenyi;
- combined with other ornaments, especially with glissando: Liviu Dandara – *Sonata for a single piano*;
- combined with other effects: with the cluster – Eduard Terenyi – *The cluster-melody (Pianistic games)*, where a trill of clusters appears (made up of black
and white keyboards) progressing within certain dynamic limits and a constant
tempo;

- irregular trill (made up by the variation of the oscillations’ speed): Valentin
  Petculescu – *The hora of the seasons*;

- ascending and descending trill, with an irregular height: Cornel Taranu –
  *Dialogues*.

The tremolo is used as an ornament consisting of the rapid and repeated alternation
of the same sound or of several sounds, chords and clusters. We often notice these
in George Enescu’s works, where the procedure contributes to making the musical
discourse more dynamic by suggesting other instruments (for example an
accompaniment of the cimbalom for popular dances and horas in the *Scherzo*
of the second part of the *First sonata*).

We also find a tremolo of clusters in Cornel Taranu’s work *Dialogues* and in Vasile
Herman’s *Concert for piano*. It can be played with sounds of a definite height but
approximate duration, or ad libitum, as in the work *Echoes I for piano* by Violeta
Dinescu.

The tremolo is specific for the string or percussion instruments and this is highlighted
by the 20th century composers by the introduction of auxiliary instruments (characteristic
for the percussion instruments) in its construction. For example, Stefan Niculescu in *Triplum II
for clarinet, cello and piano* overlaps the sign for the timpani stick over the symbol for trill
and mentions that: the left hand, with a timpani stick, will play directly on the strings quasi
tremolo.

**The arpeggiato**

The arpeggiato in contemporary music suggests the successive execution of the sounds
in a sonorous group. The sign for this ornament has been modified as follows:

- Adrian Ratiu: Music for piano ascending and contrary arpeggiato (at two
  hands)

- Alexandru Hrisanide: *Chordic study; Klavier stüke 1-3* arpeggiato ad
  libitum
- Aurel Stroe: *Music for piano, percussion and brass* quasi arpeggiato by rapid double attack from the white keyboards to the black ones or the other way around

- quasi arpeggiato by rolling the hand from the low to the high register (to the right) or the other way around

- Violeta Dinescu: *Echoes I for piano* arpeggiato ad libitum, the graphic contour shows the direction of the melodic line.

Sometimes the intrinsic meaning of the ornament underwent modifications, for example George Enescu, in *Sonata III for piano and violin*, notates the request to play certain arpeggios in a slow tempo.

**The glissando**

The glissando implies the rapid and equal slide, from one note to the other, through all the intermediary sounds (in French glisser means to slide). It is notated either by the term gliss., or by a wavy or a straight line between the first and the last note and as duration is concerned, it takes the value from the note it begins with.

In the music for keyboard instruments gliss. only began to be used during the 20th century, either in the execution on the keyboards – gliss. on white and black keyboards – or by direct action on the strings of the instrument.

From a technical point of view, the passage from one sound to another can be done by the sliding of a finger (the palm facing downwards or upwards), or of certain objects over the keyboards or strings of the piano. By simultaneously stepping on the pedal a sonorous mass will be generated, which can be assigned to the area of maximum crowding of sonorous objects. In the experiments between the two extreme areas of hearing (rarefied and crowded), the aleatoric music has imposed this ornament (with its complex configurations) as a whole where the detail loses its meaning.

Starting from the basic technique of obtaining the glissando on white and black keyboards, we mention a few new possibilities of creating this ornament as well as its graphic
form:
- ascending, descending or contrary glissando, within precise boundaries or starting from sounds of precise height:

Constantin Rîpă: *Trio for piano, violin and cello* gliss. within stable boundaries

Alexandru Pascanu: *The Black Sea* gliss. tasti bianchi gliss. tasti negri gliss. on tasti negri e bianchi

Cornel Taranu: *Contrasts I and II* gliss. on black keyboards, from the highest to the lowest sound of the piano

Constantin Ripa: *Trio for violin, cello and piano* contrary gliss. on the white and black keyboards that meet in the same point

*The song of sleep (To the soldier)* simultaneous gliss. on the white and black keyboards

Tiberiu Olah: *Symphony I* gliss. Rapidamente

Vasile Herman: *Eight compositions for piano* descending gliss.

Aurel Stroe: *Concert music for piano, percussion and brass* ascending and descending gliss.
gliss. sempre (repeated) both ascending and descending

Vasile Herman: *Sonata II for piano* ascending and descending gliss. on the black and white keyboard interrupted glissandos (also called irregular)

Vlad Opran: *Momento (Preludes for piano)* simultaneous, interrupted gliss. (with both hands) interrupted gliss., slided from the white keyboards to the black ones

Liviu Dandara: *Sonata for a single piano* interrupted gliss.
interrupted gliss. at both hands

In the execution of a glissando, particular movements and other parts of the hand can be involved (other than the fingers). Consequently, a glissando can be obtained by a circular movement, by rolling the palm or by alternating hands.

The possibility of acting directly on the piano strings will facilitate the creation of the sounds specific for this ornament.

The glissando can be executed in two different directions on the piano strings:

- along a single string, by sliding the finger (similar with the string instruments) on all the strings, in different directions or preferential registers.

Liviu Dandara: *Caleidoscope* lateral gliss. on the strings in the direction shown

lateral gliss. on the strings

Adrian Ratiu: *Constellations* gliss. sulle corde within boundaries of height and time

This ornament can also be executed on the strings with auxiliary instruments made of wood, metal, glass etc., which will modify the timbre of the instruments accordingly.

Stefan Niculescu: *Triplum II for clarinet, cello and piano* rapid gliss., executed directly on the strings in the directions shown, with the wooden stick gliss. with
nails along the strings

Glissando can be associated with other effects present in the modern piano works, creating particular sounds, which, from a semiographic point of view, are treated differently from one composer to another. The following combinations are possible:

gliss. combined with ornaments

Vlad Opran: *Les oiseaux de Messiaen* gliss. between sounds in tremolo

Adrian Ratiu: *Monosonata I* gliss. of clusters

Glissandos executed simultaneously with sounds to be kept (with or without the pedal)

Eduard Terenyi: *Choral (Pianistic games)* the right hand keeps a sound, then makes a sudden glissando, while the left hand executes irregular glissandos in pp legatissimo

* Lasciar Vibrare * gliss. on the white and black keyboards stopped on the wooden lid of the keyboards, while the starting sound is kept

Glissando associated with sounds uttered by the interpreter inside the piano, at the same time stepping on the right pedal

Dan Voiculescu: *Mr. Goe dilettante* vowel uttered inside the piano and synchronized with the execution of a glissando in the pedal and afterwards the echo is heard

- gliss. stopped on sounds with prolonged vibration

Cornel Taranu: *Concert for piano* gliss. in a contrary direction led towards precise limits left to resonate.

If we analyze the ornaments from the perspective of the technical needs, we notice an evident mutation produced in the essence of the concept of ornament to most composers.
Formerly considered “embellishment procedures”, in the 20th century music they only justify their existence by the speed requested by the composers (regardless of the rhythmic-melodic contour used), to the detriment of noblesse and enhanced expressivity needed for them during the previous centuries.

Irregular, abrupt, interrupted sonorous actions, with sounds as dissonant as possible or embraced by the pedals and executed at maximum speed, these are actually the main characteristics of the 20th century ornaments.

Therefore, we can state that ornaments have received a new direction of manifestation aiming mainly at virtuosity and reflected in their construction and high speed of proceeding. In this respect we can note the unity of conception in notating certain sequences of sounds to be played fast, request reflected in notation by adding a slash bar (similar to the distinctive sign of the short appoggiatura) for every type of rhythmic-melodic configuration.

**Self-valuation test 2**

Answer to the following question:

a. Mention the sound effects encountered in vocal music of the twentieth century?

b. Mention some techniques of action inside the piano?

c. What are the two different directions on the piano strings?

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LEARNING UNIT.3
CASE STUDY IN CONTEMPORARY ROMANIAN MUSIC

Contents

12. Jocuri pianistice by Eduárd Terényi, a landmark among the semiographic innovations of the 20th century
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Objectives of the Learning Unit

Upon reading this unit the student will be able to:

● identify instrumental / vocal effects in works by Romanian contemporary composers;
● grasp new composition concepts from musical examples;
● delineate expressive coordinates in vocal/instrumental creations;
● decode experimental music notations, individualized for each composer.

Summary of the learning unit

The piano creation of the composer Eduard Terényi sums up the composing experiences that are derived from successive conceptual accumulations that are enlisted in the complex process of the transformations and makings of the artistic language of the twentieth century music. The novelty of his musical works comes in this way through a total reviewing of the way of organizing of the sonorous substance where frequently the sonorous parameters seems to be freed by the rigours of the traditional conventions. The innovative attitude both in a semi graphic area and also into the depths of the sonorous view prove that the author prefigures a composing trajectory from the modernism and not from the tradition that explains why the tools that he uses to operate on are, in many respects a surprise.

In the twentieth century the evolution of the lied genre declined, as poetry itself has evolved into a formal de-structuring (in terms of meter and rhyme), but especially regarding the idea of content, as poetry set on music has become quite obsolete (lyrics, verse, stanza, etc.). Thus the lied has become a creation in which poetry and music represent dual entities, placed side by side, each with its own abstract language. With this in mind, when the idea of the project of composing music on five poems by Transylvanian poets emerged, the composer Constantin Rîpă started from the idea of leaving the poems to express themselves, i.e. to confer the possibility of understanding the literary text.

The composer Tudor Jarda prefigured in the Romanian musical life a new dimension of the opera compositions, his works being presented in first hearing on the stage of the Cluj-Napoca National Opera: Neamul Soimăreștilor (1959), Pădurea vulturilor (1961), Dreptul la viață (1981), Înger și demon (1989). Being considered an artistic product of the Transylvanian spirituality, Tudor Jarda created in Înger și demon pages of remarkable expressivity, a consequence of mastering a particular musical language. Through the subjects employed, Înger și demon opens a universal conceptual space in which the emphasis shifts from the psychological drama to the action of the creative consciousness.
12 **JOCURI PIANISTICE BY EDUARD TERENYI, A LANDMARK AMONG THE SEMIOGRAPHIC INNOVATION OF THE 20th CENTURY**

Eduárd Terényi’s compositions for piano represent a landmark among the compositions in Transilvania, the originality of the solutions configuring a new road for the 20th century local piano education. The work *Piano games* stands out because of the author’s innovative attitude with respect to the sound, the timbre, as well as from the semiographic point of view. Comprising a number of twenty works which can also be performed individually, the cycle contains the following piano miniatures: *Koppantások; Dallam Elő-És Utójátékkal; Scherzo Közjátékkal; Czerny- Etűud Rondo Balkézre; Fehér-Fekete; A la Strawinski; Kontraszt; Improvvisazione Cluster- Malódia; Capricechio Jobbkézre, Népdal; Kétszolamű Invenció; Hommage á Chopin Staccato e tenuto; Et trés expressif; Replika Lasciar vibrare and clocks Choral.*

The novelty of his musical works comes through a total reviewing of the way of organizing of the sonorous substance where frequently the sonorous parameters seems to be freed by the rigours of the traditional conventions. The innovative attitude both in a semi graphic area and also into the depths of the sonorous view prove that the author prefigures a composing trajectory from the modernism and not from the tradition that explains why the tools that he uses to operate on are, in many respects a surprise. If we analyze the semiographic procedures that can be found in the creation *Piano Plays* of Eduard Terényi, we realize that their diversity was determined greatly, by the complexity of the composing language that was marked by the intervention of certain techniques as:

- The enlargement of the sonorous domain;
- The liberty of improvising that is given to the player;
- The inclusion of some visual notions inside the music field.

Starting with the twentieth century, the assembly of the expressive means of expressing will meet an obvious diversification through the approach of some original solutions that are frequently individualized. The composer will try some differentiations of the basic sonorities relying on the type of the emission of the sound by using (apart the details that regards the techniques of using of the instrument), varied indications that directly regard the instrumental colour: *metallic piano sonority* (Eduard Terényi – *Capriccio for the Left Hand*). In a short time, the dynamic differentiations, the agogic fluctuations, the enriched timbre events, all the technical procedures that are practiced before did not satisfy the
necessities of renewal of the musical language.

The keypad represents the central development area of the musical discourse although the touché stops representing the same notion as it meant the preceding epochs (when the worry of obtaining some agreeable sonorities was most important). The toughness and the roughness of the attack correspond sometimes entirely to the new aesthetic category where the composers pretend the player to play a large range of touché, which vary some of the extreme nuances. In the Piano Plays the composer Eduard Terényi require some indications that propose varied procedures in the way of attack of the keypad. Some sounds that are pressed silent, in such a way as the little hammers do not touch the chords, to be played as a percussion with the fingers highly risen; some rows of the chords with a clenched position of the fingers (À la Stravinski) and so on.

The operation of the piano on all its composing parts both on the keyboard and in the interior and also its exterior, constituted a step in the diversification of the musical timbre. It is not by chance that in the view of the twentieth century composers, the piano represents an entirely sonorous concept that is capable, through its total exploitation, to make multiple sonorities and some similar effects to the surrounding sonorous area.

Original solutions in the piano actions can be contemplated to be executed in both the interior and the exterior of the instrument in the Piano Plays creation. For example, martellato (regarded as an indication to accentuate the staccato) is gained at the piano through a wanted jerky detachment of the sounds that were attacked in forte. In A la Strawinski the composer pretends “a martellato without the pressing of the sound” or he delimits the sonorities of the effect through different ways of attack.

In Pocnituri (Cracking Noises) of the cycle Piano Games, it is noted: “martellato through the hitting of the keys with the tip of the fingers, sf had to be dozed in such a way as through a faint hit of the chords by the little hammer, the chords should resonate, so that, with the help of the pedal it is formed from the noise that is made by the chords” or “martellato through the hitting of the keys with the four knuckles (2-5)”

The parts from the exterior of the piano are tackled in this execution in those moments when there has to be a creation of some close sonority to the noise or the making of some effects of the same type (meanwhile, they were replaced by electro-acoustic devices). In this way, there can be hit (from left to right or from up to down and the other way round), slammed down, closed or opened (by parts of the human body or intermediate tools) the
following exterior parts of the instrument:

The wood of the end of the keyboard:

An action of the gum, felt on the wood of the end of the keyboard: - *Capriccio for the Left Hand*;

Some noises that have to be made y the wood at the end of the keyboard: - *Capriccio for the Left Hand*;

The lid of the keyboard:

Accompaniment on the lid of the piano, with a thin rod: - *Capriccio for the Left Hand*;

The great lid of the piano:

*Gliss.* on the chords that are stopped on the wooden lid of the piano: - *Lasciar vibrare*;

The lateral parts of the piano (straight or undulated)

Near the piano: *Rondo for the Left Hand*.

There are fragments or even entire musical works that are conceived on these parts, without using the keyboard, in these situations it is demonstrated that there is a tendency for the composer to treat his piano as a percussion instrument. For example, in *Scherzo with Intermezzo*, Eduard Terényi, makes a note under the title of “*indications for the actions during the intermezzo*” the following operations of usage of the lid that comes on the keyboard:

By using a sudden movement, the lid that covers the keyboard must be slammed down;

The player must lean on his elbows on the lid that covers the keyboard;

- By making a slow, cautious and uncertain movement, the player must open the lid.
- Regarding the fixation of the sonorous parameters (heights, duration, intensity), from a semiographic point of view, we can notice some intentions of approximation in the positioning of the signs or even by the constitution of some *ad libitum* lines of these parameters. There are stipulated the following distinctive signs for:

The sounds with a determined height, which can also be replaced by another one as you please: *À la Stravinski*;
Approximate pitched on white and black keys: *Alb negru* (White black); Ad libitum pitches on white and black keys: *A Contrast*;

A trill made of the ad libitum sounds: *Two inventions*;

Some pitches that can be chosen among some limits: *A Contrast*;

- The sounds that are suggested by using some lines, bands, points, circles, some perch of the musical note without ends or through the ascendant or descendant sense of some graphic contours: … *And Clocks*;

Some pitches that can be chosen, that is made by using little stones or some glass shards: *A Melody of Clusters*.

In the modality sphere of the acting, close to the usual legato or non-legato we came across some symbols of the complex ways of representation of the sounds. These sounds are often found in some combination with the pedal whereas their making needs a real work of fore elaboration and it will generate the effects of the timbre that do not exist in the traditional music. Among these, we can remind of:

Martellato that is obtained by hitting of the keys with the tip of the fingers or with the four knuckles (2-5): *Pocnituri* (Cracking Noises).

There can be remarked the combination that is announced by the author in *Staccato e tenuto*, where, for the pitches and the *ad libitum* durations there are used different cassettes of different shapes with many trajectories where there are noted precise limits of the tempo and of the intensity: *veloce*  \(<---\) *lento*  \(*ff*  \(<---\) *pp*.

The using of the semigraphic procedures that necessitate previous explanations and referrals to the table of contents of the musical work, this will lead to the alienation of the classic (traditional) symbols. The notations that use this type of means present touches with the musical graphics even if they are comprised in other musical works that are presented in a traditional way. This type of score invites the player to moments of spontaneous interpretative decisions, by choosing, as he likes.

With the visualisation of the musical message, the composers of the twentieth century
have initiated a multitude of procedures and also in the spheres of other arts (as the picture and the poems) have conceived representations that were most diverse, between these forms of artistic manifestation there are convergences and also parallelisms. The scheme draft of some notation elements lead to the shaping of a new semiographic system where there were stipulated the symbols that were disposed in the space that were particularly treated from one composer to the other. The representation of the elements that were tied of the spatiality was made through the adding of some terms as up and down (for the indication of the heights) or close-remote (for the intensity).

Another dimension that was surprised in the music of the twentieth century aims to the form area as the creation of a structure beyond time constituted a desideratum of many of the musical works. In this field, there are born a few ideas, which will generate diverse orientations. Starting from the necessity of an equilibrated and symmetrical disposal of the sonorous object as opposed to an (imaginary) axis, the musical language will converge towards distinct delimitations in time and space of the sonorous events. The music of the twentieth century initially started from a re-discovery of the old principles, for example, the symmetry principle, where the composer are interested in this idea in many directions as the architectonical construction, the language, the dynamics, and so on. However, the series constructions (in the serial music) rely on the symmetrical sections that allow recurrences or related inversions. The consequence of this phenomenon is in the great number of the musical works which are written in a form of an arc or which has inner sections that have an arc shape where the symmetry constituted a basic principle that is necessary for the equilibrium.

The composer Eduard Terényi in Study of Czerny can be enlisted in this tendency of viewing that conceives the sonorous “patterns” (which can be put under multiple repetitions, they can be executed in tempo or a dynamics that is opposed to the one that has already been noted). These patters are connected through a dotted line that corresponds to the necessity of execution in the chronological order that has already been indicated (eventually it has a single intervention of the refrain). We can mention that in the construction of the musical work there are allowed some ad libitum approaches of the composing sections.
Having a wish to find new ways of expression, the composers often approached the open forms while making their musical works. Through the visual elements or by using the help of the text, they (the composers) will suggest to the players some possibilities of formal articulation of the musical works. We can highlight a few of the constituting solutions of the architectonical structures that imply the improvisatory element.

In *Staccato e tenuto* different geometrical forms are approached (the triangle, the trapeze) whose intersection results in numerous possibilities of combination of the elements that are stipulated in the cassettes that are made in this way. Their form is an open one that is similarly to the other parameters (the pitch, the tempo, and the dynamics) which are unreeled in the limited frames. *Staccato e tenuto* offers a manner of attack between the staccato and the tenuto, between the limits that are stipulated by the tempo (from the *veloce* to *lento*) and also by the nuances (**-pp**).
Staccato e tenuto

Eduard Terényi in his *Improvvisazione* draws the graphic contour of the previous musical play of the cycle *Piano Plays, Cluster-Melody*, where, in the limits of the hourly duration of the portative, they invite the player to recreate the previous page in his own sonorous vision. We can see the graphitisation tendency of the two scores even if the first musical work contains inside the cassettes, some precise execution elements in the field of the movement (the tempo), and also, it contains some sonorous densities, of the ways of execution and also to the way the pedal is used.
In the music of the twentieth century, the initiation of some sonorous steps that are complex from the point of view of the execution represented a consequence of the many searches of the timbre diversification. However, they were materialized in different sonorous effects, some of them were validated in time, the others were perfected and many of them were given up, these are constituted as individual solutions that result from the preoccupation of the composers to renew the sonorous substance. Since these searches and trials constituted some connection points towards the effects that were complexly formulated in the last decades of the century, we try to reveal some of the reference points in the creation of the composer Eduard Terényi, even if the sonorous experiments were semiographically fixed through the procedures that have already been consecrated.

- Some tendencies of exploitation of the extreme sounds of the keyboard. We can notice this type of aspect in the following musical works: *Rondo for the Left Hand (Piano Plays)*

The superior and the inferior limit of the registers.

- some effects that create metallic sonorities, that are shard and they have dense harmonics.

These can be obtained by hitting the metallic parts of the piano with the fingers (or different parts of the human body) or by using rods that were made of different materials:

Dressed in felt or rubber (they produce velvety tones);
By using pure wood (they produce sharp sonorities);
That are covered in leather (they produce less sharp tones);
That are dressed in sponge (they produce an ugly and dry tone).

We can materialize the above mentioned examples by using some other examples and also by adding the graphical symbols or the corresponding indications as follows:

*Capriccio for the Left Hand* hitting with the fist on the chords;

to rub the metal parts with a percussion brush

-some effects produce dry, wooden sonorities and they send out the tones through their own vibrations of the wooden part of the piano. These effects are made through the action of
the player (the direct or the indirect action) on the following parts of the piano: the lid above
the piano, the large lid of the piano, the stand, the wood of the end of the keyboard and so on.

From semiographic point of view, we can see the following graphical enunciations and
contours: Capriccio for the Left Hand:

An accompaniment that can be made by using the fingers or some other objects (the
felt, the gum) on the wood at the end of the keyboard;

Hit strongly the lid of the piano, if there is a grand piano, hit near the stand.

By gaining of a new space of sonorous exploitation in the musical works for the piano
– on the inner chords – this offered the authors an opportunity to create some effects that were
specific to the chord instruments as the following: pizzicato, vibrato, glissando, and flageolet.

The vibrato is the effect that results from the steady fluctuation of the sound in the
pitch, in its intensity and its timbre. due to the fact that it is specific to the chords instruments,
the effect is translated into the piano field by using some ingenious solutions as follows:
through a slow movement of the finger on the chord (an action that is simulated with the
emission of the key), an operation where both the hand and the wrist are involved.

As the vibrato is used in the area of the chords, it can also be stimulated through the
pinching of the chords.

Eduard Terényi: Lasciar vibrare

A chord vibrated in its own length that is operated with a short pinch.

The flageolet is an effect that can be found both to the chord instruments and also in
the wind instruments technique. This effect consists in the stimulation of the production of the
harmonics of a tone and the technical doing differs from one instrument to the other.

Eduard Terényi tried the transposition of this effect in his creation for the piano, too,
by adopting different technical solutions. We can remind of some graphical and theoretical
enunciations that were consecrated to this effect.

Rondo for the Left Hand:

A flageolet that results from the pressing of the keys without the little hammers touch
the chords.
Martellato without pressing the chords.

*Lasciar vibrare:*

A flageolet that is made through the dumb pressing of the white and the black keys.

*White-black:*

A flageolet ad libitum, which results from the dumb pressing of the keys.

It was estimated that the flageolets generate crystalline, diaphanous sonorities and by their combination with other effects will mark the softening of the characteristic sonorities that are particular to them. In the creation for the piano, we came across the following combinations:

*Piano Plays:*

A flageolet cluster;

Some flageolet clusters on white and black keys, in each case they are obtained by pressing the keys without the touching of the chords with the little hammers.

Press the chords slowly till they reach their end and they are left to resonate.

Once upon a time as they were considered in the *beautifying procedures* in the music of the twentieth century, the ornaments justify their existence just through the great reeling speed that was asked by the composers (no matter of the rhythmic-melodically contour that was used), in the detriment of the noblesse and the increased expressivity which their execution demanded in the previous epochs.

The unregulated, abrupt, broken steps that had tones, which were as dissonant as possible, or they were found in the sonorous complex that were comprised in the pedals and
they were executed in a maximum possible speed, in fact, all these constitute the main features of the ornaments of the composer Eduard Terényi.

We come across some particular graphic contours in the following:

**Choral (Piano Plays)**

The right hand keeps a tone than it makes a sudden glissando with the left hand that executes random glissandos in *pp legatissimo*.

**Lasciar vibrare**

Glissando on the white and back keys that are stopped on the wooden lid of the keyboard whereas the starting tone is prolonged.

Glissando associated with the sounds spoken by the player inside the piano area, an effect that is simultaneously made by pressing the right pedal.

In the creation of this composer, next to the glissando (that prefigures a type of tonalities that belong to the *crowded area*) we have the cluster, which is frequently used. In *Piano Plays*, Eduard Terényi conceives distinctive signs for this type of effect, every time he points the way in which these will be executed:

A great cluster on the white and black keys that was rapidly executed by using he arm (by the rapid passing from the white to the black keys);

A great cluster on the white and the black keys that was executed using the fingers;

Successive clusters that are executed in a rapid tempo;

Clusters on the white and black keys that are framed in special limits of time, a precise dynamics.
As it was considered a derivative of the glissando, more precisely, it is a reduced form that brings the simultaneous execution of the tones (on the white and black keys), the cluster have extended the action field in the ornaments area. In this way, the composers conceive the clusters that are executed in glissando, a tremolo or a trill, or as clusters with appoggiaturas, and so on.

Eduard Terényi: *Cluster-melody*

- A trill that is made through the tremolo of clusters that are made on the white and the black keys and it is indicated through the *ad libitum* limits of pitch that progress between the established dynamic limits.

A cluster with an acciaccatura.

The technique of forming the clusters by the pressing without a tone of the keys of the piano (without the little hammers touch the chords) will generate some effects that are similar to the flageolet, in the cluster that was named by the same notion, the flageolet cluster.

Eduard Terényi: *Piano Plays.*

A flageolet cluster (that is obtained through the pressing of the keys without the little hammers touch the chords; for the intervals until the eighth it is recommended to use the palm of the hand and then, for the greater intervals it is advisable to use both the palm and also the arm together.)

In the last decades of the twentieth century, in the notation of the clusters we remark an action of giving up the symbols that were consecrated and their replacement by the indications or signs that specify the simultaneousness of some actions in the interior or the exterior of the piano. These actions create, on the whole, the sonorities that are specific to the cluster.

Eduard Terényi: *Piano Plays.*

A melody that is formed by the running movements of the clusters.

Rows of chords that have to be comprised in a pedal in order to produce cluster effects.
In the literature for the piano, the prolongation of the vibrations of a sound constituted one means of sonorous diversification that attracted both the interpreters and also the composers. The prolonged persistency of the sounds (a little while after the stopping of the issuing source) was made through the following:

The creation of the conditions of multiple reflection of the sound by the operation with the system of the pedals.

By the pressed maintaining of the keys for a long time after the attack, this is an action where the little hammer does not come back in its break position but it stays in an intermediate position where the chord is left vibrating.

Examples from the creation of Eduard Terényi:

*Choral*

Chords that are rapidly attacked and they are left to resonate.

*Cracking Noises:* “*sf must be dozed in such a way as by a soft hit of the little hammers the chords starts to resonate so that, by using the pedal, the noises that are produced by the chords are formed.*”

In the creation of the twentieth century, the pedal system is given a special importance by using an adequate technique, the pedal can blur the sonorities in this way it will make an atmosphere full of fog and twilight, it will mark with glittering accents the rhythmic pulsation of a segment of the play or it will produce varied sonorous masses. For example, the extended parts of the chords that are connected in the pedal can form a cluster effect.

From a semiographic point of view, in order to represent the important actions of using the pedals, (with or without pedals, the pressing and the rising of the pedal in an ad libitum way), the composers have often produced distinctive signs. We can remind of some of the solutions of the composer where new symbols are used even in the case of the normal use of the pedal.

*Capriccio for the Left Hand:*  
An indication to use the pedal.

*Rondo for the Left Hand:*  
The changing of the pedal by using a continuous motion;
Pedal *ad libitum* on the fragment that is comprised between the arrows.

In the musical work *The Cracking Noises*, the composer Eduard Terényi makes a new effect which necessitate a minute elaboration of the sound: in the obtaining of a martellato: “by hitting the keys with the tip of the fingers; the *sf* has to be dozed in such a way as through a smooth hit of the little hammers, with the help of the pedal, it will be formed by the noises that are produced by the chords.”

In this way, we can interpret the appeal of the noises in the musical works of Eduard Terényi, which is an effect that is differently noted:

*Capriccio for the Left Hand (Piano Plays):*

- a notation for the noises that have to be made on the wood from the end of the keyboard, with the fingers stated;

*Capriccio for the Left Hand*  
1, 2, 3, 4, 5  
5, 4, 3, 2, 1

- the tangled lines of the score represents the production of a noise, a rustle of the paper, glissando on the chords, maracas,

- some noises that have to be made on the wood from the end of the keyboard or a rustle of the paper, some noises that are made by using shards of glass or little stones: Eduard Terényi – *Piano Plays.*

In the created real complex from the XX century music, the role and the weight of the musical elements are variable. They have either a minimum presence or some possibilities of coordination and super-ordination of all the other components of this assembly. These productions constitute the so-called *instrumental theatre* and we can find there the music to represent not only the basic artistic material of the manifestation but also its structural basics. The player is carried away in the real tide through the multiple and the complex actions so that this ended in the creation of a relative demarking between the role of the player and that of the creator in making a musical work.

In the piano creation, the composer Eduard Terényi is involved in this conception of
making a musical work and he notes in *Scherzo with Intermezzo*, a few *Indications for the Action during the Intermezzo*:

- A general break measure;
- By using a sudden movement, the lid that covers the keyboard must be slammed;
- The player has to lean against the lid that covers the keyboard by using his elbows;
- A long break;
- By making a smooth, cautious and uncertain motion, the player has to open the lid;
- Comodo: C major scale;
- The scale is suddenly transformed into a glissando;
- The coming back to the scherzo.

The piano creation of the composer Eduard Terényi sums up the composing experiences that are derived from successive conceptual accumulations that are enlisted in the complex process of the transformations and makings of the artistic language of the twentieth century music.
13. THE CONCEPT OF MUSICAL-POETICAL PRODUCTION IN 5 TABLOURI CU UMBRE(LE) BY CONSTANTIN RÎPĂ

Premises

Subtitled musical production, 5 tablouri cu umbre(le) contains 15 songs on lyrics by five poets from Cluj: Sânziana Mureșeanu, Marcel Mureșeanu, Ovidiu Pecican, Ion Mureșan, Constantin Cubleşan; from each author the composer Constantin Rîpă arranged three poems. The intention to create a particular stage assemblage is underlined by the author in the booklet of the production bearing the same name and had its first performance in Cluj, in the Studio Hall of the “Gheorghe Dima” Music Academy on November 26, 2015:

“How did this idea of musical production develop? Ever since I thought about setting on music a poem, the attention was drawn to the form and genre established by the notion of lied, derived from the German Romanticism. But it was precisely this phenomenon that I sought to remove, as the genre as such reached an unprecedented crisis in the twentieth century. The literary text has become illegible (also) because of the music (song and accompaniment), so that it could be perceived only as a sequence of phonemes, syllables and disparate meaningless words. Therefore, this tradition of the lied genre had to be repudiated and I returned to the Romanian notion of the song, which asks for the text to be “heard.” For this I had to find all the ways so that that the words and lyrics be conveyed to the audience. One of this was to return to declamation by restricting the song. Another was to reduce the musical load by simplifying the musical accompaniment and, last but not least, the repetition of the words and verses important for transmitting literary meanings.”

The author mentions: “I believe I have devised a new stage concept through that which meant a return to the roots of the opera.” Voice emission is liberated by “unleashing the text from too much singing.” One of the problems highlighted by Constantin Rîpă is the need
to preserve the unity (in diversity) of this work, although the 5 moments of the production aim to render the singularity of each poet in part, the distinctive features “which music came to shape (to personalize), prompting a certain scaling within the musical performance.”

As a compositional technique are employed freedoms envisaged since the aleatoric creation phase (1950s-60s), a technique that allowed to be exploited the multiple resources of the human voice and of the accompanist instrument (piano, electronic organ).

**Content**

All 15 songs represent an innovative composing experiment which meets with a new way of stage presentation, that of placing emphasis on the poetic texts with all the movements and gestures of the soloists. The production was designed in such a manner that the three poems by each author are sung separately, for the public to capture a psycho-artistic feature of each of them. Accordingly the work includes a series of five musical-poetical tableaux, each bearing the characteristic expression of the respective poet.

“As regards the poems of the five poets with whom I collaborated, they were chosen since they gave me a free hand to make the selection I thought adequate and moreover, until this very moment of the beginning of the performance, they still do not know which are the selected poems and of course the music that accompanies them” (from the Booklet of the programme).

Tableau I sets to music and stage the poetries of Sânziana Mureșeanu *leșiți în ploaie* (for voice and piano), noted in a traditional writing that overlaps the binary metric in the vocal score (desired to be declaimed) to the ternary one in the piano accompaniment:

*Eg.1. mm. 5-6*

![Musical notation image](image-url)

The fluency of the sixteenths in the piano writing confers the periodicity of the rain drops, which at the end of the song fade away in a ppp.

*Riga* (female voice and piano), surprises from the beginning with the tempo indication: *recitativo narante*. The game of accents on the constant sequence of eighths

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39 “Come out into the rain”
suggests in fact features of the dance rhythm. The vocal writing is placed within a narrow range (F–D-flat) and finally triggers a “speak out loud” speech that evolves, “becomes a cry,” sounds are “desperately” uttered.

The piano accompaniment is built on: *ad libitum* clusters on the piano keyboard, but placed on the tonic accents of the spoken words, structures that will be played by the instrumentalist with the palm, the forearms, being left to vibrate (with prolonged resonance):

*Eg. 2. mm.26-27 piano*

*Singapore* (tenor solo and electric organ) with a melodic profile outlined on specified pitch, succeeding in adjacent movement, the dynamics of the *sung* utterance of the text is placed in an extended ambitus from **fff** to **pp**. We notice the diverse instances of the expressive recitation: “alert, precipitated,” “bluntly (*detache)*,” “low-pitched.” The agogic fluctuation is marked by indications: *accel. poco, a tempo, rit., rall.*, the density of the agogic change conferring a rubato character to the musical discourse, although the work is scored on a constant two-beat pattern. The intention of declamation is evidenced by the indication next to the solo voice: “*quasi recitativo*,” although the tempo expected by the author is *allegrisimo*. The articulation of sounds is in a constant fluctuation among *staccato*, accents and *tenuto*, which demands from the interpreter a very careful coordination of his/her vocal emission.

The piano accompaniment is left to the discretion of the instrumentalist, the composer prefiguring a musical framework of a measure which “is repeated *ad libitum*, changing pitches and rhythm.” The piano touch is to be carefully developed, the dynamic path being frequently alternated, as in the following example:

*Eg. 3. m.1 piano*

The sound effects are designed by the author by writing *in extenso*, a significant moment in this respect being the final passage of the piece, which overlaps on a cluster left to resonate a moment of *Sprechgesang* of the voice:
Tableau II contains poems by the poet Ovidiu Pecican, considered “a great figure of contemporary literature. He publishes everywhere, being constantly sought by all journals. He is an excellent speaker and an exceptional interlocutor. He has an open and sincere character, permanently with good humor and kind to everyone.” (In the Booklet of the programme)

Curriculum for voice and piano (with the note “a microphone is to be placed in the piano”) has the tempo specified through a metronomic indication (quarter note = 56), which alternates repeatingly along the song with a poco vivo.

In the vocal score are used Sprechgesang effects, without specifying the pitch, suggested by indications such as “intense whispers in the microphone,” “put the finger on the lips and return to intensive whispering,” “speaking,” “uttering quickly,” “free speech turning into whispering.”

In the stage development the rhythm is set by the motion of intensities, the tonic accent of words imparting the metric structure. The singer is asked to realize sound and stage effects such as: “cough with your mouth closed” through the interjection ghm, “put the finger to your mouth and return to intensive whispering,” “speaking” and finally, “on this presentation of the female soloist, the male soloist appears on the stage unseen, approaching the gong with a mallet, strikes is heavily and attacks (vocally) his first musical phrase. The girl is scared, suddenly interrupting her whispers and runs away, hiding behind the piano.”

The accompaniment consists of a vibrating sound (possibly in the low register) in ppp, with a vibr. indication, the trill sign is overlapped sporadically with very low and acute sounds creates the effects of a pointilliste writing. The manner of using the pedal is very elaborate and accurately indicated throughout the work, either by the usual indications “sonorous pedal stroke with the sole,” or by distinct signs:

II. Motto is written for bass, gong and piano; it contains two characters - a bass voice
and a “girl” - the latter is assigned with stage moves: “recites from behind the piano,” sings *angelico, dolce, cantabile*, the glissandos are noted as portentos, passages in *suave, dolce, legato*, afterwards “the girl walks in front of the piano and stands behind the bass” singing *quasi rectono* a “church-like” melody (with frequent mordents) then “gets scared, flees and hides behind the piano,” from where she finally “recites with a child's voice.”

The bass sings on great *fff-ff* nuances, articulates recitations over an extended vocal range, to the end “sarcastically mimics laughter,” sings “scaringly,” “barbaro,” “yelled,” and strikes the gong with a mallet.

*Eg.6. mm. 1-3*

In the piano score are noted the specific effects of twentieth century music such as: *tremolo* with both hands in *ff* (*decresc* to *p*), clusters with the fingers, *quasi* or *semper détachée*, *tremolo* with the fingers.

*Urmaşul Sfântului Petru* ⁴⁰ (for voice and piano) is striking at first sight with the writing used: the voice evolves in a continuous recitation, the use of the 3/4 meter is a graphic convention since in the relationship with the tonic accents of the words, the composer notes the emphasis (*tenuto*) on the succession of declaimed sounds. Pronouncing the words in a singing manner is achieved by: “actively talking,” “caricature-like” in a “hasty speech (but clear) – similar to the recitative,” “on the same pitch” “bluntly,” “détachée” (articulated parting of words), “precipitated,” “firmly declaimed.” Are employed sound effects such as: speaking in *crescendo / decrescendo*, articulation with “head voice,” the connection between sounds is made frequently by *portamento* or *glissando*:

*Eg.7. m. 45*

⁴⁰“The Successor of St. Peter”
The construction of the piano accompaniment is mostly designed on clusters (large and small), articulated and left to vibrate over large fragments (by vibrating the right pedal), ascending and descending glissandos (vibrated in the pedal) or sounds without determined height, left to the discretion of the interpreter.

Tableau III contains poems written by the poet Marcel Mureșeanu: Cine a-nghifit un căluț\(^41\) (for female voice, addressing an aleatoric writing, highlighted from the start by the indication “the two segments are to be repeated again without individual repetitions.” The author resorts to frames which embed the musical text (rahmen notation) to which he adds the requirement “to be repeated 3-4 times.”

The voice has to resemble the “voice of a child,” “a spoken singing,” “with a female voice” “a bit sullen,” “a thickened female voice (disagreeable),” “gradually turning into a child's voice,” “cheerful; rushing the talk,” “speaking out loud,” “signaling the pianist with her arms to stop,” “speaking bluntly,” “(shy) child’s voice,” “puzzled,” “thickened child’s voice,” “talked freely, jokingly.” The composer frequently claims a “silent’ singing, with note values incisively rhythmmed, ornaments: trills, mordents, chromatic passage in a wide ambitus:

\(^41\) “Who Swallowed a Tiny Horse”
Scenetă ⁴² (The Soldier and the Girl) for soprano, baritone (steps and voice) and piano is a poem in which the musical and stage approach requires a more complex stage development: the girl is (or enters) with the accompanist, moves and smiles frankly, but ignores any applause; the soldier arrives within 5-6 minutes in marching steps, further marches but in diminuendo, gradually renounces the march, but sways his body in the same rhythm (recourse to a special sign for swinging, noted throughout the following measures) then gives up motion; at the end the soldier begins to march in place, the girl and the soldier leaving the scene repeating a rhythmic-melodic formula in a decresc al niente.

The stage effects help to disseminate the poetic message, the interpreters evolving with a “noisy tramping,” intensifying their steps (indicated in the score with rhythmic values); "very serious and determined" (grotesque) “are to mimic anger,” “an angry attitude but childish,” they gesture with the head, the girl marches on the stage following a chosen route.

The piano accompanist is integrated into the stage show, at the end of the play he speaks freely and “smiling naturally,” he gestures with his hands on the lyrics Ea a răspuns/ C-o floare-n dinţi.⁴³

The musical text is noted in a 2/4 meter, with an agogic in constant motion and the trochaic rhythm is alternated with tuplets, configured in a rhythmic ostinato. The molto rubato tempo is accompanied by agogic indications such as: poco piu mosso, poco accel, ritenuto misurato.

The composer seldom notes the dynamics of the discourse (foreshadowed between p-f, in the piano accompaniment appears pp secco), the thoroughness of marking in the score the use of the pedal in the piano, specifying the rhythm of the steps, figured chords in the key of

⁴² “Short Sketch”
⁴³ “She answered/ With a flower between her teeth”
G in the piano score, moments of improvisation, repetition of a measure for 12-16 times or to an impossible speed while the bass come in after approx. 7-8 repetitions of the soprano, integrates the piece in a manifestly aleatoric writing. The evolution of the voice to a *Sprechgesang* with leaps over an extended ambitus may be noticed in the following example:

*Eg.13. m.108*

![Example 13](image)

The use of ornaments (*trill, arpegio, tremolo, mordents*) is accompanied by vocal and instrumental effects, frequent clusters (white, black keys and in *flageolet*), as in the following example:

*Eg.14. m.34 piano*

![Example 14](image)

*Lumea de lume*[^44] (voice and piano) is written in a lively movement, the eighth note = 132. The frequent exceptional divisions (quintuplet, 10-tuplet) integrated within the four beat pattern (quarter or half note as time unit) confer the rubato character, indicated by the composer only through the frequent acceleration and slowing down of the movement:

*Eg.15. mm.20-21*

![Example 15](image)

Tableau IV is intended for poems by Constantin Cubleșan:

*Mai tornă-mi iubito*[^45] for male voice and piano is built on a waltz rhythm, focused on a ternary meter on eighths, which is embedded in 6, 9, 3 beat patterns, only in the end are noted 4 and 5 beat patterns. The metronome indication (quarter note = cca.56) corresponding to an *adagio* tempo, as well as the oscillation between time signatures and agogic confers a free character to this versed song.

[^44]: “Men of the world”
[^45]: “Pour some more, my darling”
The male voice can be of any type, indicates the composer, since the vocal range is convenient, of only one tenth (D - F sharp), accessible both to basses and tenors. The melodic vocal line is predominantly based on the adjacent motion, in a dominant *mf* (*menoforte*) and in terms of expressiveness the aim is to express the bitterness of the lover *Mai tornă-mi iubito în suflet otrava”, „Mai tornă-mi iubito, o cupă de vin” (*Pour once more, my darling, the poison; Pour once more, my darling, a cup of wine*). The accompaniment is based on a chord succession, with tonal-functional structures, modal (fourths and fifths) and bi-tertian chords.

*Destin*\(^{46}\) (tenor and piano) is accompanied by a tempo indication with a double metronomic value (for quarter and eighth notes) in carrying out a speech in a 1/4 meter:

\[\text{Eg.16. mm.1-2}\]

![Image of music notation]

We must underline the minuteness of the composer in noting in the vocal score frequent dynamic and agogic movements, expressive indications that take place on the constant execution in *arpegiato, come chitara* of some chords or arpeggios -*come arpa*- in the piano.

*O artistă*\(^{47}\) (voice and electronic organ) presents the musical discourse in a *quasi parlando*, which alternates a melismatic writing with a syllabic one. Prosodically, the oscillation between measures of 2 and 3 quarters confers an asymmetrical appearance to the rhythmical development, each measure highlighting the prevalence of text, freely configured in terms of metre. The clusters in the piano score are noted *in extenso* and the agogic changes (*sost., rit., poco accel., a tempo*) along with indications for the soloist voice such as: *sententious, melanconico, tenuto, quasi p, meno f, f*, voice trill, compel the singer to carefully elaborate the vocal sonorities.

Tableau V represents the end of the musical production, on lyrics which explore the verses of Ion Mureșan. *Alcool II (O viziume*)\(^{48}\), for baritone voice and piano bears the

\(^{46}\) “Destiny”
\(^{47}\) “A female artist”
\(^{48}\) “Alcohol II. A Vision”
indication *chanting*, the voice being in *pleno gutture* in an asymmetric speech in sixteenths, marked by *tenutos* complying with the tonic guttures of the words. The free speech thus configured is halted by a *misurato* part which doubles the speed of execution, the manner of articulation of the voice being *staccato e marcato sempre*. The text mocks those “who drank until they kicked the bucket,” the state of hallucination completing in the same *rubato* in *rallentando* “to be able to drink until the end of the world.”

*Alcool I (Poem)*, conceived by the composer Constantin Rîpă also for baritone voice and piano brings along its development vocal effects that give an experimental aspect to the vocal score: the baritone intones on a *quasi parlato* voice, alternating with *misurato*, full of appoggiaturas or uttering on same sound in *sostenuto sempre*, interjections on high notes *hâc*, “with juvenile voice,” “free chanting rhythm (stammering),” “singing in *falseto* (with joy), speaking “bluntly (angrily),” “quasi piagendo (imitating a whiner)” “talking with a deep voice.” The piano score abounds with sound effects such as palm *gliss* (rotational) on a “free rhythm suggesting a stuttered walking,”

*Eg.17. mm.7-8*

![](image1)

*free tremolo on all octaves, clusters throughout the keyboard.*

*Eg.18. m.43*

![](image2)

*Cântec de leagăn* for male voice, female voice and piano ends the cycle of songs composed for the poet Ion Mureșan, bringing into focus a male voice “with much suffering” and a female voice singing “very gently.” The tempo sways between *quasi rubato* and *misurato, portamento* with a dynamic under continuous fluctuation (8/13 meter):

*Eg.19. mm.5-6*

![](image3)

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49 “Alcohol I. (Poem)"
50 “Lullaby"
Conclusions

In contemporary music, the text is often replaced with syllables or phonemes without literary meaning, not having primordiality in rendering the artistic message. In an opposing circumstance, the music production entitled 5 tablouri cu umbre(le) proposes a separation from the concept of lied and tries to find a way for the literary text to prevail. The return to the types of singing used by all religions in preaching, namely, the chant (psalmody) and declaimed speech, represents the basic technique of musical composition in this cycle of songs, which will bring to the fore the Sprechgesang and declamation. To the same extent, “the care for the perception of the text” is echoed in the piano accompaniment, or in the instrumental accompaniment respectively, as the composer retained the piano (sometimes electronic organ) due to its presence in all concert halls. Nevertheless, the accompaniment will be permanently reduced, schematized, the instrumentalist will not be in the position of a partner to the singer, in order to leave the possibility of the poetic text to arise above the overall sonority of the musical-stage production.

The poems selected for this cycle of songs focused largely on jocularity - “I have never thought for a moment that these songs should be beautiful, as this would have been a betrayal of the content of the poems. Everything had to be rough, real and according to the poetic text” (from the Booklet).

The aleatoric language approached in 5 tablouri cu umbre(le) may be evidenced by the following features:

- each piece is shaped in a particular vocal and instrumental writing;
- the composer frequently does not indicate the voice type because the vocal line is mainly declaimed, the primacy of the text being obvious (Curriculum, Cântec de leagăn by Ion Mureșan - for male voice, female voice and piano-, Cine a-nghhițit un căluț on lyrics by Marcel Mureșeanu – female voice);
- although it is prefigured in the measure, the rhythmic - melodic discourse is designed for a free movement, prioritizing the word (declaration);
- there are recto-tono melodic developments (on the same sound or neighbouring sounds) (O artistă, Urmașul Sfântului Petru, Curriculum) in terms of recitative with improvisational character;
reciting the text is marked with crosses, which are a of specific sign
Sprechgesang, or noted between neighbouring sounds (Riga, Urmașul
Sfântului Petru) or crosses marking interval leaps with in pitch (Scenetă);
the dynamic instances of the vocal writing are on extreme sounds (fff - pppp
II. Motto), or left to the decision of the interpreters;
and expressive (II. Motto) sing “scary,” “barbaro,” “scary”;
resort to various vocal effects such as: falsetto (Urmașul Sfântului Petru),
various articulations of the sound - staccato, legato, tenuto, marc. (Singapore),
numerous ornaments;
the interpreter is involved in the stage development, creating the premises of a
musical happening (Curriculum). Beside a dramaturgical development noted
by the composer in the score, the interpreter sometimes plays on various
instruments (Motto).

Although the composer wanted a diminution of the role of accompaniment, in the
piano score may be noticed a complex writing using: a varied dynamic plane fff-pppp
(Singapore), extreme sounds placed along the entire instrument keyboard, clusters in different
configurations (Urmașul Sfântului Petru) different types of cluster: black keys flageolet
(Scenetă) written in extenso (O artistă, Singapore) performed with different body parts (Riga,
II. Motto) glissandos (Urmașul Sfântului Petru), gliss. with the palm (rotational movement in
Alcool I (Poem)) détachée singing (II. Motto) etc. The accompanist is involved in the stage
production either in a static way, with various inflections of his voice, or with theatrical
movements (Scenetă) circumscribed within the musical performance.
14. EXPRESSIVE COORDINATES IN ÎNGER ȘI DEMON OPERA BY TUDOR JARDA

Premise

“I want to state from the very beginning that I conceived this work in the idea of writing a love poem, in which the characters live the drama of unfulfilled love, caused by their belonging to two different worlds. I considered Eminescu’s poetry to be the most appropriate in rendering this content, since in the stanzas of this Romantic poet I found expressed powerful feelings of love in lyrical, dramatic or patriotic tinges.

“The characters are symbolical, the laureled poet is not Eminescu the poet, but represents the genius of the Romanian spirit in its aspiration towards universality. His spirit is one with the Evening Star in Eminescu’s poetry, as his fate is similar with the one of the genius among mortals. To the verses in the Evening Star: 'Descend to me, mild Evening-star/Thou canst glide on a beam’ I conferred a musical idea which I conceived ever since my youth years, during my student years, an idea which can be ‘heard’ several times during the opera.

“I worked four years on this opera. At first I intended to entitle it The Evening Star, but due to the fact that the entire discourse is permeated by powerful contradictions and antinomies, specific nonetheless to Eminescu’s poetry, I entitled it Înger și demon.51

Structure elements

The opera Înger și demon by Tudor Jarda was composed between 1985-1989, the premiere being held in 1989 at the Romanian National Opera in Cluj-Napoca, in collaboration with the Opera Ensemble of the Gheorghe Dima Music Academy. Not a single poetry, as suggested in the title, lays at the basis of the opera on a libretto signed by Nicolae Pârvu and the composer himself, but a selection of Eminescu’s poems: “I was attracted especially by the verses of this poet and because they were written in a purely Romanian rhythmic. They are verses which can be added to any folk melody (...) Full of depth and difficult to be expressed musically were the verses of Venere și Madonă on which I worked for two years, because each sentence I found to be full of philosophical meanings. All of Eminescu’s poetry is full of

deep meanings and I tried my music to bear also expression”.

The approached theme is life, from the perspective of the genius, “alone and remote from the being of the simple mortal”. The basic idea of the libretto is the communication with the self, with that part which assisted as an attentive witness to all the moments of life, to the evocation of imagistic, memorial love. The action of the work develops on two levels: human-terrestrial and cosmic or celestial. These levels are dramaturgically rendered in the context of four acts (five sections) which confer the opera a dramatic and musical structure in which are valorized the principles of contrast, variation and gradation. The contrast is manifested in the alternation of the social and lyric-introspective sections with allegoric transpositions, the four great parts of the opera corresponding to the four lyrical roles which replace the lyric ego, but which are at the same time the four shapes of consciousness in Eminescu’s poetry: Lara (who will later become Cătălina), the Evening Star (Hyperion), Cătălin, and the Demiurgos (representing the collective wisdom).

In detail, the action of the opera encompasses emblematic manifestations for the philosophy of the second half of the 19th century, in different frameworks

- Act 1 – in a summer garden, on the outskirts of a city, where Laur expresses his social-artistic opinions to his two close friends, and afterwards his love for Lara;
- Act 2 – Laur, in an editorial office where he expresses his feelings; the expression of love is intensified through a stage metaphor;
- Act 3 – First scene in the salons of the Minister Băleanu is held a soiree;
- The second scene in Cătălina’s room, where in a magical background is presented the Poet’s vision, in which he himself becomes the Morning Star, Lara-Cătălina, and the Demiurgos is Ion.
- Act 4 – on the seashore - “as a contrast element in the last act of the opera I conceived a moment to signify the purity – a children’s game – with a folk-based melody, which will take the shape of a storm with lightning from nature, with the poet’s cries of pain, which I wrote this time on the verses of a posthumous piece, entitled Andrei Mureșanu”.

One must see the minuteness with which the author notes the dramatic path of the
action, detail stage directions which accompany the musical text along the entire development of the score: *with the fist on the table, imitating, he notices the old student who sleeps on the table, raises his hand, turns over, shows the letter, returns to the table, wants to make a movement, stops him, almost bows, tries to cover I., who having nothing to do with the glass, drinks its content in secret, hesitates to enter when hearing B’s voice.*

**Elements of musical language**

Tudor Jarda’s technique of composition is based on a harmonic vision in consonance with the melodic one, by excellence inspired from the Transylvanian folklore. Even since his youth years the composer valorized the village folklore: through the prism of the simple modal harmony, with frequent subdominant cadences and the ‘major-minor’ dualism. A superior stage in the evolution of his harmonic language can be seen in the modal-chromatic development of the melody, through which the harmony was blended with the theme which the composer conceived in folk style.

In a harmony coursebook he published (*Armonia modală cu aplicații la cântecul popular românesc*), Tudor Jarda exposes the technique of overlapping the melodic-harmonic discourse in his works, made particular through a harmonization of the modes in which he employs: homogenous overlappings (three note melodies with a sixth, five note chords), fifth structures, chords of 6-12 notes (harmonic conglomerates), harmonic pedals (amplified, shifted), parallel movements, major-minor parallels, homonymous replacements (subtone in a major mode) etc.⁵⁵

Along Înger și demon the harmony derives from relating some modal structures which combine tetrads, pentads or even chords of nine notes, parallels, combinations of secondary note functions, overlappings of major and minor thirds, false relations with types of chords belonging to the tonal-functional system and structures outside a certain mode or tonality (chords of 6-12 notes) as in the following cases:

- Eg.1. fourth chords (Act 1, 3)
- Eg.2. overlappings of major and minor thirds (bi-tertial chords ) (Act 1)

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Eg.3. chords with diminished octave (Act 1)

Eg.4. chords belonging to bi-tonal structures (Act 1)

Eg.5. sonorous conglomerate (a chord which comprises the whole chromatism) (Act 1)

Eg.6. a chord formed of nearby seconds (diatonic cluster) (Act 1)

Eg.7. chromatic cluster in large range (Act 2)

In Înger și demon, the composition parameters in which the author excelled are the ones of harmony and orchestration. The way of instrumentation of Tudor Jarda resembles the one of his predecessors: Marțian Negrea, Mihail Andricu; with an aerated writing, with calm transparencies in which the pure timbres are highlighted, the doubles are never oversized, the number of instruments is not too large. In this context the sonorous efficiency is at maximum, the musical art with rustic shades is sometimes embedded by the spirit of avant-garde music of the 20th century. Sonorities characteristic to Transylvanian spirituality (horns, bucium, pipes) are invoked and the last part of the opera is conceived in an original manner: “I imagined it at first in sounds of alphorns, many, a hundred, which bring forth the atmosphere of the mioritic realm. Being difficult to achieve I brought on the stage a little shepherd who with his child’s voice creates a bright, open vision on the perspective of life”.  

The composer’s musical language is consonant with the dramaturgic content, opposing

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56 Idem 1.
music of different features: party songs, waltzes “the parody of select bourgeois society manners,” with lyrical moments of noteworthy expressivity. Folk inflections are noticeable in the dance of Cătălina-Cătălin (ballet roles), the choreography becomes suggestive relying on a lyrical musical background, with a powerful Romantic scent.

The tonal-modal sonorities of Tudor Jarda’s compositions combine the modal diatonic specific to Romanian folk music, with chromatic versions of the modes, that often realise in Înger și demon structures of: Dorian with the subdominant augmented, Lydian with the 2nd and 7th notes altered, chromatic acoustic. This last mode, considered by the author as a modified Ionian, with the leading of the dominant and with subtonic, 57 is often prefigured in the horizontal and vertical plane:

Eg.8. Acoustic chromatized mode (Act 1)

A technique frequently employed by Tudor Jarda along the opera is the unison. “I have always considered the unison as a procedure of great expressive strength, much valorized in contrast with the pluri-melodic writing. In the reality of our folk music it is found in group vocal songs, in carols, harvest songs and so on or in instrumental groups with the pipe and bagpipe players”. 58 The altered version of the same melody creates moments of heterophony – a dimension derived also from the folklore, which is placed at the boundary between the horizontal and vertical lines of the musical discourse. The heterophony is noticeable in several works of the composer, frequent in instances of simultaneous arrangement of a thematic content to several voices, a permanent oscillation between unison and multivocality.

We note the recurrent usage of the harmonic pedal “simple or double, as a held note or chord, represents the most simple way to amplify the sonorous apparatus, the most simple harmonic procedure”. 59 The formation of a pedal from the sonorous content of the melody represents a commonly used way of harmonization and of choral writing. When the sounds of the melody are not completely comprised in the beginning of the harmonic sequence, the


59 Idem 8, p.77.
pedal represents a solution of rare beauty by its very simplicity.

Eg.9. Harmonic pedal (Act 4)

Making the vocality expressive

Analysing the melos of soloist interventions, we note a vocal writing specific to this composer, noted in a register and dynamic range that do not overpass the limits of human voice (between ppp and shouted ff). The expressivity requested from the performer may be seen in the moments in which through different vocal exigencies is to be outlined an extended timbral sweep, employing various dynamic steps (eg: pp, almost pp, quasi pp, meno pp, pp possibile), multiple possibilities of sound articulation: portato, staccato, mezza voce, recitando, parlato, etc. The vocal writing is configured through melodic profiles in which nearby movement is preferred, sometimes using parallel successions between the voices that evolve at the same time:

Eg.10 Parallel melodic movements (Act 1) The leaps may be embedded in frames specific to tonal-functional constructions, having arpeggio values:

Eg.11 Arpeggio writing (Act 1) The leaps that foresee augmented or diminished intervals mark the composer’s belonging to a type of chromatism which is justifiable through the tonal-modal technique, in fact the sounds D and Dflat represent the chromatic oscillation specific to the modal:

Eg.12. Chromatic oscillation (Act 2) We note the presence of the reversed chromatic archetype in the melodic development, a formula frequently met with the melodic of neo-modalist composers:

Eg.13. Reversed chromatism (Act I) A vocal effect to which the composer resorts is the sprechgesang, which can be noted with ad libitum sounds or can be deduced by the
repetitive movement of the sounds, conferring a recitative character to the fragment:

\[ \text{Eg.14. Sprechgesang} \]

The relation tempo-agogics

The ambiance, spiritual and sentimental states are expressed by the composer through an agogics in continuous metamorphosation, based on frequent changes in tempo, associated with intensity changes. The agogic expressivity is marked in the score by the development and continuous transformation of some elements of the musical discourse such as: different rhythmic and metric developments, different directions of the melodic lines, harmonic successions (expansive, depressive, neutral), contrasting dynamic-intensive lines. In this context, the author’s request of tempo generates, along with the complexity of his composing language, an expressivity specific to the composer, built on a melodicity with strong folk imprints.

“The tempo confers the rhythm the degree of tension and, through this, the impression of more or less active presence of the rhythm”\(^\text{60}\). This way, the tempo is considered a complex phenomenon that emerges in a permanent connection with the musical rhythm, generating “clearly marked expressions in the characters.” The rhythmic structures encountered along the development of this opera contour opposing rhythmic systems: giusto and rubato, which bestow on the rhythm a distinct expressivity, specific to the works based on folk music: “let us never forget that the tempo is an element of rhythm and that, consequently, the rhythm is a master to himself in conferring expression through its elements: durations, intensities and tempo”\(^\text{61}\).


\(^{61}\) Idem
In a graphic representation of the tempos indicated by the author along the four acts related to the reference point in the score, we may notice the frequent option of the author for sudden changes in movement, corresponding to the dramatic contrasts in the plot. The choice for rapid tempos is obvious; the idea of opposing musical segments by contrast of movement is also dominant. Only at the beginning and towards the end of the first act are used progressive changes in tempo:

A general view on the evolution of tempo along the four acts of the opera Înger și demon demonstrates the fact that this parameter represents an important factor in the agogic variation, an essential coordinate of making expressive the musical discourse.

Considered a product of Transylvanian spirituality, Tudor Jarda enables, by the means of his technique of composition, the preservation of a valuable folk repertoire, explored through the assiduous study of a life-time passion.

**Self-evaluation test 3**

a. Specify sound effects that create metallic sonorities, used by composer Eduard Terényi in his Piano Plays?

b. Please specify items listed in random music approached in 5 tablouri cu umbre(le by Constantin Ripa?

c. In what way Tudor Jarda did make the vocality expressive in Înger și demon opera?
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Self-evaluation of the study module

Questions

1. Specify authors mentioned in this course who have made contributions to the study of various music notation systems from the twentieth century music.

2. Please make a classification of semiography manifested in twentieth-century music.

3. Which is the parameter that has been explored musical sound by all twentieth-century composers, with an explosion of signs in semiography?

4. Which was the evolution of vocal music Romanian composers?

5. Please mention Sonorous effects in the piano works of the 20th century?

6. Please specify the tendencies in treating ornaments in the 20th century music?

7. Please specify a Romanian composer who has used graphism in the piano notation and describe it?

8. Specify effects and the accompaniment role in 5 tablouri cu umbrele by Constantin Ripa?

9. The relation tempo-agogics in Înger și demon opera by Tudor Jarda?

Answers

Self-evaluation test 1

a. Contemporary musicologists have formulated two basic directions for twentieth-century music regarding the new composition trends:

• avantgarde or shaping new aesthetic positions, and
• mannerism or the return to the music of centuries past, from cultures outside Europe.

b. Iwanka Stoianowa in the study Musique, graphie, geste used the following classification of notations manifested in twentieth-century music:

- traditional music notation;
- musical graphism;
- textcomposition, with:
  – text - impulse
  – text - action program
- music to be read (Musik zum Lesen)
- photocomposition (Photokomposition).
c. For moments of improvisation the composers often turned to elements of extra-
musical notation, which represent only sources of inspiration for the performers. Among these are:
  o visual elements: drawings, colour combinations, various pictorial forms;
  o graphic elements: artistic or technical drawing, black and white or in colour, resulting in graphic musical score;
  o semantic-type elements (like poetry or literary prose) encountered in text composition. In these works the author starts from a complex of data (from musical to philosophical ones), which are materialized in verbal indications, sometimes accompanied by graphic means.

Self-evaluation test 2

a. There are inserted consistent indications for sound realization, noted by signs that sometimes differ from one composer to another, as well as using a rich vocabulary of expressions detailing sound effects such as: *falsetto, vibrato, tremolo, glissando, sprechgesang*.

b. The strings of the piano were initially solicited in different registers (acute, medium, grave) and with multiple possibilities of vibration: by *pinching, hitting or rubbing*. There is a case of glissando, ornament specific to string instruments with a bow, which, on the keyboards of the piano requests an uncomfortable effort of rapidly passing of one’s fingernail (with the thumb or the middle finger) over the white keys, or of the back of the hand over the black keys. The metallic part of the piano can be a source able to produce unexpected sounds. Various actions can be done here, which, together with other sounds, produce new effects. Ex. of action: wipe the metal parts with a percussion brush

c. The glissando can be executed in two different directions on the piano strings:
   along a single string, by sliding the finger (similar with the string instruments)
   on all the strings, in different directions or preferential registers. This ornament can also be executed on the strings with auxiliary instruments made of wood, metal, glass etc., which will modify the timbre of the instruments accordingly.

Self-evaluation test 3

a. some effects that create metallic sonorities, used by composer Eduard Terényi in
his *Piano Plays* can be obtained by hitting the metallic parts of the piano with the fingers (or different parts of the human body) or by using rods that were made of different materials:

- Dressed in felt or rubber (they produce velvety tones);
- By using pure wood (they produce sharp sonorities);
- That are covered in leather (they produce less sharp tones);
- That are dressed in sponge (they produce an ugly and dry tone).

b. The aleatoric language approached in *5 tablouri cu umbre(le)* may be evidenced by the following features:

- each piece is shaped in a particular vocal and instrumental writing;
- the composer frequently does not indicate the voice type because the vocal line is mainly declaimed, the primacy of the text being obvious;
- although it is prefigured in the measure, the rhythmic - melodic discourse is designed for a free movement, prioritizing the word (declamation);
- there are *recto-tono* melodic developments (on the same sound or neighbouring sounds);
- reciting the text is marked with crosses, which are a of specific sign Sprechgesang, or noted between neighbouring sounds;
- the dynamic and expressive instances of the vocal writing are on extreme sounds (*fff* - *pppp* II. *Motto*), or left to the decision of the interpreters;
- resort to various vocal effects such as: falsetto various articulations of the sound - *staccato, legato, tenuto, marc.* numerous ornaments;
- the interpreter is involved in the stage development, creating the premises of a musical happening. Beside a dramaturgical development noted by the composer in the score, the interpreter sometimes plays on various instruments.

c. Analysing the melos of soloist interventions, we note a vocal writing specific to this composer, noted in a register and dynamic range that do not overpass the limits of human voice (between *pp* and *shouted ff*). The expressivity requested from the performer may be seen in the moments in which through different vocal exigencies is to be outlined an extended timbral sweep, employing various dynamic steps (eg: *pp, almost pp, quasi pp, meno pp, pp possibile*), multiple possibilities of sound articulation: *portato, staccato, mezza voce, recitando, parlato*, etc. The vocal writing is configured through melodic profiles in which nearby movement is preferred, sometimes using parallel successions between the voices that
evolve at the same time.

**Self-evaluation test for module**

1. Iwanka Stoianowa, Erhard Karkoschka, Hugo Cole, Costin Mioreanu

2. Erhard Karkoschka in *Das Schriftbild der Neuen Musik*\(^{62}\) conducted an encyclopedic inventory of the new methods of notation (the only one existing by this date), distributing symbols depending on the higher or lower degree of specifying the sound parameters into the following categories:

   – precise notation (*Präzise Notation*)
   – frame notation (*Rahmennotation*)
   – indicative notation (*Hinweisende Notation*).

3. Timbre, a quality of the sound determined by the number, intensity and duration of the harmonics of a fundamental sound, represented through the many technical possibilities of the instruments an inexhaustible source of expression factors. Given the major importance that was given to this quality of the sound, contemporary composers often have left to the discretion of the performer to achieve the coloristic variety of the work, although other parameters were open. Contemporary scores have become increasingly complex in this regard, being annotated with detailed and numerous indications, or printed with different graphic signs than the usual ones, drawn and explained in the appendices accompanying the works.

4. The Romanian composers were receptive to innovations in sound manifested on the level of timbre - embodied in sound effects, composing innovative solutions for the vocal genre. On the whole, 20\(^{th}\) century music brings an excessive technical approach of the voice, which requires a much work for drafting the sound, and the considerable broadening of the vocal writing, leading to the creation of interesting sound effects. Many of these experiments have remained at the level of vocal experiments that seek to explore the expressive musical value of the voice. The promotors of these innovations argue that experimenting with novel formulas extracts vocality out of its “stiff” traditionalism. Only that what is apparently a factor of progress sometimes loses from sight the expressive-human side of the voice. Certainly one of the fundamental precepts of vocal creation of the twentieth century is the use

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of *Sprechgesang*, on the grounds that the use of speech, of the shout and of onomatopoeia within the configuration of the musical discourse has the capacity of rendering a large sweep of feelings.

5. Sonorous effects in the piano works of the 20th century are: effects characteristic to the percussion instruments, effects specific to the string instruments, effects specific to the wind instruments, effects taken from the vocal technique, the effect of prolonging the vibrations, pedal effects, effects produced by noise, effects generated by verbal or scenic actions of the performer, effects resulted from the preparation of the piano.

6. There are two contrary tendencies in treating ornaments in the 20th century music: approaching them in one of the three forms of notation (especially with the neo-modalist composers)

avoiding everything characteristic to ornaments, while specific configurations rarely appear, but with a rhythmic role (the serialist and post-serialist composers). We can also notice innovative ornaments from the perspective of construction and notation such as: short appoggiaturas made up of chords; the juxtaposition (for the two hands) of multiple appoggiaturas with a different number of sounds: the notation of the short appoggiaturas as two sounds in an arpeggio, at a small interval; trills with appoggiaturas of preparation and closing sounds very far apart as height is concerned from the real note; trill with the anticipation of the following note; trill ribatutta (on sost. accelerando); trill with the oscillation notes between sounds very far apart etc.

7. Eduard Terényi in his *Improvvisazione* draws the graphic contour of the previous musical play of the cycle *Piano Plays, Cluster-Melody*, where, in the limits of the hourly duration of the portative, they invite the player to recreate the previous page in his own sonorous vision. We can notice the graphitisation tendency of the two scores even if the first musical work contains inside the cassettes, some precise execution elements in the filed of the movement (the tempo), and also, it contains some sonorous densities, of the ways of execution and also to the way the pedal is used.

8. The composer wanted a diminution of the role of accompaniment, in the piano score
but we can notice a complex writing using: a varied dynamic plane \textit{fff-pppp}, extreme sounds placed along the entire instrument keyboard, clusters in different configurations, different types of cluster: black keys flageolet, written in extenso, performed with different body parts, \textit{glissandos}, \textit{gliss} with the palm (rotational movement, détachée singing etc. The accompanist is involved in the stage production either in a static way, with various inflections of his voice, or with theatrical movements circumscribed within the musical performance.

9. The ambiance, spiritual and sentimental states are expressed by the composer in \textit{Înger și demon} opera through an agogics in continuous metamorphosation, based on frequent changes in tempo, associated with intensity changes. The agogic expressivity is marked in the score by the development and continuous transformation of some elements of the musical discourse such as: different rhythmic and metric developments, different directions of the melodic lines, harmonic successions (expansive, depressive, neutral), contrasting dynamic-intensive lines. In this context, the author’s request of tempo generates, along with the complexity of his composing language, an expressivity specific to the composer, built on a melodicity with strong folk imprints.
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