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Musical Mobile as a Genre Genotype of New Music

Muzikos mobilumas kaip naujosios muzikos žanro genotipas

Abstract

Mobility was always the nature of a musical form, but in the twentieth century there were such musical forms, which are not predetermined by the author, not fixed in a score and without clear contours, precise number of the sections, direction of dramaturgical process and even ways of the exposition and development of material. Such forms became a characteristic of musical mobile, which became a new genre genotype of twentieth century music. Initially connected with visual art, musical mobile turned into an independent type of an improvisational piece with a flexible structure, which allows form metamorphosis, changing the order of the exposition of musical thought and even emotional and semantic context.

Keywords: music, improvisation, aleatory, mobile, form, mobility, variability, modularity.

Anotacija

Mobilumas visada buvo natūralus muzikinės formos dėmuo, tačiau XX a. atsirado tokių formų, kurios nebuvo iš anksto nulemtos jų autorių, neturėjo aiškaus apibrėžimo partitūroje, ryškių kontūrų, konkretaus padalų skaičiaus, dramaturginio proceso tėkmės ar net ekspozicijos ir plėtojimo medžiagos. Tokios formos tapo aiškiais muzikos mobilumo požymiais, o mobilumas savo ruožtu suformavo naują XX a. muzikos genotipą. Iš pradžių sietas su vaizduojamaisiais menais, vėliau muzikos mobilumas tapo savarankišku improvizuotu kūrinium, pasižyminčiu lanksčia struktūra, leidžiančia atlikti metamorfozes keičiant muzikinės minties ekspozicijos išdėstymo tvarką, modifikuojant emocinį ir semantinį kontekstus.

Reikšminiai žodžiai: muzika, improvizacija, aleatorika, mobilus, forma, paslankumas, kintamumas, moduliavimas.

Mobility has always been the nature of a musical form: stabile and unstable elements interacted and cooperated with each other in folk singing, professional improvisational art, composers' creativity of various historical periods, jazz performing, so if not one, then another appeared in different times. Musical mobility was partially provided by what is masterly performance art, implying that an interpreter makes his creative contribution to the work. Another reason of the mobility consists in some conditionality and limitedness of a musical notation on the whole. On the other hand, strict and rigorous realization of the all author's indications and signs is unlikely. Partial or imprecise notation was characteristic of music of many countries and periods to a certain extent, and approximate fixation has been the natural form of art existence in some national cultures until now. The stabilization of sound texture took place parallel to mobilization, so variability as well as unpredictability of the result of interpretation followed composition during the whole time of the development of music. Keeping attempt of some degree indeterminacy of text or structure was opposed to moving tendency to more and more strict and detailed fixation. This indeterminacy gives the performer creative freedom, so music is in need of unpredictability and innovations, which move arts in the future and open new ways of its development.

Unpredictable and innovative approach is characteristic of professional musical improvisation, which preceded written compositions in the culture of many countries.

Improvisational kind of creativity did not lose universality in Europe until the ninth and tenth century, however, it still plays an important role in the East. Having various forms, improvisation became urgent in the twentieth century again and reached a high degree of artistic freedom in aleatory¹ that is a compositional principle permissive of indeterminacy of sound text as well as the form of work. In this connection is also a random choice of qualitative characteristics and an order of material exposition and elaboration during the process of writing or performing the work. Indeterminacy makes the result of the creative process unpredictable and often accidental. The principle of form unsteadiness and changeability, which was clearly fixed in old times, became topical again in the twentieth century and was strikingly realized in music. Under the influence of aleatory sound texture and form especially became interpreted as resulting and being in the making thing exclusively, not as formed crystal, but only fractions of it, not as built construction, but only its separate module. Moreover, in the twentieth century music there were forms, which are not predetermined by composers on principle, not fixed in a score and having not only clear contours, but also the precise number of the sections, direction of the dramaturgical process and even ways of the exposition and development of sound material.

Such form became a characteristic feature of *musical mobile*. A great number of the mobiles appeared in different

countries in the second half of the century under the influence of Calder's mobiles and Pollock's action paintings. They were instrumental and vocal pieces having a changeable form, and composers gave the name "mobile" to their compositions (see the table in the appendix), to separate movements or certain sections of the works, e.g. *Music for cello alone No. 2 with mobiles* (1969) by M. William Karlins and *Prelude, 3 mobiles, and Postlude* for brass quintet (1980) by I. Lang. Roman Haubenstock-Ramati gave the name "mobile" to the movements of his *First String Quartet* (1973): it consists of seven mobiles A, B, C, D, C, B, and A. Sylvano Bussotti also gave the name "Mobile-stabile" to the fifth movement of his cycle *Sette fogli* (1959). A series of the musical mobiles under different titles and in various styles (from tonal music to aleatory and graphic score) were created by H. Brant, E. Brown, E. Widmer, M. Karlins, C. Cardew, F. Miroglio, A. Pousseur, J. Tremblay, D. Foster, R. Haubenstock-Ramati, B. Cherney and the others. Musical mobile was important for these composers and became in their creative work not only Calder's mobiles analogue, but also *a new genre genotype of music* (Дауноравичене, 1990, p. 11). The term *genre genotype* is used as it is defined by Gražina Daunoravičienė: "genre is a genotype of music art" (Дауноравичене, 1990, p. 12). Musical mobile is a special genre genotype, which is characterized by the changeability and variability of compositional structure. Initially connected with visual art, musical mobile turned into an independent type of an improvisational piece with a flexible structure, which allows form metamorphosis, changing the order of musical thought exposition and even emotional and semantic context. Each mobile is based on a certain structural idea, ordering principle or rule of succession of musical blocks, as the main feature of mobile is shaping to a piece.

Musical mobiles differ from one another by a number of elements, degree of their mobility and structural stability: they imply the volatility of some elements only; some have a few variants of form, which are fixed in a score and provided by certain logic. Still others have no specific determined structure, fixed in a score, and concede an unlimited number of combinations of sections. Many different principles can

underlie their forming process, but one criterion – mobility – unites them and has three degrees. Based on a common criterion, "forms-mobiles"² are classified as mobile proper, variable, and modular. The stability of sounding text and acoustic recognisability of a work depends on these three types of mobile forms, reflecting different degrees of form definition.

- In **mobile form**³ there is an invariable disposition of sound material, but some fragments are improvised, so piece duration may change;
- In **variable form**⁴ there is an alternating sequence of material exposition, but the quantity of form's versions is limited by certain conditions or the author's directions, which don't influence the common work's conception and type of form;
- In **modular form**, it is possible to have any succession of material and random order of the movements, which are not fixed in a text and preconditioned by the composer; so musical mobile moves to a qualitatively new level. It can be based on the various structural principles and change musical conception, type of form and sound aspect on the whole, as belongs more to a performer than a composer.

Mobile, variable, and modular forms can be imagined as three kinds of constructions. The first construction only has some flexible elements, so its contours hold stationary; in the second type all elements as well as a figure itself can be changed but there is a fixed position of some parts in the construction, which causes a certainty of artistic conception. Finally, the third construction exists in a disassembled view: there are all of its components, but they are not connected with one another. Modular composition in contrast to mobile and variable ones stays in a process but does not appear as a crystal; it is a potential principle only but not the precise result, which is perfect, given, specified by the composer beforehand, and fixed in a score as constant text.

Musical mobiles by Brant, Laer, Kelemen, Block, Müller, Ridil, Rueff and the others are either instrumental preludes, which have a culminating episode or solo cadenzas *senza metrum*, or variegated improvising pieces with fanciful rhythmic figurations played in free tempo. Variability idea

Example 1. *Mobiles for Bassflute* (1977) by Caryn Block: indeterminacy of metre

A
águ / Wasser

Ernst Widmer
op. 85

Example 3. *Mobile 1 für Bratsche und Klavier*, op. 85 (1973) by Ernst Widmer: variable form

viola (1978) are performed may be chosen from among the following eight versions suggested by the author:

I	II	III	IV	V	VI	VII
III	II	I	IV	V	VI	VII
I	II	III	IV	VII	VI	V
III	II	I	IV	VII	VI	V
V	VI	VII	IV	I	II	III
V	VI	VII	IV	III	II	I
VII	VI	V	IV	I	II	III
VII	VI	V	IV	III	II	I

The fourth miniature of this mobile has invariable placement, either the first or third one opens, and the fifth or seventh pieces close the work. Their dramaturgic sense is obvious: the fourth movement, being the lyrical centre of the composition, is more stable by material and extensive in comparison with the rest; it abounds in accords and pauses, dividing the musical phrases, has a restrained character, and sounds on the low dynamic level. Whereas extreme groups are improvised and have active development, emotional contrasts, rich timbre colours; they play the elaboration role in the form.

Derek Foster in his *October '64: mobile for piano* (1964) enumerates all possible variants of twenty-four sections

IV ♩ = 60

Example 4. *Seven Miniatures in the form of a mobile* for solo viola (1978) by Brian Cherney: the 4th miniature

sequence (0, 1ABC, 2ABC, 3ABC, 4ABC, 5ABC, 6ABC, 7ABC и 8AB) – fourteen variants for the first thirteen and eight for the rest eleven ones, so all of them are finished by groups 5A, 5C, 6C, 7A or 7C, as only 5C, 6C and 7C can serve as the last work's measures: they include colourful figurations, rushing to the upper register, and are closed by a rich final accord.

Mobiles in **modular forms** are absolutely different. *Rund um die Uhr: 12 mobile für Klavier solo* (1980) by Kyo-ko Abe is a remarkable piece of such kind. All movements are notated (each on a separated page) both traditionally and graphically. Their titles reflect a character of sounding, type of texture, method of composition: *An Debussy, Die Akkorde, Der Untergrund, Der Abhang, Der Pausenfüller, Die Konstellation, Horizont I, An Liszt, Horizont II, Die Kontakte, An Webern*, and *Rund um die Uhr*. Author suggests some variants of mobiles sequence:

- “Die Mobile warden in der Reihenfolge, in der sie nummeriert sind, gespielt;
- Die Reihenfolge wird vom Spieler bestimmt;
- Die Reihenfolge wird nach dem selben Prinzip gewählt, das für die Auswahl der Felder in Mobile 12 verwendet wird;
- Es wird nur eine gewisse Anzahl in beliebiger Reihenfolge gespielt” (Abe, 1980, p. 2).

This form is mobile on the level of the whole structure as well as each movement. Either the rhythm or pitch of sounds is undetermined, and graphic pieces are fully improvisational. For example, all sounding groups of Mobile 6 may be repeated and combined *ad libitum*; Mobile 9 consists of aleatoric material, the order of which is fixed; graph music of Mobile 10 is improvised by the performer within the pitch limits, marked by rectangles A, B, C, and D. The last Mobile includes 12 fields with approximate musical material, arranged in a circle as a clock dial numbers, where one field is equal to an hour. The pianist starts playing from that field, which corresponds to an hour of real time and then follow the next, moving clockwise and describing a circle.

The author permits playing any number and succession of the movements, although she suggests some variants of work's construction, so the form of the piece is modular (composition could be variable if it includes twelve movements exactly, combining differently). As Abe notes, “Der Spieler entwickelt ein System, um die Reihenfolge zu bestimmen” (Abe, 1980, p. 2). There is a great number of realization variants of 12 mobiles and these versions are not limited to any author's idea, though, judging by the title, Abe implied playing all 12 mobiles, which perhaps symbolize her artistic interests and ardours.

Marta Ptaszyńska's *Mobile dla dwóch perkusistów* (1975), performed by different instruments, as the author writes, “is a collection of 19-piece inventions, which may be played in any quantity and combination” (Ptaszyńska, 1978, p. 1).

Some of them have improvising parties, unsynchronized to each other and freely coordinating through time signature and the absence of bar lines (A, C, D, M, O, R, U, W, Z).

The others use more concerted materials and are often built by question-and-answer principle (B, E, F, H, K, L, N, P, S, T). There are also pieces having predetermined score, when one or both percussion parties consist of stabile (repetitive, rhythmically periodical figures or regular motions) compositional elements (C, D, L, M, N, O, U, W). Several sections form groups similar to each other by timbre colors (A-D-M; B-F-H-R-R-N-U; T-N). Only the first (Entrada) and the last (Finale) mobiles must not change; the rest may change places and appear in any order; moreover, as Ptaszyńska notes, “it is advisable for the players to choose a different order of inventions for each performance” (Ptaszyńska, 1978, p. 1). So modular form of this work will change not only in respect of disposition, but also the amount and quality of musical material.

Mobiles for orchestra divided into four groups (1973) by Walter Hekster includes ten sections (4 solo events, 4 string orchestra events, and 2 tutti events), all of which are to be played once. The order in which they are performed is decided before the performance. The conductor only gives a cue for the end of one event and the beginning of the next. There are four solo sheets on which four different sound events appear: A, B, C, and D; their order is also decided by the conductor. Some solo events can be repeated as many times as desired; the other are to be played until the material is exhausted.

With such instability of collapsible construction, there are some stabile elements in it. Each orchestra group has its own pitch series, and only those notes are to be played:

b-g-c-cis-d-es
f-d-es-e-gis-a-b
gis-h-a-fis-f-e and *c-cis-b-g-fis*

Thereby, in case of any sections sequence, strings will play the same differently combining sounds, creating a characteristic aspect of Hekster's work. The form of this mobile is not variable but modular also because author admits still more freedom: any material played may overlap from one section to another in order to give the composition a continuous character. On such conditions, *Mobiles for orchestra divided into four groups* can prove to be as suite of ten separate pieces, so uninterrupted developing one-part work of music subject to different choice of conductor and performers. The result must be a contrasting antiphonal mobile, where each solo section should be followed by a string tutti or a tutti event or visa versa, for example:

$S_1-ST_2-S_2-T_2-S_3-ST_2-T_2-ST_3-S_4-ST_4$

Example 5. *Rund um die Uhr: 12 mobile für Klavier solo* (1980) by Kyoko Abe: the last mobile

Anfang = *Entrada*

4 toms + 2 bongos

Claves + Temple blocks

Recitativo

Zmiana wysokości dźwięku claves przez uderzenie w różnych miejscach. Grać na temple-blokach clavesami.
 Change the pitch of the claves by striking them in different places. Play the temple-blocks with the claves.

Example 6. *Mobile for Two Percussionists (Mobile dla dwóch perkusistów, 1975)* by Marta Ptasińska

The image displays a musical score for 'Mobiles for orchestra' by Walter Hekster, divided into four groups (A, B, C, D). Group A is titled 'Solo - II' and includes staves for Flute (FL), Oboe (OB), Clarinet (CLAR), Bassoon (BSN), French Horn (FR. HRN), Trumpet (TRP), Trombone (TRB), Tuba (TU B A), Violin (VLN), Viola (VLA), Violoncello (VLC), and Piano (PIANO). Groups B, C, and D are smaller sections for Clarinet (CLAR), Viola (VLA), and French Horn (FR. HRN) respectively. The score features complex rhythmic patterns and dynamic markings such as *mp*, *mf*, *ff*, and *pp*. A large '8' with a dashed arrow is positioned at the bottom left of the score.

Example 7. *Mobiles for orchestra* divided into four groups (1973) by Walter Hekster

Thus, works in the modular form proceed from the idea of realization of musical conception not only having one's say, but also using one's own methods and following one's own rules. The author suggests an idea, the interpreter formulates it in his own way, the first defines the task, the second finds ways of its solution, composer proposes a topic, musician fully treats its, creator provide material only, artist builds modular form. Such musical mobiles are usually written so that all movements are separated owing to their independence and free order of succession. It is necessary to play a piece many times that its variability become obvious. There are also some musical works titled "module" by Earl Brown (*Modules I-III*, 1966–1972), Luis de Pablo (*Módulos*, 1967), István Anhalt (*Symphony of Modules*, 1967), Julia Perry (*Module*, 1969/1975), Mel Powell (*Modules*, 1985), Takehisa Kosugi (*Module*, 1990) and the others.

Indeterminacy of even one sound quality has influence upon form and makes it mobile or variable, but not always modular, that is "that composition could be devised without determined form, without musical events being given specific order or even being notated, seemed to be impossible" (Smith Brindle, 1975, p. 62). Smith Brindle notes:

...a number of analogies between music and the visual arts can now be made. A group of pictures by different painters are probably best arranged in a certain order ... A group of pictures by the *same* author could, however, be arranged in several ways, some of which are equally preferable. This

corresponds to an open-form work like Berio's *Epifanie* – a group of seven orchestral pieces, which can be arranged to form three different 'Quaderni', or coupled with five pieces for solo voice to form ten different 'Epifanie'. Many thousands of sequences of twelve pieces are possible, but Berio indicates only thirteen. ... To make a further analogy, a painter or sculptor may design a set of coloured shapes or objects, which the purchaser himself can set up in whatever form he likes. The objects may even be balanced on strings in an unstable equilibrium, so that at a touch they move about and settle eventually into a new position. This 'mobile' art produces an unending variety of forms. Similarly, music can be written in short sections which can be arranged by the performer as he desires (either previous to the performance or while he plays) so that, in theory at least, every time the music is played, it offers new aspects (Smith Brindle, 1975, p. 70).

Moreover, "some forms of architecture are based on prefabricated modules. Only a few different types of basic elements are required to complete a structure, which, though admittedly of a primarily functional nature, such as the Italian Bortoloso System, has aesthetic value. ... Similarly, some composers provide only a few basic elements indeed which, when differently massed together, form entirely different sound structures" (Smith Brindle, 1975, p. 71). Modular form is also constructed from ready elements, which the performer assembles differently, so dissimilar sound structures appear consequently:

The kind of musical construction which is analogous to architecture's prefabricated module structures usually comprises a number of brief segments which performers play in varied succession over a given time period. For example, the final section of Earl Brown's *String Quartet* (1965) comprises a small set of modules such as the following, which are found in similar form in all parts (Smith Brindle, 1975, p. 77).

Thus, term "modular" characterizes a special kind of forms, which assembles or arranges the separate and independent parts, sections, fragments, episodes, blocks, groups etc., and refers to many musical mobiles.

The musical form of the most "active" mobiles is not just individual and specially projected by the composer for particular work, but initially is a "do-it-yourself kit", and performers themselves compose a piece from separate blocks, putting them together and making them sound unrecognizable. According to Kholopov, "distressful situation appears in modern music of 'individual project' – form is absent" (Курбатская, Холопов, 1998, p. 143). More specifically, musical form finds many various structures and consequently it not only changes external contours, remaining the same type, but also undergoes internal qualitative metamorphosis and turns from a purposefully developing

composition into a static one. Modular form may include all material as well as separate elements only, chosen at performer's will, however recombined and repeated any times. The same musical mobile may become a one-part piece at one performance and a large-scale cycle of miniatures at another like *Any Five* (1965) by B. Childs, *Silver Thaw* (1969) by N. Simons, *Organum I* (1970) by X. Darasse, *13 Passages* for saxophone alto and vibraphone (1985) by J.-L. Petit. Even though the number of the parts is appointed the whole form itself can be multivalued and indeterminate as it is conditioned by the quality of sound material and principles of its development. Following the same structure, it is possible to reproduce traditional types of forms as well as to invent new ones. As Denissov marked, "dramaturgical principles are more important than a schema, and it needed to develop them but not to a model schema" (Курбатская, Холопов, 1998, p. 142).

Haubenstock-Ramati, Brown, Cardew were masters of musical mobiles and created a number of such kind of pieces. Among compositions of Haubenstock-Ramati there are *Interpolation, mobile pour 1–3 flutes* (1957), *Petite Musique de Nuit* (1958), *Mobile for Shakespeare* for voice and six players (1958), *First String Quartet* (1973) and *Second*

Example 8. *Interpolation, mobile pour 1–3 flutes* (1957) by Haubenstock-Ramati

String Quartet (1977) and so on. The composer noted in his article "Notation – Material and Form", that "form can only be invented; material can only be discovered" (Haubenstock-Ramati, 1966, p. 41) and realized this idea in his works. Mobile *Interpolation* includes twenty-five sections, which differ by length, quantity of material, sounding character, and structural function, bearing the title "formants". Eight sections can serve as initial when choosing the straight direction and seven ones when choosing the retrograde direction (their beginnings are various by sound); it is possible to start from the most upper system, performing both functions. Large-scale formants have some dotted lines, which unite the formants to one another. Musicians can follow any directional line; hence there is a great number of performance versions. However, the freedom of choice of flutists(s) is not full, as the composer thought out all possible variants and partly predefined the actions of interpreters. Particular disposition of the dotted lines excludes some groups of sounds in the same phrases on condition of choice of various opening formants, so lines lead a musician to certain sections and exclude the others. The composer provided all acceptable forms of mobile.

Nevertheless the sound of *Interpolation* varies appreciably because of a free number of participants. The piece takes four to five minutes if it is played by one flutist and more than 12 minutes if is played by three flutists. The score serves as a part for each artist. It is possible as one virtuoso plays one, two or three instruments. If a person participates only, he plays various form versions three times; if three musicians appear on the concert stage, the second and especially third flutist arbitrary chooses only a few original or retrograde formants, dividing them by means of pauses. Thus, each repetition of the same section will superimpose on its already sounding version and augment texture density. The arrangement of the formants' according to their length and combination is fully realized by performers:

It is quite possible that for this reason Haubenstock-Ramati qualified his mobiles as "dynamic closed forms":

The form is 'closed', because, after the completion of one phase, its elements are being used again to generate a new phase. But since different elements have phases of different lengths, each further repetition will be 'dynamic', i.e.: vertically speaking, a new context will result every time (Wilson, 1999, p. 2).

He likened musical structure's change to "the shuffling of playing cards," so while cherishing the openness and unpredictability brought about by multiple combinations of sound material, he wholly controlled the general form and directed common dramaturgical process. Haubenstock-Ramati differentiated the use of the mobile principle by American and European composers:

The Americans are very good at shuffling the cards, but they don't play, they don't get around to playing with those cards. And I had decided to make a game with these newly shuffled cards, and that is the mobile (Wilson, 1999, p. 1).

So in *Mobile for Shakespeare* there are clear determined bounds of a macro-form. In the latter piece two Shakespeare sonnets No. 53 and 54 are separated by a short interlude and preceded by instrumental sections of given lengths, although the players may start at any sections of the graph score, move to any of them, interpreting the written fragments in different orders and tempos of their choice. The score is divided into three fields: the external includes 12 musical sections for soprano and percussionist 3; the middle consists of 10 sections for piano and celesta; the internal has six sections for percussionists one and two as well as vibraphone and marimba. Each performer may start from any section of his field and then read the score clockwise or anticlockwise in any tempo. Notation is determined in various degrees: for example, the soprano part looks like a sketch and presents one of the author's versions of performance only:

First String Quartet consists of four sections (A, B, C, and D), arranged in such a way that it is generated in a clear concentric form $A \leftarrow B \leftarrow C \leftarrow D \rightarrow C \rightarrow B \rightarrow A$, having a fixed symmetry axis. Three of the four sections have some described and graphically drawn form versions. For example, Mobile A is comprised of nine structures (a, b, c, d, e, f, g, h, i), but it is possible to form only twelve versions of the mobile by varying their order. Each starting structure is also to be repeated at the end as the closing ones, as well as the structure "e" which lies in the middle of the two crossing paths, is to be played in two different places in each versions (it causes the limitation of form versions number). Four simultaneously performed cycles of Mobile B structures in four different sequences, i.e. of the constituent structures, constitute one version of Mobile B. Mobile C has also 12 versions of form, including eleven structures, and structures "a" and "e" which stand either at the beginning or the end of each of the twelve versions to be played twice. So this form is variable due to the fixed placement of structural units, but the units themselves are inherently unstable; consequently, the work's sounding change from one performance to another to some degree. *Second String Quartet* consists of six movements having different character, genre, form, and even style, and following any sequence. An obvious relationship between the movements (common material, sound character) as well as rhythmic, intonation, articulation, and other reminiscences system makes the form of the piece similar to rondo.

Earl Brown's *Available Forms I* (1961), *Available Forms II* (1962), *String Quartet* (1965), *Modules I and II* (1966), *Calder's Piece* for four percussions and mobile *Chef d'orchestre* by Alexander Calder (1966), *Event: Synergy II* for ensemble (1968); *Module III* (1969) and others are

Example 9. *Mobile for Shakespeare* for voice and six players (1958) by Haubenstock-Ramati

Example 10. *Module I* (1966) by Earl Brown

“assembling” constructions. Two separate scores *Module I* and *Module II* may be performed independently, simultaneously, or either one of them may be performed with *Module III* (1969) or with any module that may be added to this series of works if only they do not exceed the instrumentation of a normal large orchestra. Each of *Modules I* and *II* has four pages, including either four or five accords; they may be played in any sequence and each may be held for as long as the conductor desires, at any constant or variable loudness. Conductors inform the musicians of the page, from which he will choose accords during the performance.

In spite of structure mobility, the sound aspect of the work remains from one performance to another due to an invariable character of musical events. Firstly, all accords having fermata are to be held by the musicians until specially cut off by the conductor. Secondly, accords are played sometimes by separate instrumental groups, sometimes by full orchestra, so during a performance tutti alternates soli, the orchestra periodically breaks up into some groups and then gathers in a united “intervallic unison” (in the sense of qualitative, but not pitch coincidence of intervals). For example, each accord on pages 2 and 3 of the score of both *Modules* use all the instruments, but on pages 1 and 4 the first four accords may be combined and overlapped in any sequence and combination so they are four small accords which, when played simultaneously, add up to the full orchestra of that *Module*. Thirdly, there is intervallic relationship between accords of pages 1 and 5. So Chord No. 5 on Page 1 of *Module I* is the same by interval as the all of accords No. 1–4 of *Module II* with only different orchestration. Accords No. 1–4 on Page 1 of *Module II* sounded simultaneously with Accord No. 5 of *Module I* produce

an intervallic unison between the two *Modules* (the same relationship is between accords No. 1–4 of *Module I* and Accord No 5 of *Module II*).

Such intervallic unisons appear between accords on Page 4 of both *Modules*. So even though the succession and combination of accords is various, the sounding character of Brown’s work in different interpretations will bear a great resemblance to each other due to long sustained and intervallic community of accords. Moreover, the interchange of tutti with soli will make the opus similar for listeners in each performance, though it will change the work’s outlines and structure.

One of the numerous mobiles by Cornelius Cardew has a characteristic title, *Material*, for any instrumental ensemble (1960), expressively indicating the absence of the composer’s given form. There are 17 sections from A to Q by one (L, N, O, P, Q), two (A, B, C, D, E, F, G, H, J, K, M), and four (I) measures. Not only the order, but also the number of sections and their repetitions are free, by mobile “tradition”, although particular “game directives” make it unlike other mobiles. At first the players should move together, at a later stage sections may be arbitrarily counterpointed. In addition, the crotchet beat is variable; any of the written notes as well as a selection of the notes in a cluster may be omitted; large accords may be spread or broken; material may be played for any length of time. Musicians also freely choose dynamics, articulation, tempo, etc.

Mobile *Octet’61 for Jasper Johns* (1961) by Cardew is wholly performed by a musician’s desire. Each sign symbolizes a musical event. The piece is cyclic and may be played for any length of time. It is possible to start the musical work anywhere, joining the end to the beginning, or the

Example 11. *Material* for any instrumental ensemble (1960) by Cornelius Cardew

Example 12. Mobile *Octet '61 for Jasper Johns* (1961) by Cornelius Cardew

beginning to the end if a performer is reading backwards and end anywhere. The performer can use not only the piano, but also any other instrument(s), interpret each sign ad lib and any times:

Musical mobiles had such unknown form that “one feels on entering a strange city, or as one explores the firmament with but few bearings to lead the way” (Smith Brindle, 1975, p. 72). But although these pieces are changeable they are surely based on any constructive idea and built according to a certain logic of sense development. Compositional technique, pitch or rhythm organization system, material disposition feature, and another constructive force and factors usually perform a structure-forming function. Suite principle underlies many musical mobiles, having compound form by nature. For example, according to Petit, his piece *13 Passages* for saxophone alto and vibraphone is a “musical building-kit” (Petit, 1986, p. 2), in which 13 episodes may be arranged arbitrarily by performers themselves at will. Episodes differ in sound material, texture, and character – from duets, exactly fixed in notation, to solo improvisation on indeterminate text. Musicians themselves choose an order and number of the pieces, which they wish to play. Jacqueline Nova’s *12 móviles para conjunto de cámara* (1965) are built in concerto grosso model and

include some improvisational episodes (IV, VIII, and X), which are played by soli and ensembles and contrast with tutti episodes having exact meter, regular rhythm and clear texture. *Mobiles after Alexander Calder* for viola, marimba, and piano by Axel Borup-Jørgensen consist of four movements by 6, 7, 7, 5 (viola), 5, 7, 7, 5 (marimba) and 5, 7, 7, 5 (piano) variable sections. The piece is to be played on the principle of noncoincidence of sounds and discoordination of parts. The composer suggests choosing the movements and sections of composition considering that happens in the other parts and avoiding synchronous play of the same type material by all instruments: form is to be properly movable, and instrumentalists have to exchange cues such way as if it is a natural, vivid, and fascinating talk between people having various character and temperament.

Structure’s indeterminacy of musical mobiles makes performance considerably more active and contributes to the search of new different forms. The improvisational origin of classical forms and genres is generally known: “Once variations, canon, toccata, fantasy, and even fugue and sonata form were improvised, to say nothing of early variety and prototype of the forms and genre-texture models, which initially were exactly specific kinds of improvisation art” (Сапонов, 1982, p. 4). Unsteady form of musical mobiles

also furthered the search of various structure solutions and development of innovational forming strategies, which have not crystallized and consolidated in compositional practice and become certain common types yet. It is one of the most important achievements of musical mobile.

Form fluidity led to far-reaching results owing to chance influence upon both material and method of its organization, as “structure mobility signifies a tolerance of chance in more high, compositional level of the work” (Кюрегян, 2005, p. 417), which was early considered “inviolable”. They appeared in a period of genre system change, but found their own “genotypical features” such as a special “constructive idea of structure” (Дауноравичене, 1990, p. 18).

Forms and genres are often interrelated and interdependent with each other, and forms received a genre name in most cases of art history. The situation of musical mobile is similar: this new genre genotype correlates with specific structural-compositional type and fundamental variability of form is its dominant criterion and essential quality. It is possible to categorize a great number of works for mobile. For example, *Mosaic Quartet (String No. 3, 1935)* by H. Cowell, *Intermission 6, for 1 or 2 pianos (1953)* by M. Feldman, *A Piacere: Suggestions for piano (1963)* by K. Serocki, *Klavierstück XI (1956)* by K. Stockhausen, *Third Piano Sonata (1957)* and *Structures II for Two Pianos (1961)* by P. Boulez, *Per pianoforte (1968)* by E. Bogusławski, *Ouvert... Meditation for variable instrumentation op. 99 (2005)* by M. Denhoff, etc. There is a multitude of that kind of pieces, going by the innovative “genre standards”, which “reflect a search of a new conception typical of modern musical art” (Дауноравичене, 1990, p. 18). Musical mobile is relatively a new phenomenon, but so much time has elapsed from its appearance that musicologists and performers should pay attention to this unknown occurrence of musical culture.

References

- ¹ Aleatory derived from Latin *alea* – dice, game of dice, risk, chance.
- ² The term “forms-mobiles” suggested by Kuregyan (Кюрегян, 2005, p. 417).
- ³ The term “mobile form” suggested and used by Brown (Brown, 1979, p. 83), Denissov (Денисов, 1986, p. 100) and Tsenova (Ценова, 1992, p. 110).
- ⁴ The term “variable form” used by Stockhausen (Штокхаузен, 1995, p. 40).

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Supplement

Music compositions with a title or subtitle "mobile"

Date	Composer	Work's title or subtitle
1932	Henry Brant (1913–2008), USA	<i>Mobiles</i> for unaccompanied flute
1957	Roman Haubenstock-Ramati (1919–1994), Austria	<i>Interpolation, mobile</i> pour flute (1, 2 et 3)
1958	Herbert Brün (1918–2000), Germany	<i>Mobile</i> für Orchester
1958	Roman Haubenstock-Ramati	<i>Mobile</i> for Shakespeare for voice and 6 players
1958	Henri Pousseur (1929–2009), Belgium	<i>Mobile</i> pour deux pianos
1959	Sylvano Bussotti (b. 1931), Italy	<i>Mobile-stabile</i> for violin, piano and guitars
1959	Roberto Gerhard (1896–1970), Great Britain	<i>Audiomobiles</i> I, II "DNA", III, IV
1960	Niels Viggo Bentzon (1919–2000), Denmark	<i>5 mobiler</i> , op. 125 for orchestra
1960	André Prévost (1934–2001), Canada	<i>Mobile</i> pour flûte, violon, alto et violoncelle
1961	Leslie Bassett (b. 1923), USA	<i>Mobile</i> for piano
1961	Axel Borup-Jørgensen (b. 1924), Denmark	<i>Mobiles after Alexander Calder</i> , op. 38 for viola, marimba, and piano
1961	Roberto Gerhard	<i>Audiomobile</i> II for tape
1961	Maurice Jarre (1924–2009), France	<i>Mobile</i> for violin and orchestra
1961	Mieko Shiomi (b. 1938), Japan	<i>Mobile</i> N0. 1–3 for violin, cello, saxophone, marimba, gong, metronome, noise
1962	Heinz Holliger (b. 1939), Switzerland	<i>Mobile</i> for oboe and harp
1964	Derek Foster (b. 1943), Great Britain	<i>October '64: mobile</i> for piano
1964	Talib-Rasul Hakim (1940–1988), USA	<i>Peace-Mobile</i> for Woodwind Quintet
1964	Ernst Křenek (1900–1991), Austria	<i>Fibonacci mobile</i> , op. 187 for string quartet and piano
1965	Jacqueline Nova (1935–1975), Columbia	<i>12 Moviles</i> para conjunto de camara
1965	Michel Decoust (b. 1936), France	<i>Mobile</i> de 1 à ∞ percussionistes
1965	Richard Felciano (b. 1930), USA	<i>Contractions, Mobile</i> for Woodwind Quintet
1965	Peter Kolman (b. 1937), Austria	<i>Mobilisation, Mobile</i> for flute and vibraphone
1965	Ton Bruynel (b. 1934), Denmark	<i>Mobile</i> for two soundtracks
1967	Jeanine Rueff (1922–1999), France	<i>Mobiles</i> pour Trompette et Piano
1967	Lucien Goethals (1931–2006), Belgium	<i>Mobile</i> for 2 speakers, cello, piano, percussion, 4 film projectors, 4 tapes
1967	Klaus Hashagen (1924–1998), Germany	<i>Mobile Szenen</i> II für Klavier und Elektronik
1968	Brian Cherney (b. 1942), Canada	<i>Mobile</i> II for cello Solo inst: <i>Mobile</i> II, vc, 1968
1968	Lucian Meșianu (b. 1937), Romania	<i>Mobiles</i> for ensemble
1968	Ernst Widmer (1927–1990), Brasilia	<i>Rondo-mobile</i> für Klavier
1969	M. William Karlins (1932–2005), USA	<i>Music</i> for cello alone No. 2 with mobiles
1969	Brian Cherney	<i>Mobile</i> IV (Tu Fu, trans. K. Rexroth) for soprano and orchestra
1969	Paul-Heinz Dittrich (b. 1930), Germany	<i>Stabiles und mobiles</i> für 12 Saiten Orchester
1969	Filipe Pires (b. 1934), Portugal	<i>Mobiles</i> for chamber orchestra and piano
1969	Ben Johnston (b. 1926), USA	<i>Auto Mobile</i> , exhibition music, tape
1970	Helmut Degen (b. 1911), Germany	<i>Mobile capriccioso</i> for flute, viola, piano
1970	M. William Karlins	<i>Graphic Mobile</i> for three and more instruments
1970	Brian Cherney	<i>Mobile</i> III for oboe
1970	Ole Schmidt (b. 1928), Denmark	<i>2 mobiles</i> for winds, percussions and piano
1971	Alice Samter (1908–2004), Germany	<i>Mobile</i> für Oboe und Fagott
1971	Wilfried Jentsch (b. 1941), Germany	<i>Mobile</i> for 5 orchestral groups
1971	Bent Lorentzen (b. 1935), Denmark	<i>3 Mobiles</i> for accordion, guitar, percussions
1971	Paul Arma (1905–1987), France	<i>3 Mobiles</i> for clarinet solo
1972	John Rimmer (b. 1939), New Zealand	<i>Mobiles</i> for harpsichord
1973	Veit Erdmann (b. 1944), Germany	<i>Mobile</i> I, II, III für zwei Flöten und Klavier
1973	Walter Hekster (b. 1937), Holland	<i>Mobiles</i> for orchestra divided into four groups
1973	Hugh Davies (1943–2005), Great Britain	<i>Mobile with Differences</i> for 5 instruments and live electronics

1973	Yngve Jan Trede (b. 1933), Denmark	<i>Trio mobile</i> for accordion, electric guitar, percussion
1973	Ernst Widmer	<i>Mobile II</i> for clarinet and piano
1974	Flemming Weis (1898–1981), Denmark	<i>3 mobiler</i> for flute and string trio
1975	Roque Cordero (1917–2008), Panama	<i>6 mobiles</i> for orchestra
1975	Ernst Widmer	<i>Mobile I</i> für Viola und Klavier
1975	Marta Ptaszyńska (b. 1943), Poland	<i>Mobile</i> dla dwóch perkusistów
1975	Paul Arma	<i>6 mobiles</i> for 1, 2, 3 or 4 saxophones
1975	Elliott Schwartz (b. 1936), USA	<i>5 Mobiles</i> for flute, trumpet, organ, tape
1975	Klaus Hinrich Stahmer (b. 1941), Germany	<i>Mobile Aktionen</i> für Saitenorchester
1976	Christian Ridil (b. 1947), Germany	<i>Mobile musicale</i> für zwei Oboen und Fagott
1977	Caryn Block (b. 1953), USA	<i>Mobiles</i> for Bassflute
1977	Walter Hekster	<i>Mobile for Rickey</i> for clarinet solo
1977	Usko Meriläinen (1930–2004), Finland	<i>Mobile – ein Spiel</i> für Orchester
1978	Brian Cherney	<i>Seven Miniatures in the form of a mobile</i> for solo viola
1978	Barry Schrader (b. 1945), USA	<i>Mobiles</i> , Film and video scores (J. Engel)
1978	Hayg Boyadjian (b. 1938), USA	<i>Mobile</i> for Harp, Flute and Cello
1978	Elliott Schwartz	<i>Pentagonal Mobile</i> for piano, tape, audience
1979	Vinko Globokar (b. 1934), Slovenia	<i>La tromba e mobile</i> for wind orchestra
1980	Kyoko Abe (b. 1950), Japan	<i>Круглые сутки: 12 мобильных для фортепиано соло</i>
1980	István Láng (b. 1933), Hungary	<i>Prelude, 3 mobiles and postlude</i> for wind quintet
1980	Conrad Beck (1901–1989), Sweden	<i>Centres mobiles</i> for flute, oboe, clarinet, bassoon, horn, trumpet, timpani
1980	Benjamin Lees (1924–2010), USA	<i>Mobiles</i> for orchestra
1980	Francis Miroglio (b. 1924), France	<i>Ping-Squash 1–3</i> , mobiles for percussions
1980	Denis Smalley (b. 1946), New Zealand	<i>Bern Mobiles</i>
1981	Glenn Stallcop (b. 1950), USA	<i>Mobiles</i> for two violins and double bass
1981	Marc Neikrug (b. 1946), USA	<i>Mobile</i> for 14 instruments
1982	Charles Dakin (1930–2006), Great Britain	<i>Mobiles</i> for soprano and tenor saxophones
1982	Fredrick Kaufman (b. 1936), USA	<i>Mobile</i> for String Quartet
1983	Eleanor Alberga (b. 1949), Great Britain	<i>Mobile I</i> for string orchestra
1983	Roque Cordero	<i>Petites mobiles</i> for bassoons trio
1983	Ronald Senator (b. 1926), Great Britain	<i>Mobiles</i> for piano
1985	Roger Dean (b. 1948), Australia	<i>Motel Mobile</i> for flute and guitar
1985	Christopher Bochmann (b. 1950), Great Britain	<i>Mobiles for Alexandra</i> for winds and 3 basses
1985	Otto Joachim (1910–2010), Canada	<i>Mobile für Johann Sebastian Bach</i> for wind quintet, string quartet, celesta, organ, vocoder
1986	Freddy van Laer (b. 1945), Belgium	<i>Mobile voor Klarinet Solo</i>
1986	Karl-Josef Müller (1937–2001), Germany	<i>Mobile I</i> für 2 Violinen und Viola
1986	Gunnar Bucht (b. 1927), Swedish	<i>Fresques mobiles</i>
1986	Anthony Iannaccone (b. 1943), USA	<i>Mobiles</i> for brass and percussions
1987	Milko Kelemen (b. 1924), Croatia	<i>Mobile</i> für einen Schlagzeuger
1987	Gene “Blue” Tyranny (b. 1945), USA	<i>Extreme Reincarnations Just Before Sunset, Mobile</i> for tape and piano
1988	Karl-Josef Müller	<i>Mobile II</i> für drei Violoncelli
1988	Eleanor Alberga	<i>Mobile II</i> for 2 clarinets, 2 saxophones, piano, 2 violins, viola, cello
1988	Ruth Zechlin (b. 1926), Germany	<i>5 Mobiles</i> for harp
1991	Simon Bainbridge (b. 1952), Great Britain	<i>Mobile</i> for English horn and piano
1994	Simon Bainbridge	<i>Mobile</i> for solo viola, flute, 2 clarinets, and harp
1995	Simon Bainbridge	<i>Henry’s Mobile</i> for violas consort
1996	Oleksandr Grinberg (b. 1961), Ukraine	<i>Mobile-Immobilie</i> for piano
1996	Henri Pousseur	<i>Mobile Duel de Capricaves</i> pour saxophone alto et piano
1998	Harrison Birtwistle (b. 1934), Great Britain	<i>Placid Mobile</i> for 36 muted trumpets

Santrauka

Straipsnis skirtas naujam XX a. muzikos žanrui, kuriam būdingi tokie požymiai kaip neapibrėžtumas, kintamumas ir struktūros transformavimas, suteikiant muzikos kūriniui galimybę atrasti skirtingas ar net priešiškas gaires (pvz., Calderio mobilieji darbai) ir įgyti formas, įvairuojančias nuo rondo iki individualaus projekto. Autorė aptaria mobiliuosius Šiaurės Amerikos ir Europos kompozitorių kūrinius žvelgdama į juos per struktūrinės idėjos prizmę, nagrinėdama organizavimo modelius ir muzikinius blokus ir sistematizuodama juos į mobiliąsias, kintamasias ir modulines formas, turinčias skirtingą struktūrinio stabilumo lygmenį. Pirmoji forma implikuoja tik kelių elementų nepastovumą; antrojoje matomi keli autoriaus pateikti formos variantai, kurie yra įamžinti natomis ir suformuoti tam tikros kūrinio logikos; trečioji nerodo jokios natomis fiksuotos specifinės struktūros, bet pateikia daugybę muzikinių atkarpų kombinacijų. Be to, XX a. muzikoje būta formų, kurios iš principo nebuvo apibūdintos ar įtvirtintos pačių kompozitorių, tačiau vis dėlto turėjo aiškius kontūrus, apibrėžtą epizodų skaičių, dramaturginio proceso kryptį ir net garsinės medžiagos ekspoziciją bei plėtojimą.

Kintančios struktūros muzikinės formos anais laikais buvo retos ir susijusios su tradicijomis. Tačiau muzikos mobilumas reagavo į avangardinę formos individualizacijos tendenciją, kuri vystymo logikos ir struktūros požiūriu kiekviename kūrinyje yra unikali ir vienintelė. Muzikos mobilumas pasireiškia ne vien tik improvizacija, kaip barokinis preliudas ar tokata, liaudies daina ar džiazio tema; tai konstrukcijų rinkinys, kaskart skambantis vis kitaip. Tokių veikalų forma yra nenusėjama, nes joje paprastai trūksta konkrečių kompozicinių atkarpų. XX a. muzikos standartu tapo kūrinio koncepcijos originalumas, instrumentinio ansamblio individualumas, garsinė medžiaga, kompozicinė technika, ką jau kalbėti apie formą, būdingą ne tik konkrečiam kūriniui, bet ir konkrečiam atlikimui. Veikalo metamorfozė, perdirbimas, transformacija tapo estetinėmis paradigmomis, susijusiomis su pasaulio kaip dinamiškos sistemos įvaizdžiu. Ši sistema yra nestabili, nuolat besikeičianti substancija, joje vis ieškome tiesos, bandome aptikti dalykų esmę, ilgmės pastovumo ir stabilumo. Mobilumas įkūnija kintamų dalykų nekintamumą, simbolizuoja ir įvairiais aspektais atspindi vienos tiesos esmę bei realizuoja pasaulio pradžios idėjas, kai į kosmosą ateina chaosas.