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Cycle: Semantics and Principal Types
of Its Structural Realization

Cyclicity is the fundamental principle of thinking which may be characterized as a simultaneous combination of *multiplicity* and *unity*. It gives rise to the various ways of structuring time and space, both virtual and physical. It underlies the diversity of musical forms inherent in different historical periods, each offering specific mechanisms of their interaction relevant exclusively to the given times. Let us analyze the following three types of cyclic arrangement – the principles of series, agon and circle. These basic principles infuse both archaic folklore and professional art throughout the history of its development up to the present day.

Olga Freidenberg, a researcher of myths and rituals, while analyzing the sources of literary plots and genres in the structure of archaic rituals and in their semantics[1], points out that although *archaic thinking rests upon the sole category of identity*, it develops in the various concrete ritual forms and mythological plots. And even though Freidenberg's line of research is literature and theatre, the underlying ideas of her book are significant not only for them since we can clearly distinguish the prototypes of musical forms in the rituals described there. The analysis of structural logic in modern music reveals regularities reducible to the same ancient structures. Below we are to deal with these ritual structural archetypes.

SERIES represents a succession of identical units. Each unit in this series does not constitute an element of the entity, being self-sufficient and *identical to the entity*. A series implies the continuum of both time and space. This principle is universal and it pertains to the most ancient structural archetypes of human thinking. A train of units similar in meaning and form reflects the periodic, cyclic structure of being, the cosmic order in the perception of both archaic and modern man. Its simplest forms are still living in traditional cultures, folklore and in a dynamically developing civilization. The series principle can be found everywhere: in the Old Scriptures and modern poetry, in the Greek meander ornamental pattern and the Celtic knitting, in folk matreshkas (wooden dolls shaped like egg with successively smaller ones fitted into one another symbolizing the succession of generations)[2] and in invocations (summons, lamentations, dirges, etc.), in the church litany and hagiographic icons, in the rosary and organum of the Notre-Dame school, in dictionaries and encyclopedias, in catalogs and calendars, in the book pagination and scrolls (as in computer text), in exhibitions and serial films, in codes and registers, and in children's counting verses and games. It is all based on the open progression of identical units. The open nature of a series epitomizes the infinity of being. A series is the metaphor of growth, division, ramification and reproduction, representing space development and a model of the expanding universe.

AGON is a contest, the metaphor of struggle, a dialogue; the binomial structure of opposition[3]: day and night, the beginning and the end, good and evil, male and female. In rituals the binary principle regulates space according to the symmetry law of opposites. In the old Greek theatre you have two semi-choruses: strophe/antistrophe; in philosophical treatises a dialogue takes the question/answer form. The regulating law of binary oppositions is applied in logics (the unity and struggle of opposites), rhetoric, and poetry. The agon structure represents *a series of binary cycles*. It is open and continual like a series and in fact represents its parallel modification. In the Greek tragedy the metaphor of struggle acted as a dramatic technique of "peripeteia". As Freidenberg writes, "Peripeteia is an inevitable result of primitive thinking unfolding in cycles, <…> primal dialectical concepts of rounded time and rounded space. This harmony is attained through the meeting and struggle of opposing forces; the catastrophe and ruin end with the reversal to rebirth"[4].

To illustrate the agon principle in medieval poetry, we can refer to the rondeau by Guillaume de Machaut "My end is my beginning" with its refrain "My end is my beginning, /And my beginning is my end". Here the opposition principle acts both within each line and between the two lines. The inversion of words, end/beginning and beginning/end, and their identity encircle the meaning of death and rebirth. The metaphor of a ring is expressed by Machaut in the musical

structure as well: in addition to the form of rondeau (triolet), the two above lines make up palindrome, a mirror-like opposition/identity of one and the same structure: *versus* and *retroversus*.

CIRCLE implies the total set, used as a metaphor to express the complete and harmonic structure of the Cosmos. A circle encompasses EVERYTHING. It is embodied in a roundelay, or colo[5]. The word "chorus" has two meanings: a circle and the totality of everything. A circle and a square fitted into it (modification of a circle) form up the figures of the Buddhist mandala, which is explained by M. Eliade as *imago mundi*: "the concurrent representation of both the Cosmos in miniature and the pantheon. Its construction corresponds to the magical rebuilding of the world"[6]. The closeness of a circle is identical to openness since the integrity of a roundelay does not depend on the number of participants. Cyclic continuality, repetitiveness, circular movement, and refrain recurrence act as a metaphor for the eternity of being. In this case identity also acts as the structural fundamental principle in presenting a series of cycles.

A cycle based on the series principle

This line of cyclic forms originates in invocation expressed according to the formula of an interjection, a word or a brief phrase and its repeated reiteration or variation. Here mention should be made first and foremost of textual-musical forms. Psalmody is a set of formulas used in the singing of psalm tones and recurring psalm stanzas (in the repetitive manner). In the Gregorian chant its deep-rooted linkage with invocation retains the formula-based (combinatory) structure of an antiphon. Organum of the Notre-Dame school rests on *cantus firmus*, where each tone is used as a basis for extended polyphonic constructs so that the entity is structured by the cantus tones repeated part upon part, i.e. in a series. The segmented cantus motet dating to the 16th century represents a series of polyphonic arrangements of each cantus segment taken separately, which constitutes the motet principle of composition. On a par with the motet, there exists the couplet type of textual-musical forms as the simplest manifestation of a series based on the repetitiveness of music and text alterations.

The idea of circle. Refrain (ritornello) forms

This mode originates in a roundelay. Refrain forms are simple because a succession of their parts is easily discerned and predicted. The cyclicity of renewals and repetitions makes it possible to predict the rhythm and contours of this form. As compared with the through motet following a word, the refrain form reveals its ritual, playing basis. The succession of alterations and repetitions stems from neither text nor music but from action merging all together in a syncretic entity. Such forms took shape at the turn to the 17th century. The character of refrains, often in the form of *tutti*, scanning and rhythmically dynamic, suggests the involvement of a third component, that is, collective singing-action, movement in space. Finally, the recurring alteration of varying parts generates an exchange, a verbal, musical, and spatial plastic dialogue between them. It contains rituality, an element of a game, and theatricality. The latter was highly topical for those who lived in the early 17th century and believed that all the world was a stage. It is already not so much a ritual itself as playing a ritual, its representation turning into a kind of musical scenic performance and later, as we'll see, into an autonomous musical form.

The diversity of genres in refrain form, such as mass, motet, concerto, concert madrigal, opera, and oratorio, reveals the numerous sources used to nourish it, and in the final analysis, its archetypical nature.

Archetypes

The appeal to human perception is in fact a call for anthropological memory keeping the ritual structural archetypes encoded in the human mind. Their transition into proper musical forms makes them archetypical. The refrain form goes back to sacral structures of archaic thinking and rests on all the three forms of identity: series, agon and circle. A circle and a roundelay express the harmony of the universe by musical and plastic means. A round dance acts as a metaphor for the complete, all-embracing nature of both space and time, as a structure expressing the principle of *a systemic set*, its total vitality and ordered regulation: the cyclic nature of being, a constant flow of life in nature, human existence and social environment. A circle organizes the space of ritual actions, processions, roundelays, games and children's counting verses. It is based on the category

of identity that excludes linear, cause-and-effect relationships. In secular practice it pertains to all the forms of medieval lyrical poetry stemming from a dance[7]: old French ballades, rondeaux, virelai, carole round dances, and the Italian villanella. The ecclesiastical forms and spiritual genres included antiphons, responsories, litanies, Magnificats, medieval English carols, etc.

Taking the circle archetype as a principle of proper musical forms makes them paradigmatic owing to their most varied development assuming in each case the features typical of a given period. The Renaissance and Baroque refrain forms were typified owing to the historically precon-ditioned interaction of series, agon and circle archetypes. The series archetype realized in a succession of identical units, such as strophes, stanzas, and couplets, also assumed their derivative form of *basso ostinato,* a new, proper musical form, often blended by Monteverdi with the refrain pattern (these two cyclic types are easily combined). The agon principle realized through a dia-logue, conflict, contrast, and symmetry turned into a symbol of the Baroque style. In the concerto it projects the ritual binary character on the mode of playing, and the binomial structural code on all the parameters of musical language: strophe and ritornello, retort and echo, theme and re-sponse, piano and forte; vocal and instrumental, solo and tutti, left- and right-sided choruses, male and female voices, recitative and cantilena; perfect 3/1 and imperfect 2/2 tempi; horizontal and vertical types of facture (similar to arch spans and columns).

Among the refrain forms used in the early and mid-17th century, we can distinguish two principal divisions: (a) *strophic (couplet) songs* with refrains (ritornellos), which became the proto-type of couplet rondeau (classicist tendency prevailing in France) and (b) *strophic imitation forms, i.e. motets* with refrains (ritornellos). We offer to term them as *refrain motets.* The latter gave rise to the concerto form of the Baroque period and other ritornello forms (prevailing in Italy and Germany)[8].

In the 20th-century art, along with the decline of a narrative element, structural models of nonlinear thinking came to the surface, reflecting the conception of new times, man, opus, author and culture and shaping a different type of form production as compared with the narrative art of the 19th century. In the 20th-century painting and graphic arts the cyclic principle is most notice-able in pop-art. For example, the series archetype (combinatorics) in the works of its leader Andy Warhol came to be used for defining their meaning and form. The same can be said about modern conceptual poetry where structural codes appear to shape new relations and meanings. Let us consider just one example.

Lev Rubinstein

And I'll come to him. And I'll say: "Give him to me. Do you need him?
Give him to me. For you have no need for him. Give him to me. But I do. Give".
And he will say: "All right, take him! I don't need him. Well, take him. You need him. Take".
And I'll take him, and I'll do what should be done.

And I come to him. And I say: "Give him to me. Do you need him?
Give him to me. For you have no need for him. Give him to me. But I do. Give".
And he says: "All right, take him! I don't need him. Well, take him. You need him. Take".
And I take him, and I do what should be done.

And I've come to him. And I've said: "Give him to me. Do you need him?
Give him to me. For you have no need for him. Give him to me. But I do. Give".
And he has said: "All right, take him! I don't need him. Well, take him. You need him. Take".
And I've taken him, and I've done what should be done.

This poem represents a purely cyclic construct based on the concept of *time trinity* – the future, present and past. Recounting an episode from the gospel about Joseph of Arimathaea and Pontius Pilate, it rests upon not only on the canonic plot but also on the number 3 as its concept, structure and symbol. This poem about a ritual is also executed as a ritual. Its condensed syntagmas reveal a keen attitude to the rhythm of successive events in the gospel text: "This man went unto Pilate, and begged the body of Jesus; and he took it down, and wrapped it in linen, and laid it in a sepulcher" (St. Luke, 23: 52–53). This poem includes all the three structural codes. The series of invocations in the form of woes-queries "give me" are organized by rhythmic periods, which
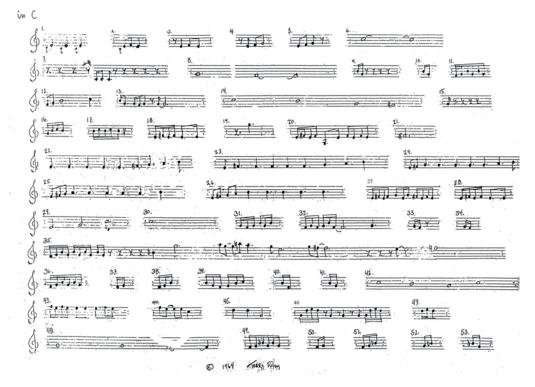
creates the sensation of pressure, perseverance and at the same time of strict dancing pace. The agon involves a thrice-repeated dialogue intensified by three oppositions: "to you – to me", "you have no need – I do need", and "give – take". Finally, the rotation and complete span of times is expressed in the ternary form of the cycle and in the thrice-repeated refrains "Give him to me!" and "Take". Hence the structure is deeply rooted in ritual roundelays, invocation woes and funeral contests (See: Homer. *Iliad*. Chant 23, Patroclus's funeral).

The examples from modern music may be illustrated by the two compositions in classical minimalism: Terry Riley's *In C* and Steve Reich's *Piano phase*. Their principal features are compared in the following chart:

Figure 1

Terry Riley. *In C*	Steve Reich. *Piano phase*
53 patterns – the series principle Repetitiveness – a series Infinite canons in each pattern – the circle principle	Repetitiveness with rhythmic divergence and convergence – a circle. Repetitiveness – a series. Three patterns in 12, 8, 4 tones – the series principle

Terry Riley. *In C*

It is interesting to draw a parallel between music and a similar phenomenon in the movies. The series principle found its visual interpretation in Godfrey Reggio's *Koyaniskatsi* (1982), capturing on film the two-hour composition by Philip Glass. The American director, venturing to delineate the conception of *minimal music*, produced an "absolute film" – without a plot, dialogues and protagonists. The world is seen by the objective motion-picture camera showing a modern megapolis, a stream of cars and people, the flashing of faces, houses, shop-windows, and escalators; featuring the pictures of creation and hi-tech, social and ecological disasters... The race of life is emphasized by either rapid shooting, a kaleidoscopic frequency of motion pictures or by the rhythm of mechanically repeated processes, while the director's contemplating eye is presented by the motionless camera. The outsider's watch over the continuity of pictures perceives marking time. Therefore, statics and silence represent the perception of time and the atmosphere conveyed by Philip Glass through his minimalist repetitive *non stop* music.

Concept as the super idea of a syncretic entity

The super idea is an extra-musical concept assigning a specific meaning to the musical structure. This idea determines its individuality, either superseding typical schemes or modifying them. The super idea of a cycle took shape originally outside music: in the mass, other rituals, in the form of prayer reading during the divine service. In secular music-making these ideas are rooted in public ceremonies. Another prototype (a series of dances, i.e. a festive event in everyday life, including music only as one of its components) is realized in the suite, divertimento, etc.

Yet, there are particular concepts. For example, the eight psalm tones make the basis for cycles of eight Magnificats, each representing a *series* of strophes, i.e. a cyclic entity (John Dunstable, Ludvig Senfl, Palestrina). The tradition of Magnificats gave rise to cycles of pieces in all the modes – eight and, later, twelve tones (Andrea and Giovanni Gabrieli, Cabezon). Herefrom the way was paved for the cycles of preludes and fugues in all the keys, e.g. *Wohltemperiertes Klavier* by Bach and his followers among the 19th and 20th-century composers.

In respect to the concept it is worth comparing the two works that appeared concurrently but independently of each other at the end of the 20th century. Both compositions were written by Algirdas Martinaitis and Vladimir Martynov on the poetic text of St. Francis of Assis. In spite of striking differences in their musical language and structure, "rounded" time and space in these works are modeled after structural archetypes.

Figure 2

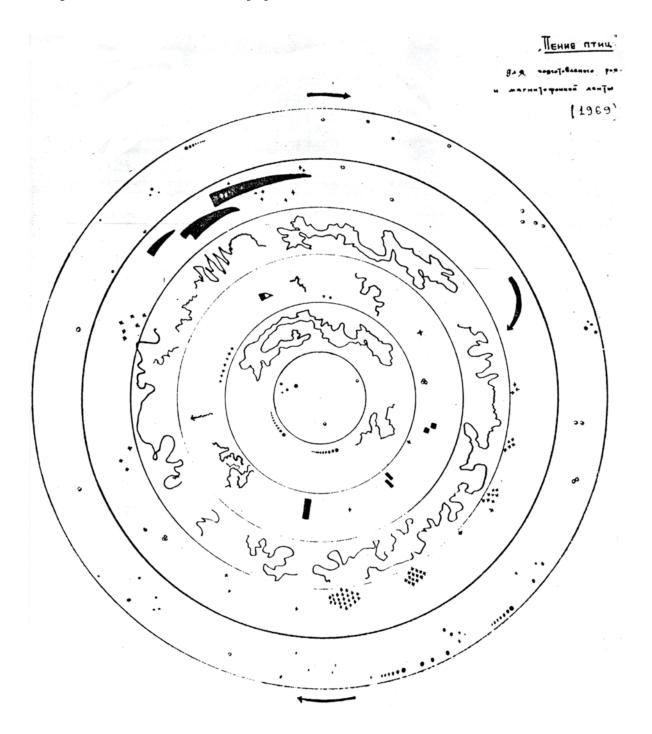| Algirdas Martinaitis. *The Canticle of Brother Sun by St. Francis of Assis*. 1996	Vladimir Martynov. *Canticum fratris solis.* 1996
Strophic structure	Strophic structure
Refrain pattern	Refrain pattern
Repetitiveness of the block: Psalm-antiphon	Repetitiveness of the block pattern: Hallelujah-psalm-antiphon
Catholic singing tradition: The same psalm line as in litany	Catholic composition tradition: 8 psalm tones
Music alteration in each strophe and a recurring refrain line. Folk tradition, birds' singing, Pärt, Messiaen, John Tavener (Orthodox singing). The composer stresses their inner community	Material is not repeated but identical in meaning, growing through and therewith renewed according to the addition principle, i.e. systemic augmentation of the series: from one up to eight units
Tradition – refrain motet	Tradition: medieval cycles of Magnificats based on the psalm tones
Lithuanian language	Umbrian dialect (in the original 13th-cent. medieval Italian)
Folklore constituent: *kankles, sutartine*	Folklore constituent: medieval archaic music, ethno-Christian tradition, Syrian, Coptic singing. No quotations
Allusions to favorite contemporary composers kindred in spirit – Arvo Pärt, ("Fratres"), Messiaen, Tavener	Allusions to favorite composers, "gurus" from the past – Christian archaic music, the Flemish school, Ockeghem (addition technique), the Venetian Renaissance of St. Mark Cathedral, Monteverdi
Combination of the series principle and refrain pattern	Series principle and refrain pattern: The series pattern perceived throughout as refrain. Cyclic circular progression
The concept of ritual	The concept of number 8 as a symbol and structure. Ritual
Reproduction of authentic Lithuanian folklore: folk voices, the sounds of *kankles*	Authentic performance of the Renaissance style (delivered by the British tenor Mark Tucker)
Authentic composition: Pärt's style reproduced without quotations	Authentic composition: original formulas of psalm tones and their traditional chanting of the poetic text by St. Francis. Authentic allusions to Monteverdi's music without quotations

Conceptual notation

Structural archetypes in notation bear out a new paradigm of thinking sometimes to no lesser extent than music itself. The notation of Terry Riley's *In C* reveals the nonlinear principle of composition arranged according to the series principle. The graphic representation of a circle is deeply rooted in the medieval and Renaissance tradition of musical notation. The infinite canon in Ramos de Pareja's *Enigmatic Canon* (15th century) is notated in the shape of a circle.
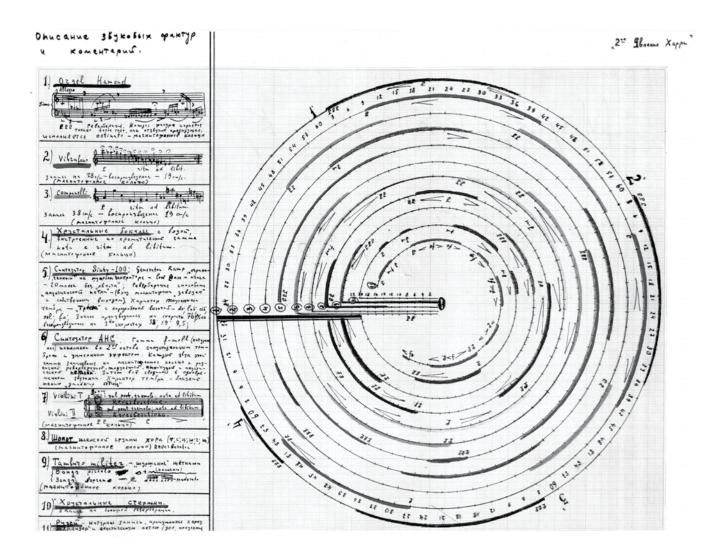
Figure 3. Ramos de Pareja. *Enigmatic Canon*

In modern music the graphic representation of a circle is also quite frequently employed, e.g. by Edison Denisov in *Birds' Singing* (1969), and George Crumb in *Ancient Voices of Children* (1970), *The Magic Circle of Infinity* (1972) etc.

Figure 4. Edison Denisov. *Birds' Singing*

Another example is Eduard Artemyev's incidental music to the film *Solaris* (1969), produced by Andrei Tarkovsky.

Figure 5. Eduard Artemyev. Music to the film *Solaris*

It is worth mentioning the composer's commentary on the episode entitled "Harrie's Second Appearance". Eduard Artemyev: "Music is ringing in the dream episode. Graphically, the score is drawn in the shape of a circle offering a diagram for the introduction of different orchestral parts. I've chosen a circle because otherwise a linear horizontal outline of the score would have taken too many sheets. In my case it takes only one sheet <...> A circle is used as a substitute to show infiniteness, so that at a glance you can see all at once, where and what is going on."[9]

Notes

[1] *Фрейденберг О.* Поэтика сюжета и жанра. Москва, 1997. [*Freidenberg O.* The Poetics of Plot and Genre. Moscow, 1997].

[2] Matreshkas – derived from "matron", "mater", "mother". Cf., also "matrix".

[3] См.: *Леви-Строс К.* Мифологики. Сырое и приготовленное. Москва, 2000. [*Levi-Strauss C.* Mythologies. The Raw and the Prepared. Moscow, 2000].

[4] Фрейденберг О. [*Freidenberg O.*] Op. cit. P. 163.

[5] See: Коло, Круг, Хоровод // *Даль В.* Толковый словарь живого великорусского языка. [Colo, Circle, Roundelay // *Dal' V.* The Defining Dictionary of the Living Great Russian Language]. According to Dal', a circle is a hollow circumference (colo – ring), flat surface within this figure and a sphere (a round piece of cheese). Hence *kolobok*, a round loaf.

[6] См.: *Элиаде М.* Аспекты мифа. Москва, 2000. С. 30. [*Eliade M.* The Aspects of a Myth. Moscow, 2000]. С. 30. Jung defines a circle with a square (rhomb, cross) fitted into it as "mandala". See: *Jung C.G.* Geheimnis der Goldenen Blüte. Cited from: *Аверинцев С.* «Аналитическая психология» К.-Г. Юнга и закономерности творческой фантазии // О современной буржуазной эстетике. Вып. 3. М., 1972. С. 149. [*Averintsev S.* C. G. Jung's 'Analytic Psychology' and Patterns of Creative Fantasy // On Modern Bourgeois Aesthetics. Issue 3. Moscow, 1972]. P. 149.

[7] For the dance roots of "lyrical forms" such as ballades, rondeaux, and virelai see: *Шишмарев В.* Книга для чтения по истории французского языка. М., Л., 1955. С. 360. [*Shishmarev V.* A Book for Reading on History of the French Language. Moscow-Leningrad, 1955. P. 360].

[8] See: *Катунян М.* Рефренный мотет в истории концертной формы // Юрий Николаевич Холопов и его научная школа. Москва, 2003. [*Katunyan M.* The Refrain Motet in the History of the Concerto Form // Yuri Kholopov and his scientific school. Moscow, 2003].

[9] Interview with Eduard Artemyev.

Santrauka

Ciklas: semantika ir pagrindiniai struktūrinio realizavimo principai

Cikliškumas yra vienas iš pagrindinių mąstymo principų, kurį galima apibūdinti kaip atskirybės ir bendrybės idėjų vienalaikį derinį. Šis derinys generuoja begalinį kiekį laiko ir erdvės (ir virtualios, ir fizinės) struktūrizavimo metodų. Juo pagrįsta visa istorinių epochų muzikos formų įvairovė, o kiekvienai epochai būdingi tik tuo laikotarpiu aktualūs formų sąveikos mechanizmai.

Pranešime nagrinėjami du ciklo tipai – eilės principas ir rato (t. y. ciklo) principas, taip pat ir jų semantika. Šie du tipai paplitę ir archajiškame folklore, ir profesionaliojoje muzikoje nuo pat senųjų laikų iki šių dienų.

Cikliškumo principo struktūrinio realizavimo tipai:

1. Eilės principas. Šis tipas kilo iš invokacijų: folkloro, Notre-Dame mokyklos organumo, segmentuoto *cantus firmus* moteto, magnifikato ir iš jo kilusių ciklų, Naujųjų laikų ciklinių formų. Šiuolaikiniai pavyzdžiai: T. Riley'io „In C", V. Martynovo „Apokalipsė", „Canticum fratris Solis".

2. Rato principas. Refreninės (riturnelinės), reprizinės formos. Šis tipas kilęs iš folklorinių ratelinių šokių, responsoriumų, antifonų, litanijų, senovinių prancūziškų rondo, anglų kalėdinių giesmių, vilanelų, Renesanso ir baroko refreninių motetų, baroko riturnelinių formų, penkių rondo formų. G. de Machaut „Rondeau", G. Gabrieli koncertai ir kanconos, Monteverdi motetai. Šiuolaikiniai pavyzdžiai: St. Reicho „Piano Phase", A. Martinaičio „Šv. Pranciškaus giesmė saulei, arba Kūrybos šlovinimas".

3. Konceptas kaip sinkretinės visumos superidėja.