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Lithuanian Composers' Union

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Vilnius, May 9–11, 2007

**MUZIKOS
KOMPONAVIMO
PRINCIPAI:
muzikos tekstas**

**PRINCIPLES
OF MUSIC
COMPOSING:
Musical Text**

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Pratarmė

Šis leidinys sudarytas iš mokslinių straipsnių, perskaitytų 7-ojoje tarptautinėje muzikos teorijos konferencijoje „Muzikos komponavimo principai: muzikos tekstas“, surengtoje 2007 m. gegužės 9–11 d. Vilniuje.

Konferencijos pranešimų autoriai daugiausia dėmesio skyrė trims numatytoms temoms: pirmoji – muzikos teksto aiškinimo koncepcijos ir tradicija; antroji – muzikos įtekstinimo procesas ir principai, teksto redagavimas ir restauravimas; trečioji – muzikos tekstas ir muzikos instrumentų specifika.

Konferencijos rengėjai – Lietuvos muzikos ir teatro akademija bei Lietuvos kompozitorių sąjunga. Konferenciją ir jos leidinį finansiškai parėmė Lietuvos Respublikos kultūros ir sporto rėmimo fondas bei Lietuvos valstybinis mokslo ir studijų fondas.

Konferencijos pranešimus skaitė autoriai iš septynių šalių: Didžiosios Britanijos, Prancūzijos, Rusijos, Rumunijos, JAV, Graikijos ir Lietuvos.

Pranešimai, atliepantys pirmajai temei, pateikia skirtingus, kartais kontroversiškus požiūrius bei teorijas, kuriomis aiškinamas muzikos tekstas. Pavelas Puscas siekia apibrėžti pagrindinius muzikinio teksto lygmenis remdamasis struktūriniu lingvistika ir semiotine sandara. Pasak muzikologo, pagrindinė problema kyla dėl to, ar tekstas vertinamas kaip savarankiškas darinys, ar kaip muzikinis diskursas. Rimantas Janeliauskas muzikos tekstą siekia įreikšminti remdamasis komponavimo principo prigimtimi. Šitokiu būdu muzikos tekstas interpretuojamas kaip glaudžiai susijęs su kūrybos ciklu. Vizualiniu žvilgsniu muzikinį tekstą tyrinėja Margarita Katunian. Muzikologė išskiria itin reikšmingus muzikinio teksto vizualumo aspektus – fiziologinį, fiksuojamąjį ir atlikėjišką. Remdamasis žymių XX a. pradžios estetu epistoliariniu palikimu, Antonas Rovneris bando sugretinti aktualias menininkų nuostatas į tekstą ir muzikos išraišką. Skirtingų estetinių-tekstinių nuostatų bendru vardikliu tampa atsisakymas to, kas vizualu, matoma, iškeliant tai, kas abstraktu ir nematoma.

Ypatingo susidomėjimo sulaukė antroji temė. Turime net septynis pranešimus, kurie aprėpia įvairius muzikos teksto ir įtekstinimo istorinės evoliucijos tarpsnius. Rimantas Astrauskas siūlo pažvelgti į muzikos įtekstinimo problemą iš etnomuzikologijos žiūros taško ir pažymi, kad notacija yra gana senas žmonijos atradimas, kylantis iš būtinųjų reikmių. Renesanso epochoje, kaip pažymi Daiva Dženkaitienė, muzikos balsai būdavo užrašomi atskirai, be jokio vizualaus kitų balsų situacijos įvertinimo. Dariaus Kučinsko nuomone, M. K. Čiurlionio muzikinio teksto rezultatas – unikalus multimeninės raiškos žodynas. Apie Čiurlionio minimalistinę muzikos teksto užrašymo manierą ir su pastarąja susijusias intencionalias reikšmes rašo R. Janeliauskas. Tyrinėdamas I. Stravinskio „Šventojo pavasario“ eskizų knygelę, Fernandas Martinas Pastoras pastebi nemažą „pasiskolintų“ lietuviškų melodijų. Rimos Pavilionienės pranešime pristatoma keletas matematizuotų šiuolaikinės muzikos užrašymo būdų. Apie sudėtinių metrų užrašymą ir suvokimą, iliustruojant subtilius ryšius tarp įprastinių liaudiškų idiomų ir šiuolaikinės muzikos, rašo Aleksandra Vojcic.

Trečioji temė pritraukė prelegentus praktikus, tyrinėjančius notacijos niuansus, susijusius su muzikos instrumentais. Tam tikras ateities projektas – dūdmaišininkai orkestre – pateikiamas Lindsay Davidson pranešime. Trimito intonacinių slinkčių sistemą GATITO pristato Francis Rousseaux. Lietuvos kompozitorius ir muzikologas Mantautas Krukauskas aptaria kompiuterinės programos ir muzikinio teksto sąsajas.

Kiek atokiau nuo šių pagrindinių potemių stovi Kalliopi Stigos pranešimas, gvildenantis populiaros ir profesionalios muzikos sintezės aspektus Mikio Theodorakio kūryboje, netiesiogiai aptariami ir muzikos įtekstinimo klausimai.

Leidinyje turėtų būti įdomus kiekvienam, kuris domisi muzikos teksto ir jo struktūros problemomis. Redakcinė kolegija tikisi gausaus skaitytojų rato tiek čia, Lietuvoje, tiek ir užsienyje. Atsiliepimus ir pastabas prašome siųsti elektroniniu paštu: mbaranaus@yahoo.com

Organizatorių vardu dėkojame leidinio rėmėjams ir rengėjams.

Doc. dr. R. Janeliauskas

Foreword

This publication is comprised of scientific articles made at the 7th international music theory conference "Principles of Music Composing: Musical Text" held on 9–11 May 2007 in Vilnius.

At the conference the speakers devoted the greatest attention to the following three subthemes, namely first – elucidation conceptions of musical text and tradition; second – the process of music textualization and principles, the editing and restoration of text; third – musical text and the specificity of musical instruments.

The organizers of the conference – the Lithuanian Academy of Music and Theatre and the Lithuanian Composer's Union. The conference and its publications were supported by the Lithuanian Fund for the Support of Culture and Sport and the Lithuanian State Science and Studies Foundation.

At the conference reports were made by musicologists from seven countries: Great Britain, France, Russia, Rumania, USA, Greece and Lithuania.

Reports devoted to the first subtheme presented different, sometimes controversial, outlooks and theories serving for the elucidation of musical text. Pavel Puscas focused his attention on the definition of the principal levels of musical text, basing himself on structural linguistics and semiotic structure. The musicologist thinks that the main difficulty arises in the interpretation of musical text, i. e. whether it is a self-contained entity, or a musical discourse. Rimantas Janeliauskas makes an attempt to signify musical text on the basis of the origin of a composing principle. In this way he interprets it in a close relationship with a musical cycle. Margarita Katunyan analyses musical text through a visual glance. The musicologist singles out particularly relevant visualization sources of musical text, i. e. physiological, fixation and performance – based. Anton Rovner seeks to juxtapose artist's topical approaches to text and the expression of music on the basis of the epistolary heritage of prominent aesthetes of the early 20th century. The abandonment of that what is visual and visible, accentuating what is abstract and invisible become the common denominator of different aesthetic-textual principles.

The second subtheme merited a special interest. Even seven reports were made embracing various historical evolution phases of musical text and textualization. Rimantas Astrauskas proposes to glance at the issue of the textualization of music from an ethnomusicological point of view and indicates that notation is a rather old invention of humankind arising from indispensable needs. In the Renaissance epoch, as Daiva Dženkaitienė points out, every voice used to be recorded separately without any visual estimation of the situation in respect of other voices. In the opinion of Darius Kučinskas, the result of M. K. Čiurlionis' musical text is a unique dictionary of multiartistic media. Janeliauskas analyses Čiurlionis' minimalist notation of musical text and its intentional meanings related to the latter. Fernando Martin Pastor, analysing I. Stravinsky's sketch-book "The Rite of Spring", reveals quite a number of Lithuanian "borrowed" melodies. Rima Pavilionienė presents in her report several mathematical notations of contemporary music. Aleksandra Vojcic addresses the notation and understanding of compound meters, illustrating a subtle relationship between customary folk idioms and contemporary music.

The third subtheme attracted researchers practitioners, studying the subtleties of notation related to musical instruments. As a certain future project – matroch in a future orchestra – was presented in Lindsay Davidson's report. Francis Rousseaux' report deals with the system of trumpet improvisation GATITO. Mantautas Krukauskas, a Lithuanian composer and musicologist, discusses the correlation between a computer program and musical text.

Kalliopi Stiga's report as if intervenes in the mentioned major subthemes. It analyses the aspects of synthesis of popular and professional music in the work of Mikis Theodorakis, indirectly touching upon some issues concerning musical textualization.

The publication should attract the attention of everyone interested in composing and structure issues of a musical text. The editorial board expects a wide circle of readers both in Lithuania and abroad. We kindly ask you to communicate your comments and observations by e-mail: mbaranaus@yahoo.com

In the name of organizers we wish to thank the sponsors and producers of the publication.

Dr. R. Janeliauskas, Ass. Prof.

Musical Notation in Collection by Christian Bartsch "Dainu Balsai"

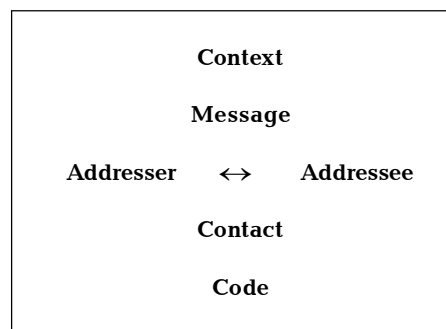
The paper deals with the question of *music materialization* from the ethnomusicological point of view.

An *object* of the research is an impact of music materialization or transcription to establishing and development of particular musical modal style in Lithuania Minor. The question is addressed investigating melodies published by Christian Bartsch in his collection "Dainu Balsai" (Heidelberg, 1886–1889). The issue has been *approached* using R. Jakobson's theory of communication, concept known as Osgood-Schramm's Circular Model, as well as an experimental diachronic comparison of tunes.

General Conception

Textual representation (or notation) of music is an old humankind invention. The pictograms, cheironomy, diacritical sign, instrumental tablatures, neums, mensural signs, and ending with contemporary digital recordings, sonograms and spectrograms – all these are the ways and forms of music materialization. These measures mainly point out to the technological side of the question. The other important aspect supplementing the former is a cultural and psychological attitude. The problems often arise when two or more cultures meet and when the second culture is interpreted and seen through the conceptual glasses of the first one.

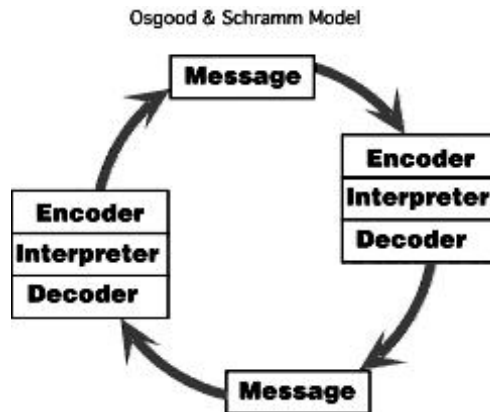
The issue has been *approached* using Roman Jakobson's theory of communication, Osgood-Schramm's Circular Model, as well as an experimental comparison of tunes. According to Jakobson the communication is a process when the Message is delivered from the Addresser to the Addressee. The equally important parts of the communication also are the Context, the Contact and the Code¹:



The Jakobson's Theory of Communication applied to traditional music is particularly helpful in reminding us its inner peculiarities such as:

- Message in traditional culture can be intangible as well as written also. It usually is transmitted orally. Message itself constitutes syncretic wholeness where music, text, rite, gesture are interrelated;
- Context of traditional music is ritual in its nature;
- Code – usually based on symbolic and ritual grammar and generic or stylistic peculiarities;
- Addresser and Addressee usually coincide and there is no distinction between the performer and the listener.

Osgood-Schramm's Circular Model is mapping communication as a circular flow of the Message through the chain of Decoder-Interpreter-Encoder²:



This concept could be handy to approach circulation of values and to stress importance of interpretation.

Codification and reading the Message in traditional culture implies that Addresser and Addressee share the same Codes, i.e. the same symbolic and ritual grammar, generic and stylistic peculiarities. The questions and misunderstandings often arise when Addresser and Addressee use different Codes encoding, interpreting and decoding the same Message. Historical recordings from the late 19th century provide us with interesting examples on the issue under consideration.

An impact of music materialization and transcription to establishing and development of particular musical modal style is well seen on examples of melodies collection "Dainu Balsai". It was published by Christian Bartsch in 1886–1889 in Heidelberg.



Christian Bartsch. Dainu Balsai. Melodien litauischer Volkslieder. Bd. 1–2, Heidelberg, 1886–1889



Christianas Bartschas. Dainų balsai. Vilnius, 2000 (new edition)

This is the biggest and the most representative collection of the Lithuanian melodies recorded in Prussian Lithuania (Lithuania the Minor) in the 19th century. The 452 songs (all with tunes) were republished from L. Rhesa, G. H. F. Nesselmann, S. Stanevičius or taken from unpublished collections of E. Gisevius, P. von Bohlen, and others. Significant part of tunes (about 200) was collected and recorded by Bartsch himself. These tunes are very rich in modal peculiarities and melodic structure as well as particular ways of expression, cadencies that do not fit into the common patterns of German melodies. They were strange to the educated German collectors. In the Introduction notes to the book Bartsch wrote:

"As you may see, Lithuanian traditional melodies are very original. If you turn attention to very rare off-tacte, or to priority given to various subjective *ritardando*, or the brake of the bar modal tones and very often absence of strong final cadence when in its place – only *ritardando*, you have to agree that we confront with a form of musical expression, which is strange to educated Europeans of our days."³

The recording and editing of the Lithuanian melodies was a real challenge to the collectors and the editor. Bartsch wrote about his long hesitations upon the editing of traditional Lithuanian tunes. The same hesitations were shared also by many collectors. During the editorial process according to his notes Bartsch encountered a serious dilemma – should he edit and adopt the Lithuanian song recordings to German theory norms or let them be like they were sung in real life. The author had chosen the first way. This position was clearly expressed by the Bartsch in the Introduction notes to the book:

"Very often we find mentioned how it was uneasy task to the collectors to convey what they had heard <...>. Should we start a tune from the off-tacte, or without it; do we have to point out Major or Minor tonality and indicate it by relevant keys of alteration; should we recognize a changing meter, or try to keep the same rhythm and all deviations to treat as faults; do we have to choose *fermata* and *ritardando* signs or to mark a longer notes; **should we finish with leading semitone cadence, or let it as it really was** – these questions arose many times and I was hesitating a lot, and these questions to me as an editor of the collection were rather difficult."⁴

Unfortunately, we cannot compare neither sound recordings nor the manuscripts to see what exactly was corrected. But what could be interesting is the notions of the Bartsch's contemporaries that are cited in the Introduction. They could be attached directly to the issue.

F. A. Gotthold comes straight to the point:

"<...> it is doubtful whether the melodies were correctly recorded and whether they are not softened because seemed too harsh to our ears, the same way how it happened and still happening with Gregorian Chant, which is losing its previous harshness when in many places *h* and *e* is tried to sing as *b* and *es*, and *f*, *c* and *g* – like *fis*, *cis* and *gis*: this disaster happened to bigger part of Protestant Chants. It is possible that the Lithuanian singing has changed when a new music spread in towns and villages."⁵

L. A. Bourgault-Ducoudray seconds him:

"It seems that a mode of singing was written down precisely and with knowledge, meanwhile in a few tunes the existence of leading semitone in cadence **contradicts** to the mode of tune."⁶

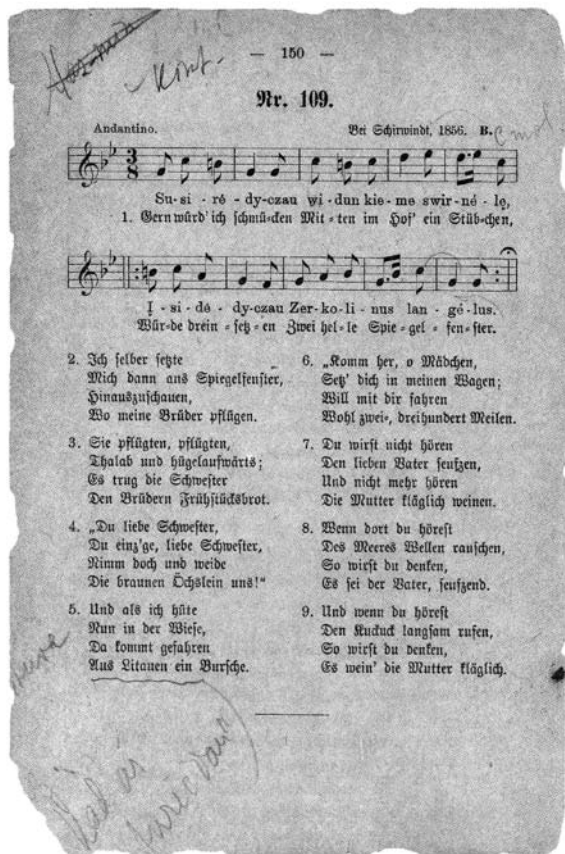
It is obvious that original sounding of the melodies could hardly be re-constructed without the reliable sound recordings. The question is even more complicated as during the last century wars and unfavourable historical circumstances the aboriginal inhabitants were germanised, murdered or forced to emigrate and the valuable cultural heritage was lost as it could not be handed down to the next generation. As an exception to the rule only few recordings were made before the II World War from Martynas Jankus and his daughter Elzė Jankutė. 53 songs by M. Jankus and 15 songs by E. Jankutė were recorded into plates in 1933. 144 songs were published in the book "Lietuvininkų žodis" [The Prussian Lithuanian's Word] in 1995⁷.

The comparison of written materials with the sound recordings revealed that during the singing intervals and tones have much larger frame for variation than in professional music⁸. An evidence of the *h-b* variation could be traced in some tunes (e.g. No. 109) recorded by Bartsch in 1856 near Širvinta:

— 150 —

Nr. 109.

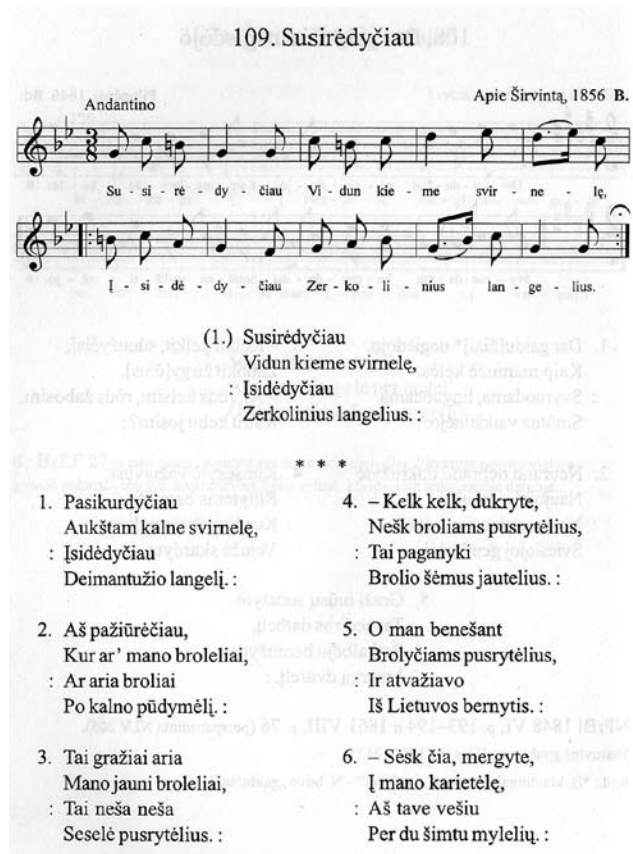
Andantino. Bei Schirwindt, 1856. B.



Song No. 109 in Christian Bartsch's edition, Heidelberg, 1886–1889

109. Susirėdyčiai

Andantino Apie Širvintą, 1856 B.



Song No. 109 in new edition, Vilnius, 2000

But if we could do an experiment and to take off those *becars* we could find that the same tune fully coincide with the big family of tunes that are spread in Southern Lithuania.

The prediction of F. A. Gotthold that "it is possible that the Lithuanian singing has changed when a new music spread in towns and villages" could easily be projected not only historically but also to the nearest future. We cannot prove but can imagine that a lot of "edited" tunes spread widely through published sources and influenced a few generation of local inhabitants constructing a new understanding of their music. These artificial elements were deeply planted and during the long century became inseparable part of the Prussian Lithuanian style.

Conclusions

An impact of music materialization and transcription to establishing and development of particular musical modal style is well seen on examples of melodies collection "Dainu Balsai" published by Christian Bartsch in 1886–1889 in Heidelberg. During the editorial process according to author's notes Ch. Bartsch encountered a serious dilemma – should he edit and adopt the Lithuanian song recordings to German theory norms or let them be like they were sung in real life. The author chose the first way. An experimental approach and comparison of written and live melodies help to re-construct modal features of nearly extinct traditional musical dialect of Lithuania Minor.

Notes

¹ http://en.wikipedia.org/wiki/Roman_Jakobson

² McQuail, Denis & Sven Windahl. *Communication Models for the study of mass communication*, London: Longman, 1981.

³ Bartschas, Christianas. "Apie melodijas" ["About the Melodies", in Lithuanian], In: *Dainų balsai*, Vilnius: Lietuvos muzikos akademija, 2000, p. 33.

⁴ *Ibid.*, p. 34.

⁵ Gotthold, Friedrich August. "Über die Kanklys und die Volksmelodien der Lithauer", In: *Neuer Preussische Provinzial Blätter*, 1847, S. 254.

- ⁶ Bourgault-Ducoudray, Lois Albert. *Melusine, Recueil de mythologie, littérature populaire, traditions et usages*, t. I, 1878–1882, p. 223–224.
- ⁷ Lietuvininkų žodis [“The Prussian Lithuanian’s Word”, in Lithuanian]. Parengė K. Grigas, Z. Kelmickaitė, B. Kerbelytė, N. Vėlius. Kaunas: Literae Universitatis, 1995.
- ⁸ Ambrazevičius, Rytis. “Derminiai pseudovariantai tradicinėje muzikoje” [“Modal Pseudovariants in Traditional Music”, in Lithuanian], In: *Tradicija, autorystė, kūrinio ribos ir interpretacijos laisvė*. Vilnius: Lietuvos muzikos ir teatro akademija, 2006, p. 87–94.

Santrauka

Muzikos notacija Ch. Bartscho rinkinyje „Dainų balsai“

Pranešime siūloma pažvelgti į muzikos įtekstinimo problemą iš etnomuzikologijos žiūros taško.

Pradėkime nuo klausimo „inversijos“ – ar muzikos įtekstinimo (ar transkripcijos) būdas gali paveikti egzistuojančios muzikinės sistemos turinį, stiliškumą ir jos raidą, o jeigu taip, tai kaip tai yra įmanoma? Pasaulyje nerasime tautos, kuri neturėtų ar nenaudotų muzikos (plačiai suprantamos kaip tam tikru būdu organizuotos garsų sistemos), egzistuoja daug tradicinių kultūrų, kurios nepažįsta muzikos rašto.

Tačiau muzikos istorija, paleografija mus moko, kad muzikos tekstinė reprezentacija, arba notacija, yra gana senas žmonijos atradimas, kaip ir raštas, atsirandantis tuomet, kai susidaro tinkamos sąlygos ir iškyla būtinos reikmės. Tokias reikmes galėtume skirstyti į būtinybę fiksuoti tam tikrus skambesio pavidalus ar atlikimo technikos ypatybes, siekį kuo tiksliau juos atkartoti, išsaugoti tobuliausias muzikos formas, perteikti sukauptą muzikavimo bei kūrybos patirtį.

Piktogramos, cheironomija, diakritiniai kalbos ženklai, instrumentų tabulatūros, vėliau neumos, menzūrinės notacijos ženklų sistemos, šiuolaikiniai garso įrašai, modernios kompiuterinės sonogramos ar spektrogramos – tai vis minėtų reikmių sprendimo būdai.

Jie labiau priklauso technologiniam problemos aspektui – akivaizdžiai matome siekį kuo tiksliau fiksuoti ir reprezentuoti muzikinį reiškinį. Kitas – kultūrinis – problemos aspektas yra nemažiau svarbus. Jis apima kultūrinį kontekstą ir psichologinį muzikos visumos ar atskirų jos elementų suvokimą. Tokio pobūdžio klausimai dažnai kyla, kai susiduria dvi ir daugiau skirtingų kultūrų ar sistemų ir bandoma patirti, sukauptą vienoje jų, tiesiog perkelti į kitą, nesusimąstant, ar pastarosios prigimtis tam neprieštarauja.

Etnomuzikologijos istorija taip pat žino nemažą tokių atvejų, kurių vieną ir norėčiau šiandien aptarti. Christiano Bartscho dainų rinkinys „Dainų balsai“, publikuotas Heidelberge 1886–1889 m., perteikė savitą Mažosios Lietuvos tradicinės muzikos stilių, kuris gyvavo XIX a. viduryje ir kurio autentiškų formų šiandien jau nebeišliko. Rengiant leidinį spaudai vokiečių kilmės gimnazijos mokytojui Ch. Bartschui iškilo dilema – ar rinkinyje pateikti užrašytas melodijas taip, kad jos būtų priimtinos ir suprantamos vokiečių skaitytojui, ar, autoriaus žodžiais tariant, „taip, kaip jos iš tikrųjų skambėjo“. Autorius pasirinko pirmąjį kelią. Tad belieka bandyti atkurti, restauruoti buvusį stilių lyginant Ch. Bartscho publikuotas melodijas su kitomis, vėliau užfiksuotomis, pasitelkiant ir gretimose vietovėse tebegyvuojančias.

Visual Aspects of Musical Text

As a preliminary, let us offer a working definition of text to specify this concept in our present discourse. Text embraces everything that can be subjected to interpretation and that can act as an object of commentary, description, investigation and analysis. Anything may be used as text: a fable or a theorem, a rite or the mode of tillage, grey matter of the brain or a lunar substratum. In its turn interpretation, e.g. a myth, can also be viewed as text.

Treating music as text, we should first of all answer the following question: does the visual aspect of music represent text, or to put it differently: is visuality a real substance of music so as to be regarded as an object and considered as text?

When we speak about notation in music, the answer will be definitely in the affirmative. For musical scripture involves a transfer of time into spatial parameters. As a real substance, notation is certainly text with the sole reservation that it does not serve as a graphic *equivalent* of music since a system of conventional signs in itself cannot be viewed as a product of spatial arts. Though, we know some examples of such equivalence from Xenakis's architectural and musical structures.

But when we speak about sounding music, a direct answer to the above question is not so simple. According to the physiologists, it is the brain that is primarily responsible for human vision, but how one exactly sees anything – by one's eyes or through the skin of one's hands – this is another matter. Hence it follows that a human being perceives all by the brain, also when one hears anything, in particular, when one listens to music. This gives rise to the seemingly paradoxical question: is pure audio perception whatever possible in music? Why does any appearance of visual elements used as accompaniment to music in the concert hall arouse such an enthusiastic response in the audience, be it Haydn's *Farewell Symphony* with a real happening in its finale, Scriabin's *Prometheus* with its scoring of light (son of lumiere), or performances of the «Hortus musicus» ensemble playing on the stage in fancy-dresses? Why did electronic tape-music give way so fast to the live presentation of electronic music by live performers on the stage? Perhaps, the reason for its failure to receive wide recognition in the concert life lies in the fact that, being recorded in a studio on a storage medium, it needs no performers, as a result of which you have *nothing to see* on the scene. The demonstration of music on tape or CD without a performer is a situation incompatible with its presentation at a concert, for in the last case you have not only to hear but also to see. It enjoyed currency at festivals, among connoisseurs and like-minded persons in studios, clubs, and in the earphones of an audio player that can be listened to anywhere except at a concert. But eventually in concert halls there appeared versions of performing electronic music, supplied with visual elements ranging from pantomimes, stage decorations, symbolic attributes, lighting and diverse specific extra-musical effects, as we could observe at the concerts of Stockhausen's music or rock-groups, e.g. "Pink Floyd".

Thus we have outlined the following range of issues to discuss: (1) anthropological capacities of a human being to see while hearing and to associate audio and video information; (2) the audiovisuality of music and (3) the general public and quests for a new situation.

What the Listener Sees, or What Music Shows

The interaction of arts belongs to the category of eternal problems, which is extremely acute in modern music. Different kinds of art have never failed to remember their primeval community. The aspiration for a synthesis, a symbiosis of arts is quite natural, bearing the traces of generic memory about syncretic unity in the archaic ritual. Their community always reveals itself, even then, and perhaps particularly so, when arts get free from "alien" components, in the first place, from an open plotline, and are preserved in their specific form. And their interlinks prove so stable that it may be presumed that this syncretism has never ceased at all. Therefore, the appeal for multi-sensorial capacities of human perception is in fact nothing but an attempt to evoke the anthropological nature and anthropological memory storing the structural archetypes of a primitive ritual in the unconscious.

The above-said pertains equally to the sound as such. Ontologically the sound of archaic folk music is of a different nature as compared with sounds of the later European culture since it is endowed with magical meaning. It is syncretic, material and sacral, representing the unity of form, imagery and function: it is identical to rhythm, movement, gestures and facial expressions, merging with them and being inseparable from them in the same way as it is indivisible from the interjection syllable it articulates.

Professional European music produces spatial aspects itself: in the Baroque times the use was made of rhetorical figures to outline the vectors of space (anabasis à catabasis, up and down). In 19th-century music, the sound and tone-coloring technique was applied to create the illusion of volume, virtual three-dimensionality and sound vibrancy. In the 20th century, sonores or sound objects came to be associated with the notion about multidimensionality of space and time. It is not difficult to notice that the philosophy of spatial aspects in music and the philosophy of contemporary pictorial arts are always identical, and the visual figurativeness of music and pictorial arts are kindred, be it abstract categories or real figurative images, similarly to abstract or figurative painting. The audiovisual aspect got an intensive development especially in 19th-century music when programmatic composition was making just timid steps on this road among many others. Otherwise how can we explain the "terminological exchange" between music and painting? The matter concerns the concept of *coloring* applied to sonority, timbre or tone-color quality of music and the concept of *tone and tonality* as applied to paint, color and light in pictorial arts. This intersection became most evident in modern nonfigurative paintings and, respectively, in the sonoristic works of Varèse, Xenakis, Ligeti and other composers dealing with spatial sound objects. The sonoristic compositions gave rise to a specific kind of notation in the form of graphic signs, diagrams and figures visually identical to spatial parameters of music. The ANS synthesizer with its technology geared to new music, e.g. by means of photo-electronic scoring, placed focus on graphic representation, which was first to be drawn and then subjected to sound recording. The experiments in decoding Earle Brown's avant-garde notation gave Edison Denisov the idea to score contemporary pictorial works for sound. Moreover, he strove to do so not in a figurative sense, not to convey their imagery, but in the literal sense of the word, i.e. "to transfer a spatial object into the temporal plane" by transcribing the visual text of *pictures* by Paul Klee and Piet Mondrian into aural text.

The idea of an audiovisual synthesis is always novel but at all times it is realized in the new manner. Its novelty in music at the turn to the 21st century is due to the fact that, in contrast to the "synthesis of arts" modeled on Wagner and his project *Gesamtkunstwerk* based on a myth as a *literary plot*, the latest ways of this synthesis seek to blend arts outside any narrative, where different arts assert themselves in pure forms of their own language devoid of any outside effects and based on a myth treated as a *symbol and structure*. This is what we call *new syncretism* and, respectively, *new syncretic text*.

Audiovisuality of Music

"Our age is the time of visual arts" – these words of Vladimir Martynov can be addressed to music as well for we are currently witnessing the visualization of music and its visual perception. In the 20th century, music started to overflow its banks. It often happens so that we are going to a concert hall but find ourselves in the theatre. The very titles of musical compositions speak for this merging of territories. For instance, Faraj Karayev's instrumental opus *Waiting for Godot* carries the following subtitle "Music for performance on the theatrical stage". This piece for four soloists and chamber ensemble was played and *shown* in the theatre and not in a concert hall. The festival arranged in Moscow by the composer Alexander Bakshi and most aptly called "The Theatre of Sound" was founded on the concept of a self-valued and self-sufficient sound merged with a gesture and a behavioral act, and existing outside any narrative.

The intrusion upon musical text started in the middle of the 20th century with Cage's happenings and his "music of the environment", Stockhausen's spatial compositions, and Kagel's "instrumental theatre". Today many new kinds of audiovisual interconnection have appeared, such as performance, multimedia and audiovisual installations. The multimedia undertaking presupposes the interaction of different arts (ART-MEDIA), as well as the application of electronic devices and various means of sensory effects and techniques acting in real time. The multimedia, multi-sensory processes are

often provided by the commutation of computers, audio-video programs and accompanied by the demonstration of spatial objects aimed at implementing a certain idea and, taken all together, a certain conceptual design by affecting different senses and different aspects of perception: sensual, figurative-associative, analytic, and so on. The multimedia composition can go far from an academic concert genre. The implementation of multimedia projects calls for a new situation: when the listeners can walk among objects, freely move in the hall from one object to another, or stay in the centre surrounded by the works of art. Their actions are programmed by the situation itself, turning spectators into participants. Such projects require special premises adjoining concert halls or quite different locations and sites.

Vladimir Martynov's artistic **multimedia installation** entitled *Towards Ludwig* (2001) included a lot of components. On the walls of exhibition halls you could see landscape photographs with metaphysical drawings or texts written over them, and you could hear ringed fragments from Wagner's piano sonata (audio recording in the earphones). On the stand you could read Ludwig Wittgenstein's treatise opened at a *relevant* page. Simultaneously, in the non-stop mode they showed some episodes from Visconti's film *Ludwig* in one hall and, in another hall, the finale from his film *Death in Venice* accompanied by Mahler's music. Concurrently you could watch the documentary pictures of Leni Riefenstahl's historical news-reel *Triumph des Willens* (on the video recorder). The exhibition accompanied the concerts in the adjacent hall where the composer was playing his piano pieces.

The multimedia performances in the open air offer quite a different situation of text. The combination of audio and visual elements in K. Stockhausen's *Helicopter String Quartet* (1992/1993) takes place in the plein-air. The performance of this composition is intended for string quartet and an air crew, since the instrumental parts are appended by a score for air pilots, showing the trajectory of helicopters' movement. This opus cannot be performed in a concert hall but in the air-field, for it is addressed not to the philharmonic public but a crowd of people congregating in a city airport. It begins with the simultaneous take-off of several helicopters, each carrying on board one player. All the performers including musicians are supplied with the earphones through which the action is coordinated via the remote-control panel from the land by the composer and his assistant staying at the sound mixing desk. The music is broadcast through a relay transmitter to the listeners on the land while the performers are soaring in the air in free flight. This Quartet by Stockhausen bears out Cage's viewpoint according to which a work of art, instead of being an object created by one person, turns into a process which is set in motion by a group of people. A person is no longer interested in the results but only in action itself. Art in the process of emerging from itself: this is life.

The Public and Quests for a New Situation

Schönberg's categorical statement that "the public is the enemy of music number one" has recently turned into highly topical aphorism. What degree of confrontation should the "artist/crowd" romantic opposition have reached during the times of this composer belonging to the Second Viennese School, if it came to extend even over a loyal music lover! Perhaps, in this way the composer expressed a forthcoming crisis in the contemporary musical practice as regards the composer/listener interconnection, an association that had taken shape as early as in the times of the New Music. To explain the above-said, let us make a brief digression into the early 17th century, when the concert principle in new compositions was just emerging. It might be entitled as "The role of accompaniment in the institution of the listeners' audience, or how *basso continuo* is programming the public."

Basso continuo (here meaning accompaniment as well as the type of composition with an accompaniment) singles out the soloist among the other mass of voices, placing him in the foreground and pushing the "chorus" of accompanying voices into the background as if "into upstage". At the same time the echoing principle invented in Renaissance times (Lasso, Giovanni Gabrieli) was very popular in music. The echoing effect produced an illusion of depth by the simple *forte/piano* comparison. In both cases it created the image of *space*: "nearer – farther". But in respect to whom the latter categories are to be applied? These categories referred to those staying outside the musicians, i.e. to the listeners. An appeal for the listener inevitably entails the situation of a concert. Thus appears *the one who perceives* these new aspects of music¹. A concert

has not only divided the musicians themselves functionally and spatially by making a distinction between the soloists or *concertante* group and the ripieni background, but it has also erected an invisible wall between the performers and the public by placing an object of art in the position confronting the subject.

In the 20th century, the author (performer)/public opposition developed in two contrary directions: towards complete separation and, conversely, towards complete reunion. Schönberg's path brings the first classical configuration to an extreme: the public seems to be separated from the musicians by glass to make sure that this enemy number one could not affect them by its tastes and force them to follow its striving for easy pleasures; thus assigning the public only the role of a sponsor. The case of Glenn Gould also reveals the absolute division between the object and the subject not only in space and time but also in ontological terms: the pianist's performance and the hearing of his discs are two different life experiences since the sound recording annuls the concert situation.

Cage's experience is opposite to that of Schönberg, and in respect to the public it is positive. In the disintegrating author/performer/listener chain Cage treats the latter not as "an enemy" but as an ally and even as a confederate. His earliest compositions already showed a break of the "author/performer/public" triad while their performance at a concert turned into an action and a real happening.

In the non-concert surroundings the listener becomes a participant in the preconceived situation. As shown above, a composition sets a mode of perception and behavior. The situation dictated by a composer calls not for an aesthetic *experience* but for real *co-participation*. It resembles a rite, e.g. wedding, where there are no spectators but only participants in and witnesses to the event. The listener turns into a copartner in performance and, to a certain extent, a collective coauthor. Modern music has different audiences.

The public of philharmonic concerts in its majority is made up not of traditional music lovers since it emerged on the postmodernist wave of "new simplicity"; it easily understands the language of classicism and romanticism, baroque and Renaissance styles of music. This occurred largely thanks to cinematography. After the first performance of Schnittke's First Concerto grosso in the 1970s you could often hear the following phrase: "I have understood nothing but I liked it." Schnittke's compositions follow the principle of cinematic dramatic patterns, his music being charged with "*hidden visuality*". The method of stylistic comparisons, a vivid genre intrigue, and the contrastive blending of quoted sequences are akin to the technique of film montage. The audiovisual experience proved also useful to those listening to the music of Kancheli whose compositions may be compared to *associative, lyrical pictures produced by film directors*. As films and music live according to the uniform time laws of dramatic art, the audio-video contact in the cinema actively promotes the introduction of modern music to the general public.

The audiovisual forms have eventually penetrated into academic concerts as well. Paintings, graphic works and sculptures are intensively used as entourage in close interaction with the music performed at the "December Evenings" festivals arranged at the Museum of Fine Arts in Moscow. These festivals have from the very outset manifested the multimedia inter-text design, even though in its academic version.

The general public. As an example of mass culture, we can take audiovisual laser shows presented in the streets, squares, and at the stadiums gathering millions of spectators. Jean Michel Jarre is the most famous figure in this genre. The fascinating video-fantasies projected into the clouds and at the skyscraper fronts make up the main component of these syncretic actions.

A club, the former musical underground, has its own programs, participants, and its *own* public. Its musical endeavors embrace various actions, "situations" (Vladimir Martynov), performances, the multimedia projects, computer techniques, films, pictorial arts, philosophy, literature, pantomimes, choreography, art-objects, installations, etc.

An exhibition hall gives the composers a real chance to transfer their music from an auditorium onto the territory of visual arts. The National Centre for Contemporary Arts put forward a special project entitled "What we hear and what faces us. Visual acoustics" for the 2nd Biennale of Modern Art held in Moscow last March. As its annotation says, "The project explores the strategies of sound visualization in the figurative system. This artistic trend that emerged a decade ago is manifested by the composers creating an absolutely new language and new alternative iconology.

This art seeking for new ways of sound production in visual technologies has by now established its own image and consolidated its status". The annotation abounds in key concepts of contemporary *actual art*, such as "integral installation forms", "acoustic visibility", "integral art", "the usage of strategies combining the fundamental structures (Gregorian chant) and the latest postfluxus trends", etc.

A special visual sphere in music is notation, both traditional and conceptual, i. e. graphic scores, drawings and symbols, so widely used and clearly presented in medieval and modern music (Browne, Cage, Crumb, Denisov, Artemyev, Ekimovsky). Yet, I leave the analysis of this theme outside the framework of the present article, whose purpose is formulation of the problem and discussion of current trends in the study of visual phenomena in music.

Notes

¹ These categories express the spatial *perception* of music, which turned into a homophonic structure. The phenomenon of depth and three-dimensionality may be compared with the effect of direct perspective – the system of *vision focused from the viewer's standpoint* – the effect arising only when a picture takes into account the observer looking at it from the sole fixed point outside the canvas in relation to which the perspective is structured.

Santrauka

Muzika kaip vizualinis menas

Pranešime aptariamas muzikinės kompozicijos kaip teksto vizualinis aspektas. Vizualumas čia nagrinėjamas keliais atžvilgiais:

1. Vizualumas kaip vidinė fiziologinio suvokimo savybė.

Fiziologai tvirtina, kad žmogus „mato“ visų pirma smegenimis, o kaip tai „matoma“ – akimis ar rankų oda, – jau yra visai kitas klausimas. Taigi galima daryti išvadą, kad žmogus mato smegenimis ir tuomet, kai klausosi, o ypač – kai girdi muziką. Visai galimas dalykas, kad dėl to grynai klausinis suvokimas muzikoje nėra įmanomas.

2. Vizualinis tekstas kaip muzikinės kompozicijos užfiksavimo priemonė. Grafinės partitūros.

3. Vizualinis muzikos atlikimo aspektas. Naujas šiuolaikinės muzikos, apimančios ir vizualinį komponentą, sinkretizmas. Multimedinės šiuolaikinio muzikinio teksto savybės.

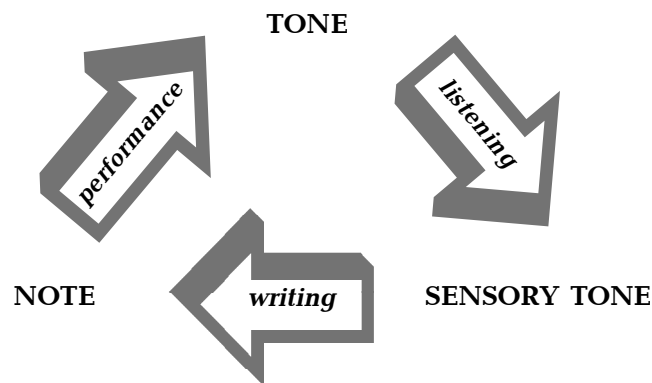
The Aspects of the Signification of a Musical Text

It is reasonable to think that the problems related to the signification of a musical text can better open out themselves investigating the space and time of the composing relationship (Janeliauskas, 2001).

Before the analysis of the space-time of the composing relationship, we would like to draw attention to the scheme of the creative cycle proposed by R. Parncutt.

Making an attempt to base the theory of the perception of music, Parncutt, under the influence of the philosopher Karl Popper, chooses the so-called "three-worlds conception" for a paradigm and not because it is ideal (it is not such), – writes the musicologist, – but because it clears up a multidisciplinary mosaics of the perception of music" (Parncutt, 1989, p. 21). The mentioned three worlds are these: 1) material (energy), 2) experience and 3) information. All these worlds, or spaces, are of equal value, real and autonomous. Besides, each of them is analysed by its own method and their interrelations are based on complementation. Thus, it is a tone (physical existence), its perception (psychic) and a note (informational) that correspond to these worlds. Such a delimitation of perception spaces enable Parncutt to bring out the cycle of musical creation (Scheme 1):

Scheme 1



Although all the spaces of the creative cycle expand independent of each other, thus automatically and equivalently, Parncutt does not more detalize the complementation consequences of the mentioned spaces. The point is that each of the marked components must not necessary develop from each other, compose an obligatory causal chain "for good" and "unavoidably" participate in a compositional cycle. *Vice versa*, a compositional cycle of spaces can be greatly mobile. Here are some cases of such mobility.

Different from a classical equilibrium of all the three spaces (Parncutt's scheme), the composing practices of ancient (atonal) and contemporary music demonstrate a wide variance of the creative cycle in respect of the quality of spaces. For example, ethnomusic is not written down but improvised. An opposite case is also possible, it can be found in today's conceptual art – a work of music (full score) exists as an unrealizable project. It is also known that a piece of music can (at least for some time) exist only in a composer's conscience. On the other hand, under certain circumstances, a piece of music can have no listener, not to speak of performers and even the composer proper. Music can be also found in nature. Such variance witnesses that a creative cycle emerging from a composing relationship can show itself in any space of sounding, i. e. physical, psychic and informational. Besides, in qualitative terms such a cycle can embrace all the spaces or only part of them. The mobility of a compositional cycle also depends on the importance of every space, i. e. their quantitative and qualitative contribution. It is possible to virtuously improvise on the basis of a "laconic outline" or canonic references (jazz, *ragga*), great music can sound exploiting few sounds (minimalism), the consumer of music can be represented by a mass or elite listener and the like. For the sake of evidence, we present the scheme of a possible variance of a creative cycle (Scheme 2):

Scheme 2

Spaces a composing relationship	Type of a compositional cycle
1, 3 (ob., inf.)	Classical model
2, 3 (sub., inf.)	Improvisation
1, 2, 3 (ob., sub., inf.)	Nature (Cosmos) as music
1, 2 (ob., sub.)	Unrealised project
1 (ob.)	"Carried" work
3 (inf.)	Misunderstood work

Summing up one can say that the mobility of creation, to be more exact of compositional cycles, is closely connected with a quantitative or qualitative sound recording or unrecording, fixation or non-fixation, experience or ignoring.

Different from a compositional cycle, where part of the spaces can be practically unnoticed, physically unembodied, to put it briefly, possessing the status of potential "silent" spaces, the composing relationship can be defined only on the basis of all the three complementary spaces. The following examples serve for elucidation. When improvising, one can do without notes, but it does not mean that music is uninformative. Incidentally, an improviser, before the performance of some work, should imagine what kind of notes will sound. In a very similar way, a composer, before writing down the notes and "carrying" his work only in his conscience, exactly foresees acoustic peculiarities of sounds. When writing music, composers often take into consideration a potential listener and his possibilities of emotionally feeling the work. Therefore, all the three spaces, if not concretely, then potentially, unavoidably participate in a composing relationship. This phenomenon can be consistently explained by the complementary principle of the spaces of sounding, which serves as an original constant of a composing relationship. In the absence of one of the spaces, a composing relationship does not get formed. It is not perceived and felt. Hence, the mentioned spaces compose the content of the composing relationship, its sense and characterizes its unity. Furthermore. It is only the unity of all these spaces of sounding from which diverse, variant compositional cycles can stem. They are distinctive through different dominants of the spaces of sounding, muffling or covering potential, implied ones.

As the conception of complementary musical spaces is particularly relevant for the basing of a composing relationship, we shall make an attempt to examine it more thoroughly.

It is expedient to classify the spaces of a composing relationship into objective or physical (acoustic), subjective or psychic (aural) and unrelated to object and subject, i. e. informational (in Scheme 2, these spaces are indicated in their abbreviated forms: ob., sub., inf.).

The objective space of a composing relationship embraces everything related to a physical existence of sounding. We learn about this existence on the basis of objective acoustic mathematical methods of analysis. For example, J. Fourier's spectral analysis method serves for the establishment of the amplitude and phase of a sound wave, the measuring of the oscillation frequency of the body and the like. In addition, a composer can exploit for his work sounding peculiarities not yet more thoroughly analysed by the science of acoustics.

The subjective space of a composing relationship, on the contrary, opens itself in psychic sensations of acoustic sounding. We can judge about a tone sensation (Parncutt, 1989) or sensory tones (Terhardt, 1979) according to a subjective introspective message. The generalization of the introspective message by an experiment makes possible to measure the loudness, pitch and duration, to characterize the timbre etc. The emotionality provided by a price of music also belongs to this space.

The informational space of a composing relationship is reflected by the symbols of sounding fixation: the notes denoting pitch and rhythm, signs of dynamics, orchestration as well as the full score of the whole work, its idea and theory about it. A work can be written down as an instructional metatext for a performance by a computer program, a graphic image, a verbal text, etc.

Worthy of taking into consideration is also complementary semantics of the spaces of a composing relationship. Complementations of spaces can be of three kinds. A complementation between an objective and subjective space is formed like practically between incompatible methods of analysis. The first of them is measured by objective physical values, while the other is disclosed

through a subjective, introspective expression. This complementation is marked in its abbreviated form ob./sub.

The complementation of an objective and informational space is characterized by the principle of indetermination: it is impossible to exactly measure something without respectively effecting that what is being measured. Although the indetermination principle was formulated in the medium of modern quantum mechanics (V. Heizenberg), it is also topical of composing theory. The complementation of a physical and informational space is marked ob./inf.

The complementation of a subjective and informational space is most evidently expressed by a thesis that it is impossible to completely identify a feeling and sensation with a word. Thus, a sensual space can be only complemented by informational one, i. e. sub./inf.

Complementation of Informational Space

The informational space is directly associated with a musical text, which can be read differently. Here also a particular influence of the criteria of a variable and constant time makes possible to perceive a musical text in two, one another complementing, ways: a musical text is perceived as a recollection (recognition of the text structure and relationships) or it is lived through as a certain state (change of sensations initiated by the text structures). The informational space of a musical text, subject to the shift of time, can be disclosed adapting the methodology of hermeneutics, whereas constant, in-depth relationships are outlined in a structuralist way. Both the rational (variable) and intuitive (constant) informational space aspects are topical not only in respect of recession but also in that of the being composed text.

It is known that a text in hermeneutic terms is not an object, but only a phase of the realization of coming to an understanding. Therefore, it is reasonable to think that the text, fixing the initial report, should be recreated maximally authentic. Interpretation, which makes possible to associate a factual text with various message – surrounding circumstances, are often employed for a correct understanding of the text. It was in this way that the Russian musicologist J. K. Zakharov, basing himself on the precondition that the juxtaposition of two realities can turn the elements of one of them into the signs of the other, makes an attempt to recognize and interpret the messages of a musical text (Zakharov, 1999). According to the musicologist, one should look on a musical work as a text, when it becomes an instrument of that reality, existing in conscience in the shape of conceptions and images. Whereas the content of conscience reflects interaction experiences between man and world (here the musicologist follows A. Losev – a meaning as the reflection of reality). Projecting the heard music into an appropriate system of the images of perception, mutual noticed connections are interpreted. It turns out that any musical word or term can become a semantic seme (a linguistic term), for example: silent – loud, short – long, solo – non-solo, a leap in the fourth – octave, etc. The musicologist concentrates his attention mostly on the message of a musical theme. In his opinion, themes as cultural phenomena integrate diverse ideas into certain semantic fields. The intersection of these fields forms each man's phenomenological world image in his conscience. As semantic themes acute to man manifest themselves in created texts, the musicologist, therefore, confronts verbal themes (evil – good, tears, earth, spring, etc.) with musical ones and interpretes their semantics. It enables him not only to partly establish the wholeness of a musical piece but also the semantics of the text detail and to form the so-called hermeneutic interpretation ring.

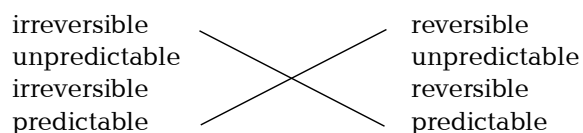
The hermeneutic methodology partly confirms a semantic open anonymity of a musical text which, paraphrasing the philosopher A. Šliogeris' thought, can be characterized as follows: musical texts, unfolding themselves in the medium of sounding, do not belong to any composer and lead their own life like any other fact of the world (Šliogeris, 1996, p. 145).

It is but natural to ask what distinguishes a musical text from anonymous surroundings and makes it extraordinary and transcendental. Semioticists structuralists partly explain it. Different from hermeneuticists, they do not analyse the semantics of text but search for in-depth structures, making an attempt to find some ways for the creation of meaning. Structuralists managed to some extent to combine various outer features of the text into one constant basic meaning. The Finnish musicologist E. Tarasti, under the influence of the ideas formulated by the famous French (Lithuanian émigré) semioticist structuralist A. J. Greimas, makes an attempt to basically solve the problem of a musical discourse. In his opinion, a musical semantic density (*Verdichtung* – A. Einstein's term)

depends on the "specific intersection of memory and anticipation paradigms [...]" (Tarasti, 1985, p. 114). He states: "one of the principal peculiarities of the music passage of time is its irreversibility". Therefore, perceiving a musical text, memory is marked by a constant expansion tendency, whereas an anticipation paradigm, on the contrary, during a work constantly gets shorter, because a possibility of choosing decreases depending on how it works its way through other possible paradigms (ibid., p. 113). At the moment of the intersection emerges a particular text – feeling state characterized by the musicologist as follows: "It happens so when a memory paradigm is maximally wide and when (speaking about an anticipation paradigm) we find ourselves in an unbearably moving situation of choice, incapable of guessing the composer's chosen decision" (ibid., p. 114).

Thus following Tarasti, a constant transcendental semantics of a musical text, or to be more precise, an artistic truth, opens itself at a particular moment of the contact between the past (memory) and the future (anticipation), as Šliogeris would say: "in the eternal present". Tarasti models a possible state of going through a musical text by a universal semiotic square (Greim's term) (ibid., p. 110) (Scheme 3):

Scheme 3



The hermeneutic and structuralist methods are particularly relevant for the recession of a musical text. In respect of a composing text, the importance of these methods is not direct but rather retrospective. It is possible to notice that the entire creative change in a musical text is also marked by the print of time, and its informational space constantly changes, narrows or widens, depending how the composer – from one or another period – perceives and understands the symbolics of notation as well as the possibilities of acoustic materialization of the musical text. For example, a symbolic notation can be read through slightly differently in every epoch, sometimes lending an ear to relevant musical issues. On the other hand, the production of new and the restoration of old instruments can also adjust the vision of the sounding of the text. On the whole, both the text marked by notes (or the symbols as their substitutes) and the recorded one (audio) usually condition each other, composing an inseparable mutual unity. Historically, however, this unity is more characteristic of the tonal music of the New Ages. Other epochs manifested a more inconsistent development of the mentioned factors. For example, the dominant of an audio musical text is peculiar to all improvised music. The same is true of the music existing due to an acoustic recording (feature of an electronic epoch). Besides, there are known avant-garde music texts, when the notation and "meta" commentaries prevail in comparison with a possibility of making a sound recording. To them can be attributed a graphic score ("Augen music") or computer-created images of sounding and the like.

The inconstant character of making and sound-recording factors stop the process of a musical text and can seriously disturb the balance between creation and recession. For example, a performer can fail to perceive the fixed text and an improviser – to remember music. In addition, similar musical texts can be unmanagable, "dead" in terms of a performance-type interpretation (recordings of electronic music) or become "graphics for themselves".

It is impossible to fix in music everything in writing. However that what is written down belongs to the sphere of stereotypes. Traditional texts of notes are rather conventional, read by literate musicians. A composer, however, sometimes carried away by new musical ideas lend "unheard" musical meanings even to conventional notation symbols. Such meanings can be read "between the lines of a formal text". When traditional notes do not satisfy a composer's needs, unconventional notation devices can be invented, unfortunately, it is hard to avoid shortcomings. Unconventional notation slows down recession of the work. Despite various perfections and a complex evolution of notation, lots of things remain unmarked. The interpreters of a musical text, therefore, have their hands full, because there remains a wide space for the complementation of information. On the other hand, the creation of a musical text is most of all "pushed" by the

composer's disposition or that particular state which imbues the text with long-lasting, transcendental semantics. It is worth remembering here Šliogeris' reasoning about a philosophical state: "A text without a state is empty and deceptive as if a mask having nothing behind it [...]. A philosophical state is a mediator, associating things with language, the existence with thinking, transcendence with a text. [...] A philosophical state individualizes object, word and subject alike" (Šliogeris, 1996, p. 145). Paraphrasing the philosopher, one can say that due to the mediation of the composer's state (it equals philosophical) it is only a transcendental in-depth and constant semantics of a musical text that can emerge. Thus an informational composing space, as we had a possibility of making sure, is marked by a rational and intuitive complementation of the rudiment. This space is first of all represented by a musical text charging the structures of sounding with meaning. Discussing the aspect of the recession of a musical text, complementation is particularly evident in the methodological analysis of the tenets of a musical text. A hermeneutic approach makes the aspects of the authenticity of information more topical, associating a message with the changes in circumstances, whereas structuralistic makes an attempt to grope constant, eternal aspects, those that evidence the rudiment of transcendence.

The composing of a musical text also distinguishes itself by the complementation of a rational, changing (sound recording conventions) and intuitive, long-lasting (flash of the state) rudiment.

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Santrauka

Muzikos teksto įženklavimo aspektai

Muzikos teksto įženklavimo problematika, manytume, pilniau atsiskleidžia tyrinėjant komponavimo santykio erdvę ir laiką.

Bandydamas pagrįsti muzikos suvokimo teoriją, R. Parncuttas kaip paradigmą pasirenka vadinajamą „trijų pasaulių“ koncepciją. Šie trys pasauliai – tai 1) medžiaga (energija), 2) patyrimas ir 3) informacija. Visi šie pasauliai lygiaverčiai ir autonomiški. Be to, kiekvienas iš jų ištiriamas savitu metodu, o tarpusavio santykiai pagrįsti papildomumu. Toks erdvių atribojimas leidžia išryškinti muzikinės kūrybos ciklą.

Skirtingai nuo klasikinės visų trijų erdvių pusiausvyros, senosios (netonalios) bei šiuolaikinės muzikos komponavimo praktikos demonstruoja platų kūrybos ciklo variantiškumą erdvių kiekybės atžvilgiu. Pavyzdžiui, etnomuzika nėra užrašoma, bet improvizuojama. Galimas priešingas atvejis, aptinkamas konceptualiajame šiandienos mene – muzikos kūrinys (partitūra) egzistuoja kaip neįgyvendinamas projektas. Taip pat žinoma, kad kūrinys (bent jau kurį laiką) gali egzistuoti vien tik kompozitoriaus sąmonėje. Kita vertus, susiklosčius atitinkamoms aplinkybėms, kūrinys gali neturėti klausytojo, neišskiriant nei atlikėjų ir dargi paties kompozitoriaus. Muzika gali būti atrandama ir gamtoje. Toks variantiškumas rodo, kad kūrybos ciklas, kylantis iš komponavimo santykio, gali pasireikšti bet kurioje skambesio erdvėje – fizikinėje, psichinėje, informacinėje.

Objektinė komponavimo santykio erdvė apima viską, kas susiję su skambesio fizikine būtimi. Apie šią būtį sužinome taikydami objektyvius akustinius ir matematinius tyrimo metodus.

Subjektinė komponavimo santykio erdvė, priešingai, skleidžiasi psichinėse akustinio skambesio pajautose. Apie skambesio pojūtį sprendžiame pagal subjektyvų introspekcinį išsakymą.

Informacinę komponavimo santykio erdvę atspindi skambesio fiksavimo simboliai: aukštų bei ritmą žyminčios natos, dinamikos ženklai, orkestruotė, taip pat viso kūrinio partitūra, jo idėja, teorija apie jį.

Informacinė erdvė tiesiogiai susijusi su muzikiniu tekstu, kuris gali būti skirtingai perskaitytas. Čia ypatingas kintamo ir pastovaus laiko kriterijų poveikis leidžia suvokti muzikinį tekstą dviem

vienas kitą papildančiais būdais: muzikinis tekstas suvokiamas kaip prisiminimas (teksto struktūrų ir santykių atpažinimas) arba jis išgyvenamas kaip tam tikra būseną (teksto struktūrų inicijuojama pojūčių kaita). Laiko kaitai pavaldi informacinė muzikinio teksto erdvė gali būti atskleista adaptuojant hermeneutikos metodologiją, o giluminiai, pastovūs teksto santykiai nusakomi struktūralistiniu būdu.

Hermeneutinis ir struktūralistinis metodai ypač aktualūs muzikinio teksto recesijai. Komponuojamo teksto atžvilgiu šių metodų reikšmė nėra tiesioginė, o greičiau retrospektyvi. Galima pastebėti, kad visa kūrybinė muzikinio teksto kaita taip pat yra pažymėta laiko įspaudu, o jo informacinė erdvė nuolat kinta, siaurėja arba plėtėja priklausomai nuo to, kaip vieno ar kito laikotarpio kompozitorius suvokia muzikos užrašymo simboliką bei natų teksto akustinės materializacijos galimybes.

Hermeneutinis požiūris suaktualina informacijos autentiškumo aspektus, susiedamas pranešimą su aplinkybių pokyčiais, o struktūralistinis bando užčiuopti tai, kas pranešime pastovu, amžina, atspindi transcendentalumo pradmenį.

Muzikinio teksto komponavimas taip pat pasižymi dviejų pradmenų – racionalaus, kintamo (užrašymas, įgarsinimo konvencijos) ir intuityvaus (būsenos blyksnis) – tarpusavio sąveika.

"The Song of the Dead Brother" of Mikis Theodorakis: a Contemporary Popular Musical Tragedy

The "*contemporary popular musical tragedy*" is one of the new musical forms which was born of the "*movement of the art song*" during the decade of the sixties, that is the time when the composer, politician and innovator Mikis Theodorakis lay foundations for the "*cultural revolution*" in an attempt to create a "*music for the masses*".

It appeared at precisely the same time, as the conception of the work of Mikis Theodorakis "*The Song of the Dead Brother*", that is between 1960 and 1963. According to the composer, this new musical form belongs to the global political theatre which was inaugurated by Berthold Brecht.

The aim of this paper is to present the effect of Greek poetical and musical tradition on the creation of this original musical form. Therefore, prior to studying the poetic-musical material of "*The Song of the Dead Brother*" let us turn to the roots of the "*contemporary popular musical tragedy*".

We shall begin with the term "tragedy" which refers one directly to one of the three types of the ancient Greek theatre. The theatre first appeared in the sixth century B. C. in the area surrounding Athens, evolving mainly during the Golden Age of the fifth century B. C. It was considered to be the "expression of Democracy" since it was born of the dialogue and the freedom of ideas. The theatre, which has roots in the *chorale song* of the followers of the god Dionysus, the well-known "*Dithyramb*", was born thanks to the poet Thespis who has the idea to recite the words of the *chorale* instead of singing them or even to create a dialogue between he who recited the words and he who sang them: and so in this way was born the theatrical dialogue and consequently the theatre.

Thereafter the evolution of the theatre gave life to three forms of dramatic-poetry: the tragedy, the satirical drama and the comedy¹. According to a later definition by Aristotle the tragedy is:

"Tragedy, is an imitation of an action that is serious, complete, and of a certain magnitude; in language embellished with each kind of artistic ornament, the several kinds being found in separate parts of the play; in the form of action, not of narrative; through pity and fear effecting the proper purgation- katharsis- of these emotions²."

Also according to Aristotle, a tragedy comprises the *prologue*, the *episodes*, the *exit* and the *chorales*. With these external and representative characteristics of the form, Aristotle also referred to six more which are component elements; these are: Plot, Characters, Diction, Thought, Spectacle and Melody³.

It should also be remembered that during the rise of philosophy and the development of democracy free entrance was allowed to all theatrical performances to all members of society, even women, immigrants or slaves who accompanied their masters. As a result the theatre became a topic of political discourse. It was from this time, that there was a steady decline in interest in the comedy and the satirical-drama which were easier for the simple people, that the theater became an art for the elite. This new way of life which allowed only the aristocracy to come into contact with every sort of art and culturalization, was conserved for a very long time. More precisely, in Florence in 1600, when the first performance of the musical-drama "*Eurydice*" of Jacomo Peri, which was based on the libretto of Ottaviano Rinuccini, took place on the occasion of the marriage of Henry IV to Marie de Medicis, the audience comprised only "*chosen members of the aristocracy and of the erudite*". Therefore the significance of this performance is historically evident since it initiated the Florentine humanists to create progressively a new form known as "*opera*"⁴. It was "*a courageous attempt to bring music to the theatre, not in a decorative role, to which it had previously been assigned to the intermezzi, but as the essence of personal expression*"⁵. This new form created in Italy took over to the whole of Europe "*with the exception of the France of Louis XIV which diversified developing a form of its own, the "lyrical tragedy" which was defined by Lully*"⁶. Nowadays the term has been replaced by that of the "*musical tragedy*".

Based on this development Mikis Theodorakis introduced the term "popular" to stand next to the term "opera" or "musical-tragedy", declaring:

*"... Just as the natural evolution of the song led to the cooperation with the theatre and the birth of opera, the popular song should become a form of opera, (...)".*⁷

And so he became an innovator and at the same time a challenging! He dared to allow people access to this "aristocratical" musical form. Even though this initiative was taken relatively recently in Greece in the sixties, the "epic theatre" of Berthold Brecht should not be forgotten since it exercised great influence on Mikis Theodorakis.

"The so called "Epic Theatre" is derived from the attempts of Berthold Brecht to speak to the mind and not to the soul of the patrons, to create a theatre based on premises not passiveness. For this reason he preferred the people's theatre as a source of inspiration with all its wild theatrics and not the realistic theatre of illusion".^{8, 9}

Placing it in direct opposition with the "dramatic theatre", which was also known as "Aristotelian", Berthold Brecht wrote that in the "Epic Theatre" *"the action consisted of a series of situations, which follow each other in the epic framework, speaks in parables that are sketches, questions directed at the audience, songs which add comments to the action (...)".*¹⁰

"When the play traversed a significant topic Berthold Brecht placed emphasis on it with song which was usually irrelevant to the play...". Berthold Brecht *"wanted to construct the allegoric theatre so as to develop a theatre for the global conscience and he was thinking "of the social replacement of the theatre to an educational media." (...) The theatre now had a clear, useful role and more precisely it had taken on the cultural enlightenment and activation of the proletarian masses".* The "Epic Theatre" was directed at people who were interested and not those who thought without reason¹³.

Berthold Brecht *"had leftist tendencies, as many of the erudite, but without the need for him to follow a set line: he emphasized the usefulness of art implying that art should be involved in the social and political problems of the time, which the author considered debatable and unresolved".*¹⁴

It is based on this approach of Berthold Brecht that Mikis Theodorakis created the "Song of the Dead Brother" at the beginning of the sixties. More particularly, for this was a period of political instability in Greece, with the memories of the civil war (1944–1949) fresh and raw, the demonstrations in the cities, the pursuit of leftists and the slaughter of members of the Greek Communist Part (K. K. E.) marking the lives of people, Mikis Theodorakis, who participated in the socio-political life of the country could not remain indifferent to such dramatic reality. Since he believed first that *"in times of crisis for a nation and a people, an active artist should not remain indifferent but should through his work help resolve the problems"*¹⁵ and secondly that *"the only path for the Greeks to win this combat in the face of history and civilization was at that moment, their veritable union. Not a conventional, intentional, usual union but an essential union of all Greeks"*¹⁶.

And so it was that Mikis Theodorakis urged the people of Greece to unite in order *"to achieve a national awakening, through his work used harsh, bitter truths and caustic methods"*¹⁷.

More particularly, Mikis Theodorakis' intention in creating this work was to instill in all Greeks the significance of the most doubted event of the contemporary history, the civil war, in order that they unite. He achieves this by highlighting the plight of two brothers, Paul and Andreas. One of whom is an active member of the progressive force of the leftists; the other of the nationalists. The central person in the work is that of the mother of the brothers who after the lose of her husband – killed by the Germans – is called to face the division of her family. At the same time Paul who is in love with Ismini is betrayed by her as her love for her father and the desire to save him from the hands of the nationalists is greater. At the last moment, her love for Paul pushes her to forewarn him and she dies in cross-fire. For the composer, who has lived this war vividly the freedom fighters are transformed into heroes of modern mythology.

Despite being a composer above all else, Mikis Theodorakis conceives the poetry and the music of this work while thinking of particular people. According to the composer, the people who lived in his imagination existed independently of the music. On this he said:

*"And suddenly I realized that those people were in life they existed outside the song where they met, discussed, loved and hated were loved, betrayed, were betrayed and died"*¹⁸.

In reference to the songs of the work,

1. The dream
2. April
3. Lamentation
4. Lullaby
5. Cry my bitter cloud
6. The chain
7. A Nightfall
8. The Tango of Efialtis – I want to speak
9. My betrayed love
10. Pavlos and Nikolios
11. In the gardens
12. Gloria – Unite

Mikis Theodorakis wrote not only the lyrics but also the music (except for the lyrics of the song "*Lullaby*" written by Kostas Virvos). Those songs are not independent of each other but comprise an uninterrupted union within a thematic piece and are interdependent on the same musical inspiration. Nevertheless the result did not satisfy entirely and so the composer finding it incomplete rewrote a whole scene and dialogue proposing also some new ideas for the staging of the work which he thought of as "*a tight movement of music and dance*¹⁹". It was at this time that a new musical form was born: the "*contemporary popular musical tragedy*".

Following the footsteps of Berthold Brecht, Mikis Theodorakis created a modern work with a social use directed at the "proletarian masses". A work which was concerned with the concerns of the modern man, a subject with its roots in modern history which "*has its myths and its heroes*", as the composer highlights. Based on "*Berthold Brecht's scenes*" he imagines the work as "*a pro-scene drama, a series of tableaux-vivants, with worthwhile ideas which may describe alongside music and not developing a scenic stance*²⁰". Moreover the lack of respect of the Aristotelian tragedy – the work is divided into two parts: the prologue followed by the "parodos" and in the "action", – the role of the light which changes in line with the scene – is neutral as the curtain goes up, disappears after the orchestral introduction becomes yellow at the end of the prologue²¹, – the use of masks, of the dance, and the pantomime which dramatize the song, show that Mikis Theodorakis was closer to the Berthold Brecht's theater and not to the realistic theatre.

As such if the characters of the "*modern mythology*" are the basic source of inspiration of the composer during the creation of the work "*The Song of the Dead Brother*", two other sources of inspiration were equally as significant: a) the poets of tragedy of the ancient Greek world who for Mikis Theodorakis are forever alive and exceptionally representative in this day, b) the demotic and popular Greek songs which identify with the song of dance and which unites people in happiness and sorrow²².

More particularly, the very subject of the spilt blood of the two brothers is one of the basic and moving subjects of ancient Greek tragedy. It is that known to us as "*the Circle of Lavdakides*" – the circle of the kings of Thebes otherwise the mythos of "*Antigone*" and her brothers Eteoklis and Polynikis. It is to this myth that Sophocles makes reference in his work of "*Antigone*". Naturally such a subject could not but inspire the creators of modern global poetry and dramaturgy, just as Anouilh in the play "*Antigone*". In reference to "*The Song of the Dead Brother*", Mikis Theodorakis, the composer has this to say:

*"'The Song of the dead Brother' was neither a description of customs nor a revue that it might be eroded in a specific socio-historical event. Through this work, it was my desire to create a contemporary tragedy commencing as the ancient Greeks did with a myth, with original personifications that clash with modern gods. I have replaced Lavdakides with the civil war and gods who move the history with the war's lows because we all know who hides behind of them*²³".

The effect of ancient Greek dramatization and music appears also in:

– The song "*The Tango of Efialtis / I want to speak*" which refers to betrayal. Efialtis is the first traitor of Greek history and because of his betrayal the Persians conquered Leonida at Thermopyles. Thereafter Efialtis was transformed into the symbol of betrayal. If Mikis Theodorakis

felt the need to write that song in the 80's and to add it to the original work, it was to explain in the first instance, the real reason for the lose of the young man – who was executed after his betrayal during the civil war- and in the second, to make clear the fact that betrayal which otherwise constituted a sin,

"Then betrayal was a sin" (v. 3)

was made lawful in our times and is a basic cause of the most gruesome torture.

– The song "*Lamentation*" which was not comprised in the first edition of "*The Song of the Dead Brother*" but was added by the Greek composer later in 1982: Firstly, the effect of ancient Greek dramatization appears in the dialogue between the mother of Paul and Andreas, who is attempting to under cover the truth of the fate of her son, and the Chorus. She directs this question to the Chorus:

"Do you know his name?" (v. 4)

The question is repeated several times and the answer is:

"Jesus" (v. 35) and

"Peter, Hans, Youri, Anna, Jack and Loui Tse" (v. 37)

An event which shows that in a fratricide everyone can be involved and that all the children of the world are equal when faced with death. Thereafter, the effect of ancient Greek dramaturgy appears thanks to the mother's description of the child who is preparing to leave, while referring us to the descriptions of the warriors before the battle for whom the battle preparations take a ceremonial character:

*"My child worn clean clothes
He changes this morning before leaving." (v. 15)*

Above all we owe it to ourselves to seek the roots of that song in the "*lamentation*" of ancient Greek music – the "*Lamentation*" was a song which conveyed deep feelings of sorrow. According to Homer, in ancient Greece, there were professional singers, referred to as "threnodist"²⁴ who interpreted those songs – as well as in the "*lamentation for the dead*" of Greek demotic music.

– In this way, it can be said that the song "*Lullaby*", has roots in both ancient Greek as well as demotic music. First of all, because Platon in his work "*Law VII*" refers to the lullaby of a child and secondly, because the "*lullaby*"^{25, 26} constitutes one of a type of demotic songs which is interpreted always by women in their effort to calm an infant before sleep while at the same time expressing their feelings surrounding this act.

– Finally the description in the song "*Pavlos and Nikolios*" of the journey without return of the two co-exiled "*on a boat without sails, on a ship without a mast*" (v. 3–4):

*"and the journey is death
from which there is no return." (v. 7–8)*

referring us to the description found in ancient Greek texts and in demotic music and which are referred to in the Charon and in his boat whose destination is death.

Moreover we owe it to ourselves to explore the effect of demotic tradition on Mikis Theodorakis, beginning with the homonym work of demotic Greek literature "*The Song of the Dead Brother*". This work, which dates from the beginning of the ninth century, was written, according to researchers, in Minor Asia and belongs to the form of "*paralogi*"²⁷. It is thought that the legend is connected to ancient mythology and in particular with the return of Hades to earth or with the myth of Dimitra and Core. According to Claude Fauriel, the ballad "*Leonora*" (which dates from 1773) by the German poet G. A. Bürger presents similarities with the "*Song of the Dead Brother*"²⁸. In this work of Greek Demotic tradition, the dead son rises from the grave so as to fulfill a holy promise to his mother: to return to her, her beloved daughter, the child that has remained. At the beginning of the twentieth century, Berthold Brecht wrote "*The Song of the Dead Soldier*" inspired by both the popular phrase "*even the dead are being dug up*" – which was commonly used around 1917 in Germany – and "*Leonora*" by G. A. Bürger: "*in this dark and cruel song*", the Emperor orders the soldier to rise from his grave, to enlist once again so as to die as a hero²⁹. In the same way in the work of Mikis Theodorakis, the two sons dream of the same fate (in the song "*The Dream*"), they run to the death bed of their mother, they join hands and close her eyes:

*"That they both run
to the mother's death bed,
they both together join hands
to close their mother's eyes" (v. 25–28)*

Also in the song *"In the gardens"*, the son dances with the Charon pleading with him to give back his life for just one night so that he might see the sweet look of his mother:

*"In the gardens amidst the blooming orchards
if I get you Charon in the wine
and if in song and dance I get you
then grant me one night of life*

*Hold your heart, sweet mother
and I am your son who returns for your glance
Ah! Just for a glance." (v. 10–16)*

And so the return to the mother, as is referred to in the demotic song reappears in modern poetry.

However, the effect of the demotic song on Mikis Theodorakis's work is not restricted to the intellectual content of poems but appears also first, in the versification – Mikis Theodorakis attempts to honor the national verse³⁰ called *"iambic with fifteen syllables"* at every opportunity (i. e. in the song *"The Dream"* and *"Pavlos and Nickolios"*) – and secondly through the lexical framework and the applied phrases. For example:

– In the song *"The dream"*:

- The first verse: *"You had two sons my mother"* is representative of the demotic song and it reminds us of the first verse of the demotic song *"The Song of the Dead Brothers"*: *"Mother with your Nine Sons and Your Only Daughter"*: exactly as the anonymous poet, Mikis Theodorakis refers to the main character from the very first verse of the song.

- The sons are both *"Two trees, two rivers, two Venetian castles, two spearmints, two worries"* (v. 2–4): just as in the demotic song the likenesses and the metaphors stem from nature and the places marked by history so that the impression given is unique and magnificent.

- The action of the demotic song is unfolded quickly and the verbs play a basic role, just as in the fifth strophe of the song:

*"But they took to the mountains
and they cross the rivers
one is seeking to find the other
one to kill the other" (v. 17–20)*

- In the demotic song it is usual for the people to interact with the fauna and flora and elements of nature, such as the sun and the birds. In that song, the poverty stricken mother responds to the sun to ask where her son can be found, narrating her drama and opening her heart to reveal her love for both her sons:

*"Sun, you who see the mountains
that see the rivers
and you who see our sufferings
and the wretched mothers.*

*If you ever see Pavlos call me
and if you see Andreas tell me
I raised them with the same anguish
and with the same sob I bore them" (v. 9–16)*

– In the song *"April"*, which is a veritable song of love, – talks of love that is not reserved for the face of Lenios, but also for the pure love of beauty and nature which is symbolized by both months of the spring April and May – the applied lexical framework:

*"My April – blooming April
and scented May" (v. 1–2)*

*"My Star – my pale star,
a ray of the moon" (v. 10–11)*

reminds us on the one hand the demotic poetry – i.e. the poem "*The kidnapping of the young girl from the young man*"³¹:

*"What hath the clouds that they float so
Be it the north wind that blows dry and cold
Or be it the breeze that brings in may and April?
It be not the north wind dry and cold
Nor the breeze that brings in May
It is but a young man come to take a maid from her mothers arms"*

and on the other hand, the neohellenic poetry; i.e. "*Free Surrounded*" by D. Solomos³²:

"The love dances with the blooming April..."

– In the song "*Lamentation*", the metaphors and similes transport us once again to the demotic song:

*"In place of his heart
he held a singing bird"* (v. 12)

"He was beautiful like a tree! As tall as a castle" (v. 19)

"He has tied its thread to the sun playing like a kite!" (v. 36)

Moreover, Mikis Theodorakis was further influenced by Orthodox religion, which is closely tied to the daily life of the Greeks and is clear to Mikis Theodorakis's work:

- In the song "*The Chain*" Mikis Theodorakis refers to the Cross of Easter which symbolizes hope:

*"Break the chain with the swastika
Make the chain with hosannahs!"* (v. 12–13)

- In the song "*A Nightfall*", the subject of the lost of the young handsome and brave man comes back and the reference of his torture is created through the comparison with the Passion of Christ:

*"One nightfall,
they tied you on the Cross"* (v. 1)

The subjects of the Passion, the Crucifixion and the Resurrection of Christ comprise a standard source of inspiration for modern Greek poets and writers of the leftists movement such as K. Varnalis in his poem "*The Mother of Christ*"³³ or G. Ritsos in his work "*Epitaph*"³⁴. In the song "*One Nightfall*" the mother speaks to her son and her desperation is likened to that of Mary the Mother of Christ before the tortured body of her son.

- In the song "*Gloria-Unite*" the unification which is symbolized by the marriage of the Sun with the Easter-tide, is realized with the help of Mary the Mother of Christ who is glorified by the poet through the Byzantine hymn "*Ti Ypermaho*".

The effect of the traditions of the Orthodox religion is not restricted to a poetical level but is equally important at a musical level. In this respect, Byzantine music which has roots in ancient Greek music, together with demotic music, popular music of the "rebetic songs" as well as western music make up the "musical roots" of the composer.

The musical analysis of the songs of "*The Song of the Dead Brother*" revealed that the musical roots of Mikis Theodorakis are repeatedly expressed in this work.

More precisely, the repeated use of the "*modes*" of ancient Greek music in relation with the "*Pathos*"^{35,36} by the composer rather than highlighting the meaning content reveals the effect of the ancient Greek music on the composer himself.

Take for example the use of "*Aeolian mode*" (Example 1; m. 25) – proud and courageous – to emphasize the meaning of the second verse of the song "*Lullaby*":

*"So you will grow, oh infant mine
tall as the mighty plane tree"* (v. 2)

while in the song "*Lamentation*" "*myxolydian mode*" (Example 2; m. 22–28) – plaintive and passive – to support the lamentation of the Mother:

In this last song, the most of the musical themes of the Mother and the Chorus are based on the repetition of the same note and on rhythmic variations that are imposed by the number of the syllables in the words (Example 3):

Example 3. "Lamentation" of "The Song of the Dead Brother"

The image shows two pages of a musical score. The left page contains the first system, including a vocal line with lyrics in Greek and a piano accompaniment. The right page contains the second system, also with vocal and piano parts. The score includes various musical notations such as notes, rests, and dynamic markings. The lyrics are in Greek and appear to be a lamentation.

The composer is inspired by the technique of "recitative" taken from the Byzantine music, which is very often found at the beginning of many Byzantine melodies as in the Pleading Hymn "Megalynarion" (Example 4) and appears also in the song "The Chain":

Example 4. "Megalynarion"

The image shows a musical score for "Megalynarion". It features a vocal line with lyrics in Greek and a piano accompaniment. The score is titled "12. ΜΕΓΑΛΥΝΑΡΙΟΝ" and includes a list of four points at the bottom. The lyrics are in Greek and describe various aspects of the hymn.

1. Την Τιμιωτέραν των Χερουβιμ
 και ένδοξήσαν άουραγίτας των Σαραφίμ
 Την άδωρηθρας θείαν Λόγιαν Γνωρίσαν
 Την έντας θεοτόκον Σε μεγαλόνομεν.
 2. Την ύψηλοτέραν των Ουρανών
 και καθωροτέραν λαμπροτέρων ήλιων
 Την λαμπροσημένον ήλιον έν της καυτοτέρας
 Την ήλιων του κόσμου έννοιος τιμωρομεν.
 3. Άλλαλα τα χείλη των άδελφών
 Τών μη προσκυνούτων την εικόνα σου την απήτη
 Την ιστορηθρίσαν υπό του Αποστόλου
 Λουκά ιεροτάτου την δηγήτηριαν.
 4. Πάσαι τών άγγέλων αι στρατιαί
 Πρέβρωμα Κυρίου Αποστόλων ή Δωδεκάς
 εί Άφου. Πέντας μετά της θεοτόκου
 Παύλας. Πρεσβείαν είς τό σωθηναι ήμάς.

and secondly in the use of odd rhythms as in the dance "zeibekikon" in 9/8 which is largely a male dance and express the pride and melancholy. This rhythm is used repeatedly in this work just as in the songs: "The Dream" (Example 8), "A Nightfall" (Example 9), "Pavlos and Nicolios" (Example 10), "In the Gardens" (Example 11):

Example 8. "The Dream" of "The Song of the Dead Brother"

MIKIS THEODORAKIS
1. TO ONEIPO
LE RÊVE
 (To Tigrisou tou Nisagou Adelpou)
 (La Chanson du Frère Mort)
 Cycle de chansons
 Poésie: MIKIS THEODORAKIS

Introduction: Thème A

Thème B

Example 9. "A Nightfall" of "The Song of the Dead Brother"

MIKIS THEODORAKIS
9. ENA AETAINO
UN CRÉPUSCULE
 (To Tigrisou tou Nisagou Adelpou)
 (La Chanson du Frère Mort)
 Cycle de chansons
 Poésie: MIKIS THEODORAKIS

Introduction

Thème A

Variation A'

Thème B

Example 10. "Pavlos and Nicolios" of "The Song of the Dead Brother"

MIKIS THEODORAKIS
12. TON HAYAO KAI TON NIKOAI0
PAVLOS ET NICOLIOS
 (To Tigrisou tou Nisagou Adelpou)
 (La Chanson du Frère Mort)
 Cycle de chansons
 Poésie: MIKIS THEODORAKIS

Introduction

Thème A

Thème B

Example 11. "In the Gardens" of "The Song of the Dead Brother"

MIKIS THEODORAKIS
13. STA HEPBOALA
AUX VERGERS
 (To Tigrisou tou Nisagou Adelpou)
 (La Chanson du Frère Mort)
 Cycle de chansons
 Poésie: MIKIS THEODORAKIS

Introduction

Thème A

Thème B

The rhythm of the "zeibekikon" appears both in the dances of Minor Asia (i.e. "Zeibekikon of Ikonion", Example 12) as well as in the "rebetik songs" (i.e. "Cloudy Sunday" by Vassilis Tsitsanis, Example 13):

Example 12. "Zeibekikon Ikoniou"

Example 13. "Cloudy Sunday"

The effect of the "rebetik songs" on the work of Mikis Theodorakis appears also in the use of *makam* which was used frequently by the "rebetes" – composers of rebetik songs. For example, the *makam rast* and *niavent* appear the relevant songs "A Nightfall" and "In the Gardens".

As for the influence of western music on "The Song of the Dead Brother", is detected in the use of musical instruments of western classical orchestra such as the violin, the violoncello, the clarinet, the trumpet, the trombone next to traditional instruments such as the *bouzouki* and the *santouri*. The coexistence of traditional and classical instruments comprises one of the most basic methods of Mikis Theodorakis in his attempt to unite savant and popular music.

Taking the above into account it could be said that there is the feeling that because of the strength of the poetic-musical material used by Mikis Theodorakis for the creation of the first "contemporary popular musical tragedy", "The Song of the Dead Brother", comprises one of the master-piece of Modern Greek musical literature. As a result the message of reconciliation and union of the peoples of the world which is conveyed, it cannot but be characterized as diachronic and ecumenical.

Notes

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- ² Aristotle, *Poetics*, Paris, Ed. Les Belles Lettres et la Librairie Générale Française, coll. Le livre de poche-classique, 1990, p. 92–93.
- ³ Ibid., p. 93.
- ⁴ Durosoir Georgie, *The Vocal Secular Music in the XVIIIth Century*, Paris, Ed. Klincksieck, 1994, p. 39.
- ⁵ Ibid., p. 40.
- ⁶ Platzer Frédéric, *Synoptic Dictionary of Musical Terms*, Paris, Ed. Ellipses, 2002, p. 85.
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- ¹⁰ Kesting Marianne, *Brecht* (trad. en grec: Angelidou Maria), Athens, Ed. Plethron, 2000 (2e Edition), p. 58.
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- ¹⁶ Ibid., p. 54.
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- ²⁶ Christara P.-Ch., «The Greek Lullaby» in *Musicology*, 3d year, vol. 5–6/87, Mars 1988.
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- ³² Solomos Dionysios, *Complete Works*, Athens, Ed. Grigori, 1969, p. 189.
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Santrauka

**Mikio Theodorakio „Daina apie mirusį brolių“ –
šiuolaikinė populiarioji muzikinė tragedija**

XX a. šeštąjį dešimtmetį graikų kompozitorius, novatorius, politikas ir kultūrinės revoliucijos lyderis M. Theodorakis kūrė muziką liaudies masėms, grindžiamą autorinės dainos judėjimu, kurio tikslas – sujungti populiariąją muziką su profesionaliaja.

Vienas pirmųjų tokių pavyzdžių kompozitoriaus kūryboje – 1958 m. Paryžiuje atliktas kūrinys „Epitafijos“ pagal Y. Ritsos poeziją. Autorinės dainos judėjimas sukuria naujas muzikos formas, viena iš kurių yra šiuolaikinė populiarioji muzikinė tragedija. Tiksliau sakant, autorinės dainos judėjimas gimė kartu su M. Theodorakio „Daina apie mirusį brolių“. Pats kompozitorius sakė, jog ši muzikos

forma yra artima politiniam teatrui, kurio pradininkas buvo B. Brechtas, o jos šaknys slypi senojoje graikų tragedijoje, graikų liaudies poezijoje ir vakarietiškoje operoje. Šios muzikos vaizdavimo objektas yra šiuolaikinė istorija su jos mitais ir herojais, joje išryškėja graikų tradicinės (Bizantijos ir liaudies) bei populiariosios (rebetikos) muzikos elementai.

Pranešimo tikslas – M. Theodorakio „Dainos apie mirusį brolių“ muzikinės-poetinės analizės pagrindu atskleisti graikiškų poetinių vaizdinių, eilėdaros ir muzikinių ritmų, garsaeilių ir instrumentavimo tradicijų įtaką šiai originaliai muzikos formai.

The Principles of the Notation of the Renaissance Polyphonic Music

Abstract

The notation of the Renaissance tenor polyphonic texture was not of a scoring type. Composers used to record independent melodic lines separately. A notation principle for individual voices was based on voice as a unit closed in it. An individual voice is a more or less completed independent musical unit, thriving in the company of other units similar to it. Melodic lines of individual voices, horizontally oriented, mutually match complementarily, and the generated harmonic consonances are resulting, adjusted in the final stage of a creative process.

The books that reached our epoch include large-format manuscript books for choral music, smaller manuscript books for secular music, and small-format printed books of choral music. The notation of instrumental music employed several different methods: a klavarscribo score, a klavarscribo system and tablature. The first two methods are based on writing down music sounds by using notes, whereas in tablature instead letters or figures, or both letters and figures were used. A great influence on the initiators of tablature notation was exerted by the achievements in the sphere of the notation of vocal polyphonic music. The marking of signs for rhythm and frequent usage of a linear system witness it, besides, it was those tablature writing methods, which were least of all distanced from the Renaissance notation of vocal polyphony, that took root.

Keywords: polyphony, individual voices, choral books, tablature.

Object of research: the principles of the notation of Renaissance vocal and instrumental polyphonic music.

Aim: to detect the main notational principles of the Renaissance multi-voiced music.

Methods: analysis, comparative, generalization, hypothesis.

Till the beginning of the 13th century polyphonic music was notated in scores. The beginning of writing in separate voices is related with the appearance of motet (about 1225). Nearly all musical compositions created since 1225 till 1600 were fixed in separate voices, excluding conduct and compositions written later in conduct style (e.g. English compositions of the 14th – beginning of the 15th centuries). Renaissance theoretician and composer Fr. Gaffurius in his "Practica musicae" wrote about the formed successive polyphony composing and writing down conception emphasizing that in polyphonic music tenor is the basis of relations (*fundamentum relationis ist*).

Separate voices were written down in chorus book in one or two beside present pages in a certain steady procedure. On one page the voices were written down in such a way: on the left side *triplum*, on the right – *duplum (motetus)* and the *tenor* below. In two pages the voices were fixed as follows: on the left *triplum*, on the right – *duplum (motetus)*, below on both pages *tenor* was written. Such order of writing voices was necessary, so that three singers would see their parts written on the same page equally well. Out of such voices placing it is clear that in the centre *tenor* – the most important voice, *cantus firmus* representative, is; on its right – *duplum (motetus)* and on its left – *triplum* were written. In the same principle the voice coordination in a music composition was conducted as well. So the principles of polyphonic composition and its notating were directly interrelated.

The polyphonic music of Renaissance epoch was fixed not in scores, by writing down independent melody lines separately. Every voice used to be written separately without any visual evaluation of other voice situation. The principle of writing in separate voices follows voice as a unit close in itself. A separate voice is a finished more or less independent melody line. These melodic lines developing in horizontal direction mutually matched in complementary way and forming harmonic consonances were corrected in the final stage of creative process. The composers used to neutralize dissonancy orientating to pan-consonant sounding – fauxbourdon norm which can have variant forms.

The problem of "composer's score" is directly related with organization of composing process, because, in opinion of musicologist C. Reynolds, "composer's plan for a work would ultimately affect a methods used to notate it, and, conversely, the notational habits of a composer would condition the type of plans <...> Thus the theory that Cipriano de Rore worked one phrase at a time on the limited space of a *cartella* is particularly useful to analysts, because it shows how a compositional plan conceived in terms of sections could be carried out"¹. Although, as M. Bent says, "there is no evidence that fifteenth-century composers used scores in the process of composition. A composer could work out his ideas, and/or realize his mental conceptions, by communicating the successively-conceived parts, either orally or in writing, to singers who then substituted for the function of a written score by providing aural, not visual, control over the simultaneities"².

B. J. Blackburn has a similar opinion – "As long as composers wrote music successively, there was no need of a score; they could write "upon the book", that is, look at one line of music and write another, in the same way that they could "sing upon the book"³.

In Renaissance after the functions of free voices unified, *cantus firmus* remained the generator of their material basing on interval of third and its inversions (sixth, tenth) on which the whole polyphonic composition three-dimensional space is based. The melodic line of each separate voice is created by multiplying the third interval in various directions. Surely one cannot get without jumps to wider interval, gradual movement, melodic ornamenting, however, behind similar camouflaging details always frame based on third which we recognize from longer note stops, the most elevated phrase points and others lies. The third and shapes of its inversions in the vertical structures are combined in various way by summing way. The consonants forming in Renaissance polyphonic music in their structure identical towards baroque, classicism and other styles tri-sounds have completely different meaning: by their resultant, summary quality they express the pan-consonant spirit of their epoch reflecting in the prevailing in the composition principles of musical material organization which are based on the spread of third interval in all the musical parameters.

Every separate voice grows out of religious or secular *cantus firmus (res facta)*. Separate voices in white mensural notation used to be of different length (voice performing *cantus firmus* most often used to be the shortest – as if a peculiar quintessence) besides in frequent case it was practically impossible to write them exactly vertically (due to ligatures, applied rhythm proportions) – so saving the expensive parchment and taking into consideration the needs and convenience of the singer the voices of polyphonic music used to be written not in score.

Till 1501 when publisher from Venice Ottaviano dei Petrucci published the first printed publication, polyphonic music was fixed in unique manuscripts valued as especially valuable property. The appearing of music printing sped up the internationalization of polyphonic music, however, due to that the era of manuscripts did not come to an end. In every church and estate in which vocal ensemble was disposed the work of the copier remained important as the repertoire for the local need was written by hand. Besides many printed publications were of a too small format, so that they could be used for work with a choir, so the manuscript variants were still necessary. Most part of manuscripts are chorus books of great format which used to be put on one stand in such way that music performers all of them gathering around the conductor could see the notes. Most often the voices of a musical composition were written down in two one near the other present pages, for example, four voice mass upper voice and tenor used to be fixed on the left page and alto and bass on the write one. If the fifth voice was necessary, it used to be written below on both pages (as in the manuscript of P. de la Rue "Missa de septem doloribus" Petrus van den Hove).

Beside chorus books with ecclesiastic compositions of huge format smaller chorus books aimed for secular music were written. In France they were called "Chansonniers". Among worldly polyphonic music chorus books the splendidly ornamented book belonging to Margaret from Austria with P. de la Rue and J. des Prez compositions and also an impressive "Chansonnier cordiforme" so called due to the shape reminding heart – in it anonymous three voice love songs with French and Italian texts are written, – can be distinguished.

Contrary to Renaissance vocal music for the writing of which the only principle of the white mensural notation used to be applied for the notation of instrumental music compositions several different methods were used. The early clavier music is the transcriptions of vocal music, so for the

writing of such compositions score notation was used uniting separate voices written in chorus books into a score. Surely original instrumental compositions written in scores appeared. This notation type existed at the end of the 16th–17th century in Italy, at the beginning of the 17th century in Germany and Portugal. Rhythmic units were separated by bar lines and this property used to reflect in the names of musical collections often (It. *spartiti* – separate, *partiti in casselle* – to separate by measures) and everything is written in notes.

Another way of clavier music notation used in the 16th century universally recognized later – is the clavier system which consists of two several (from 5 to 8, even 13) line systems. The line number varies in the musical compositions of different countries (Italy, France, England), different authors. In comparison with the white mensural notation there are changes in clavier system: bar lines, connecting bows, imperfection of rhythmic values are used, ligature (excluding English collections) have been refused.

As both the clavier system and the clavier scores are based on writing music sound in notes they cannot be called *tabulaturas*. By the latter term notation in which instead of notes letters or digits or both letters and digits are used is called. The pitch of music sounds was fixed in letters already in the 9th century, besides one should not forget the Greeks who in their notation already used letters. In the Medieval Ages various systems of notation in letters existed aimed for theoretic or didactic aims when in the 15th–16th centuries in German organ *tabulaturas* and French and German lute *tabulaturas* the letter notation had a practical importance.

German organ *tabulaturas* are divided into the old ones and the new ones. *Tabulaturas* written at the beginning of the 15th century–middle of the 16th century are considered to be the old ones, their upper voice is written in notes, the remaining in letters⁴. In the new organ *tabulaturas* the higher octaves are started not from *c*, but from *h*. Loops tied to the letter show alteration. Signs similar to the values of corresponding notes show the rhythmic value of sounds marked by letters. In the old *tabulaturas* *B. perfecta* is marked by three large dots, *B. imperfecta* – two, *S.* – one, *M.* was expressed in vertical dash, *semiminima* – by a stem with a flag, and *fusa* – stem with two flags. The signs of the new *tabulaturas* differed from the old ones: *S.* was started to be marked by a vertical dash, *M.*, *semiminima*, *fusa* and *semifusa* accordingly with stem with one, two, three and four flags.

The first lute *tabulaturas* appeared in the 16th century and were aimed for the instrument with six strings, although German *tabulaturas* were at first written for five string lute. Through six strings across stretched nine frets – in this way fifty four places of intersection are formed. The systems of different countries differ in the way how these intersections are marked. One must distinguish three *tabulatura* types: Italian (Spanish)⁵, French and German *tabulaturas*. Italian and German *tabulaturas* notations gradually disappeared and in the 17th–18th centuries only the French type survived. As the eleven lute strings are divided in six groups by pairs (only the highest string is left alone) it is considered that lute is six-stringed. The French used to mark the free strings by letter *A*, intersection places – *B, C, D, E, F, G, H, I, K*. The used rhythmic signs are the same as used in organ (clavier) *tabulaturas*. A system of five lines symbolizing five upper strings is used, and the sounds of the lowest string are noted at the bottom of the staff. The letters are written on the lines, rhythmic signs above line system; sometimes the latter are found on line and then they means pauses.

The first German lute *tabulaturas* were written both in notes and digits. Five strings are numbered, marking the free strings by digits. The Germans fixed the places of string and fret intersection by letters, orientating this marking in the direction of frets. As we see writing by letters is the common trait of French and German lute *tabulaturas*, only the French marked intersection places by letters along the instrument in the direction of a string and the Germans did it across the instrument in the direction of a fret. The letter sequence in French notation forms a chromatic sound succession.

The noting of the sixth string differs from other strings and is even more complicated, as some lute players chose for marking the capital letters, others small letters, others – digits (they wrote digits with a dash above).

In Italian lute *tabulatura* six line system is used the upper line of which symbolizes the lowest string and the lower – the highest. On the lines digits from 0 to 9 were written. As the sounds got in the intersections "rise" in halftones, every digit indicates by how many halftones the specific sound is higher than the tone got by the free string.

Digits were used to fix musical sounds in the organ *tabulaturas* of Spanish. In the second half of the 16th century in Spain several methods how to write clavier music existed numbering the all keys of the instrument from 1 to 42 or numbering 27 white keys. Finally in the second half of the 16th century only the white keys of one octave (f-e¹) were started to be numbered, in other octaves digits were written with dashes, dots or commas. The digits are written on the lines symbolizing the composition voices.

The aim of *tabulatura* notation was to mark the pitch and duration of a music sound got by instrument key or string. So the creators of *tabulatura* notation in every country in their way solved this task making use of letters, digits, letters and digits, letters and notes. Still they were strongly influenced by the achievements of writing of vocal polyphonic music of that time. Still the principles of instrument (solo) and vocal (ensemble) music notation are completely different, as the first was written in scores and the second by separate voices. Thus the specific principles of notation formed affected by the functionality of music and specific composition of performers.

As the first instrument compositions were vocal music transcriptions fixed in scores, it is not difficult to understand that both these principles of notation – music writing in separate voices and score – have something in common. Consecutive writing of music does not do without the manifestations of simultaneous technique performing the coordination of separate voices melody lines at the final stage of creative process – correcting vertical interrelations of the voices. In this way although the principle of separate voice notation emphasizes the importance of horizontal parameter, Renaissance polyphonic music could not do without vertical coordination of independent melody lines. So the creative result of every multi-voiced composition written in separate voices is the harmonic structure coordinated vertically or in other words "score" existing in the head or maybe in the rough notes of a Renaissance composer.

Notes

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- ³ Blackburn B. J. On Compositional Process in the Fifteenth Century // Journal of the American Musicological Society, 1987, Vol. 40, No. 2, p. 268.
- ⁴ Printed *tabulatures* of N. Ammerbach (1571, 1583), B. Schmid (1576, 1577), J. Paix (1583), B. Schmid d. J. (1607).
- ⁵ "Dixhuit basses dances garnies de Recoupes et Tordios..., le tout reduyt en la tabulature du lutz "; "Tres breve et familiere introduction pour entendre et apprendre par soy mesme a iouer toutes chansons reduictes en la tabulature du lutz avec la maniere d'accorder le dict lutz...".

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Santrauka

Renesanso polifoninės muzikos notacijos principai

Renesanso tenorinis daugiabalsiškumas buvo notuojamas nepartitūriškai, savarankiškas melodines linijas užrašant atskirai. Atskiras balsas – tai išbaigtas daugiau ar mažiau savarankiškas muzikinis vienis, tarpstantis kitų į save panašių draugijoje. Atskirų balsų melodinės linijos, nukreiptos horizontalia linkme, tarpusavyje dera komplementariai, o susidarantys harmoniniai sąskambiai yra rezultatyvūs, koreguojami galutiniame kūrybinio darbo etape.

Kiekvienas balsas būdavo užrašomas atskirai, be jokio vizualaus kitų balsų situacijos įvertinimo. Atskiri balsai būdavo užrašomi viename ar dviejuose gretimuose chorinių knygų lapuose arba atskirų balsų knygose. Daugeliu atvejų viršutinis balsas ir tenoras būdavo užrašomi kairiajame lape, o altas (kontratenoras) ir bosas – dešiniajame.

Tokiu pat principu vyko balsų koordinavimas ir muzikos kompozicijoje. Tad daugiabalsiškumo komponavimo ir jo notavimo principai buvo tiesiogiai tarpusavyje susiję.

Instrumentinės muzikos kūriniams notuoti buvo vartojami keli skirtingi metodai: klavyrinė partitūra, klavyrinė sistema ir tabulatūra. Pirmieji du metodai remiasi muzikos garsų rašymu natomis, o tabulatūrose vietoj natų vartojamos raidės arba skaičiai, arba ir raidės, ir skaičiai. Tabulatūrinės notacijos kūrėjams svarbią įtaką darė to meto vokalinės daugiabalsės muzikos fiksavimo pasiekimai. Tai galima matyti ritmo ženklų žymėjime ir dažname linijų sistemos vartojime, be to, išliko ir įsitvirtino būtent tie tabulatūrinio rašto metodai, kurie buvo mažiausiai nutolę nuo Renesanso vokalinio daugiabalsiškumo notacijos.

Drafts, Borrowed Materials and the Myth of the "Infallibility" of the Composer: Reconstructing the Compositional Process of *The Rite of Spring*

Stravinsky's sketchbook of *The Rite of Spring* is a stunning document that not only reveals the genesis of this crucial work of 20th century music, but also poses new questions on how borrowed melodies can help the compositional process and on the reasons behind the absence of discarded drafts during its composition.

Although a number of scholars have scrutinized the manuscript and discussed the folk music origin of several melodies of *The Rite*, they have all assumed a certain "infallibility" of the composer when facing the fact that only two bars were discarded from the 139 pages of the sketchbook. The following paper proposes a reconstruction of the compositional process of one dance in the ballet.

Reconstructing Stravinsky's Use of the Sketchbook of *The Rite of Spring*

In a visit to Stravinsky's house in the late 1960's, Elliott Carter talked to the Russian master until he finally mustered up "the courage to ask him how he composed: He took me to his work room, and showed me a large book of blank pages onto which short fragments of musical sketches, roughly torn out of larger sketch-pages, had been pasted [...] He proceeded to explain how he chose fragments from his sketches, tore them out, shuffled them in different orders until he found one that satisfied him, and then pasted them down [...] Naturally, he explained that all the fragments were derived from one chosen piece of material" (Carter 1971, 2–3).

This compositional process, so graphically exposed by Carter, explains common characteristics found in Stravinsky's works after *The Rite of Spring*, such as the great diversity and abundance of materials, cross-cutting techniques and the unpredictability of his works¹. The following paper analyses the sketchbook of *The Rite* in order to understand both the genesis of this masterpiece and reconstruct Stravinsky's compositional practice. This reconstruction is based on a comparative analysis of three different types of texts associated to the work: the borrowed materials, the drafts and the final score. Figure 1 shows all the texts related to the score: the sketchbook, piano 4-hand score, original orchestral score and revisions.

Figure 1. Sketches and versions of *The Rite of Spring*

- | |
|---|
| <ul style="list-style-type: none">- Sketchbook (1911-1913) (published in 1969)<ul style="list-style-type: none">- Borrowed Materials (folk music)- Drafts:<ul style="list-style-type: none">- Short Drafts of Materials, Motives, Other annotations...- Continuity Draft (in 4 staves): music building blocks, short score- Orchestral Annotations and Orchestral Drafts- Piano 4-Hand Score for Nijinsky's choreography (1913)- Final Score for Premiere (1913), published in 1921- Revisions of the Final Score: 1921, 1943, 1947, 1965² |
|---|

The Sketchbook of *The Rite of Spring*

The sketchbook of *The Rite* was lost after the completion of the ballet but fortunately was found again in the 1960's and published in 1969. Since then, it has been analysed by scholars such as Robert Craft, Roger Smalley, Allen Forte, Van den Toorn, and Arnold Whithall. Lawrence Morton and Richard Taruskin have analysed the origin of the folk melodies that have been mostly neglected by Stravinsky³. Yet, interestingly the folk melodies were a useful resource for the development of the ballet.

As a result of the study of the sketchbook an analytical controversy sprouted: it seemed to Taruskin that the formalistic approach, especially by Forte, did not convey the real meaning of *The Rite* as a ceremonial piece where Stravinsky makes deliberate use of Russian and Lithuanian folk repertoire related to the content of the ballet (Taruskin 1980, 508, 510). Taruskin, therefore, considers in his analysis the modal implications of the use of this repertoire and criticizes Forte (Taruskin 1986, 317), who ignores its use and instead proposes an analysis that is in essence atonal (Forte 1978, 28); for Van der Toorn, *The Rite* is essentially octatonic (Toorn 1977, 61); for Dmitri Tymoczko, this latter interpretation hinders "real musical understanding" (Tymoczko 2003, 185–86) and this author proposes the notion of "polytonality" (Tymoczko 2003, 186). The analytical controversy is still unresolved: if, on one side, the findings of Taruskin and Morton gave a new insight on the ballet and its content; on the other hand, a formalistic analysis of the work was defended by Stravinsky throughout his life, clearly interested in projecting an image of modernity of the piece, far from any tradition, and hiding therefore, his folklore borrowings⁴.

It seems to me that in this controversy, music analysis on the one hand, and the meaning of music on the other have been the major topics of discussion, whereas the compositional process followed in the sketchbook has been secondary. The following paper tries to fill this gap in a particular case, proposing a reconstruction of the compositional process of the first dance composed for the ballet, *Les Augures Printaniers* or *Dances des Adolescents*.

The Sketches of the 1st Dance of *The Rite of Spring*

The first notation of the sketchbook of *The Rite* (page 3) presents several motives and a short draft of the 1st dance of the ballet, *Les Augures Printaniers* or *Dances des Adolescents* (Figure 2).

Figure 2. Page 3 of the Sketchbook of *The Rite of Spring* (Stravinsky/Craft 1969)

The image displays six distinct handwritten musical motifs from a sketchbook. Motif 4 is a two-staff fragment with rhythmic notation. Motif 3 is a two-staff fragment featuring a long, sweeping melodic line. Motif 6 is a piano accompaniment sketch with dense chordal textures. Motif 10 is a two-staff fragment with complex rhythmic patterns and some handwritten annotations. Motif 1 and Motif 8 are two-staff fragments, with Motif 8 showing a dense, vertical texture of notes.

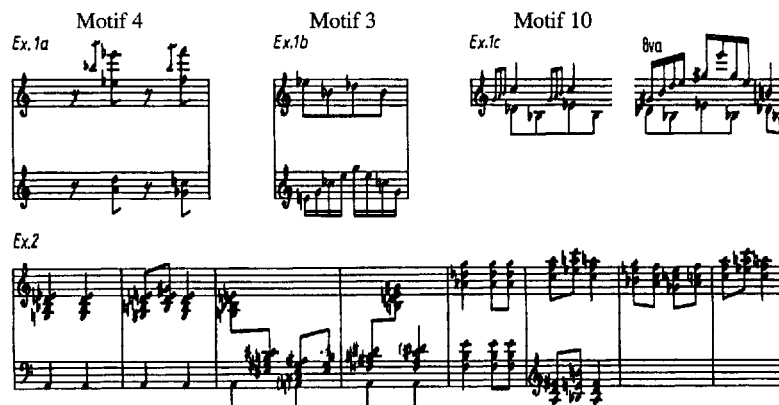
Material 9 (derived from the Juskiewicz Collection of Lithuanian Folk Music, 1900)

This section contains four handwritten musical sketches. The first is a single-staff line of rhythmic notation with various note values and rests. Below it is the word "Draft" centered. The next sketch is labeled "Motif 2 / Chord Ostinato" and shows a two-staff fragment with repeated chordal figures. The final sketch is labeled "Motif 3" and is a two-staff fragment with a melodic line and accompaniment.



However, this is not the first notation of the ballet: in 1978, after the death of Stravinsky, Robert Craft found a new sketch that seems to have been written before; this latter sketch (Figure 3) consists of one loose sheet of paper and is complementary to the first page of the sketchbook.

Figure 3. Stravinsky's First Notation of *The Rite of Spring* (Stravinsky/Craft 1978, 597)



This is the only case found to date in which there exist two different sketches of a dance in *The Rite*. The purpose of the following discussion is to confront both documents and commentaries by the composer on his sketches in order to understand the compositional process followed.

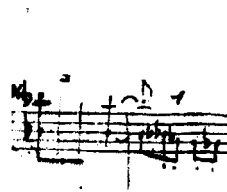
Stravinsky stated that the ostinato of chords in Figure 2 was his first notation of the ballet and was completed in September 1911 (Stravinsky/Craft 1969, 4). However, in a conversation with Robert Craft over 50 years after finishing the work, the composer agreed that it was likely that the motives at the top of the page could have been composed before and finally crystallized in the kernel chord of the ballet (Stravinsky/Craft 1969, 4). Since this ostinato of chords is not present in the 1978 sketch in Figure 3, this latter possibility is the more likely, what implies that the chord was conceived as a verticalization of the melodic pitches above, or, in other words, the harmonic dissonance is the result of the superposition of layers.

The initial compositional process of the dance, as in the rest of the sketchbook, follows a clear pattern: after annotating a large number of short motives on top of the page, Stravinsky composes a continuity draft that is usually very close to the final version of the piece. However, the prior stages of the creation of the motives and the elaboration of the draft are unfortunately omitted in the sketchbook. Stravinsky used to compose at the piano and improvise on the materials for a long time before writing down his findings. The different motives seem to be put together as found objects with apparently no connection. It is only later, in the draft below, that they interact with each other and find their place in the piece. The arrangement of materials on the page does not usually follow the order used in the score; there is a mosaic-like quality already present in the

creative process. In Figure 2, I have assigned different numbers to each of these materials according to the order in which they appear in the dance. The order on top of the page is therefore very different from the draft or the score: 4–3–6–10–1–8–9–2.

Taking a close look at material 9 in the middle of the page, we can identify a part of a melody which, as Lawrence Morton noticed (Morton 1979, 15), is clearly related to No. 787 from the Juskiewicz collection of Lithuanian folk music (Juskiewicz, 1900). The melody here differs in meter and character from the original source. It is also a reduced version of it. This is a constant behaviour in *The Rite* that uses borrowed melodies as primary materials to be transformed and manipulated under new rhythmic and pitch procedures. There are other motives that are omitted on top of the page and appear only in the continuity draft below. This is the case of motives 5 and 7 at the bottom.

Motif 5



Motif 7



The absence of these motives at the top of the manuscript can only be justified by its close relationship to some of the motives above: motif 5 is a chromatic version of the beginning of the borrowed melody. Motif 7 is an embellished version of this melody in its diatonic version. Stravinsky did not bother to notate these latter motives probably because of their close relationship with the ones already written.

From the above discussion it seems that the motives on top of the page are considered by the composer to be the essential materials used to compose the 1st part of the dance. This layout is common in the sketchbook. After analysing the sketchbook, Roger Smalley writes: "A general pattern of working can be deduced from the sketches. Periodically an explosion of creative energy would give birth to the nucleus of a movement, or often several movements at once [...]. These nuclei are usually only one or two bars long but are usually complete in every dimension [...]. These initial ideas, often do not occur at the beginning of the movement" (Smalley 1970, 4).

Robert Craft comments: "The compositional process exposed in these sketches is often akin to Debussy in the development of harmonic and intervallic cells from small units to unity" (Craft 1966, 21).

Absence of Discarded Materials in the Sketchbook

Stravinsky's compositional method seems, therefore, quite straightforward. There is, however, a point to be considered: we should expect this compositional process to leave much material discarded or, at least, modified in the process. This is not the case in *The Rite*: "Only a couple of bars from all these pages (139) did not eventually find a place, in one form or another, in the finished work" (Smalley 1970, 4). Roger Smalley justifies this fact in two ways. First he appeals to the myth of the great composer: "Stravinsky's inspiration was so powerful that nothing he invented would be irrelevant to the work" (Smalley 1970, 4). The scholar also poses a reasonable hypothesis: "these sketches are emphatically not the record of a search for ideas, but of the search for the essence of each idea" (Smalley 1970, 4).

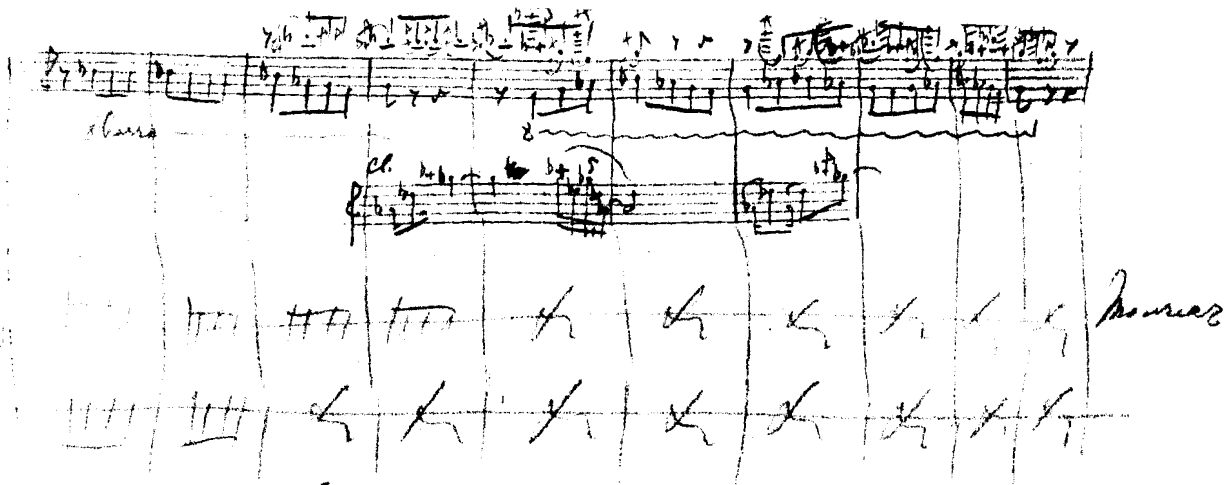
For Richard Taruskin the reason of this "seeming infallibility in judging when he [Stravinsky] had enough material" (Taruskin 1980, 509) lies in two facts: firstly, the well known compositional practice of the composer at the piano, "the real development of material took place empirically at the keyboard and by the time an idea was entered in the sketch, it had already gone through many unrecorded stages" (Taruskin 1980, 509), and, secondly, on Stravinsky's skills as a composer: "Stravinsky entered nothing into the book until he had a very good idea of how he was going to use it" (Taruskin 1980, 515).

The above analysis by Taruskin and Smalley does not in my view address properly the absence of discarded materials. Indeed, discarded materials were common in Stravinsky's compositional

practice at that time. In a recent study on the sketches of two other works from the same period of *The Rite of Spring*, *Ragtime* and *Pribaoutki*, Tomi Mäkelä writes: "Throughout these sketches, the short score dominates as a vehicle for the composer's evolving musical thought [...]. As the creative process continued, Stravinsky produced a significant number of isolated building-blocks which were then inserted into previously composed material. Many of these elements would never be used in this composition" (Mäkelä 2004, 138).

The compositional method followed in *The Rite* is similar to the one in these works: the short score, or draft, is used to create a music context in which the music materials evolve. These drafts are often isolated and become building blocks that will later find their place in a dance. The hypothesis of the existence of other discarded sketches and drafts, presumably lost after the completion of the ballet, is quite probable. It is worth mentioning that all the sketches of the Introduction to the 1st Part and those of the full orchestra score were lost; on the other hand, we know that the sketchbook originally had 168 pages and only 139 of it remain (Smalley 1970, 2–3), – the missing pages were detached possibly with discarded sketches as the one that Robert Craft found in 1978. This is a hypothesis that we should keep in mind although it cannot be corroborated unless new sketches are found.

However, on a more detailed level, *The Rite* has also discarded materials as is the case of motif 1 of the sketchbook. This motif never appears as such in the dance but it was "recycled" afterwards, coming 5 months later in the compositional process as the final chord in the Introduction. This "recycling" strategy of discarded materials occurs again later in the dance with a clarinet motif that is confronted against the Lithuanian melody on page 5 of the sketchbook. This motif was also used in the Introduction, creating an interesting cross-reference as occurs in many other cases in the ballet.



Page 7 of the sketchbook is also interesting for the numerous entries of borrowed materials, among them the Khorovod tune used by Rimsky Korsakov in his *Sinfonietta* (also part of Rimsky-Korsakov's *Folk Tunes Collection* of 1877). On this page Craft says: "this page is one of the richest in the collection: there are seeds of no fewer than five movements" (Stravinsky/Craft 1969). Moreover, after analysing the sketchbook Smalley comments: "Another remarkable feature of these sketches is the way in which they show the germinal idea of a future movement abruptly surfacing in a totally different context" (Smalley 1970, 4).

These two statements reinforce the thesis that materials were often discarded for future use, something that is always possible for the open nature of the motives and their brevity. The sketchbook is then used not only as a place to write down ideas and try out options, but also as a means to record material that might be used in the future.

In order to reconstruct the creative unfolding of the piece there are some facts related to the manuscript that should be examined:

- Firstly, Stravinsky's handwriting in the sketchbook is always neat and there is very little crossing out and few corrections throughout all the pages, which supports the hypothesis of the existence of other sketches or drafts used as a first record of ideas.
- Secondly, all the pages are fully notated and throughout the book there is scarcely any gap for a new stave. These staves were hand-made by Stravinsky with an instrument designed by him for drawing the stave-lines (Schönberger/Hamburg 1982, 9). This invention was quite precise, as all the stave lines are identical, and allowed the composer to adjust the length of each stave when needed. This is an apparent insignificant detail but only in appearance as it allowed Stravinsky to add new materials whenever needed as occurs in the clear insert of orchestration on the right side of Figure 1. The fact that all the pages are over saturated with annotations, suggests the possibility that some materials might have been added to this nuclei of motives ad hoc, or in other words, in the course of the composition.

There is another key that we can only understand after a close examination of page 3 of the sketchbook: all the motives seem to fit perfectly in the designated area, the number of staves on one side, and their length on the other, exactly match the motif. Since the stave lines were done ad hoc in each case, this is only possible if Stravinsky knew beforehand what he wanted to annotate, which reinforces the hypothesis of other sketches or the possibility pointed by Taruskin that "nothing was written down in the book without careful consideration" (Taruskin 1980, 515).

Comparison of the Sketches of the 1st Dance

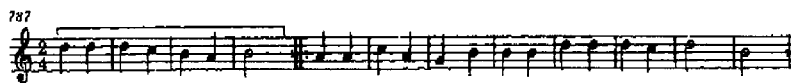
It is clear from the previous discussion that all the notated motives in the sketchbook are part of a planned composition, perhaps not in a definite version but in a rather advanced stage of thought. In Figure 2, the motives on top of the page are hardly modified in the continuity draft below: motif 4 is transposed a second up in the draft (with an 8^{ve} sign added), motif 3 is slightly altered by reversing the order of its beats, creating the famous ostinato. Finally, the melody in the middle (material 9) is transposed 2 octaves below and written in quavers. All the others are not altered. However, it should be noted that the folk melody, that plays such an important role in the dance, is not used in the sketch that Craft introduced in 1978 as the first notation of *The Rite* (Figure 3). This latter sketch consists of one loose sheet of paper that is complementary to the 1st page of the sketchbook and was later discarded. The layout of both sketches is similar: the motives appear on the upper part of the page, and this is followed by a draft. The most significant difference between both documents is the absence of material 9. Motives 4, 3, and 10 are already present in this 1978 sketch, but are not used in the draft below. This draft represents an attempt to make the kernel chord evolve via sequences and is based on the 2nd part of the Lithuanian song. The passage can be analysed in 3 different ways:

1. The borrowed melody is harmonized with a dominant seventh chord that moves in parallel motion following the melody (with some variations from m. 5) against a pedal note.
2. The octatonic sonority is present throughout in 5–6 note aggregates (analysis following Toorn).
3. The motif related to the Lithuanian song is developed in sequences that follow the main notes of motives 1a, 1b, and 1c on top of the page (see circled notes in fig. 4). This is quite remarkable because shows clearly how Stravinsky manipulates the borrowed melody in order to relate his different materials.

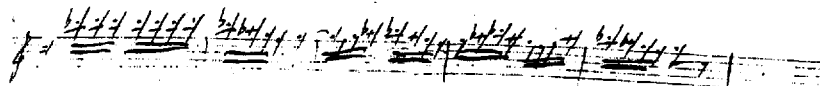
The compositional process in this case is clear: on top of the page we can follow the evolution of the motives. The structure of the draft is, as in many other cases in the sketchbook, based on the alternation of fixed and mobile elements. It seems that Stravinsky could not go far in this sketch by making a chord evolve and decided to introduce the 1st part of the borrowed melody in the sketchbook (material 9). The continuity draft of the sketchbook then tries out a different idea: the chord now remains fixed and is juxtaposed to different motives based on the melody. In other words, it is the first part of the melody that evolves and not the chord, remaining as a fixed object throughout the dance. This change of view has large implications in the whole ballet, as this chord is a key element of *The Rite*.

Figure 4. The original Lithuanian song and its derivations in the sketches

Original Song: No. 787 from the Juskiewicz Collection of Lithuanian Folk Music, 1900
(here taken from Morton 1979, 15)



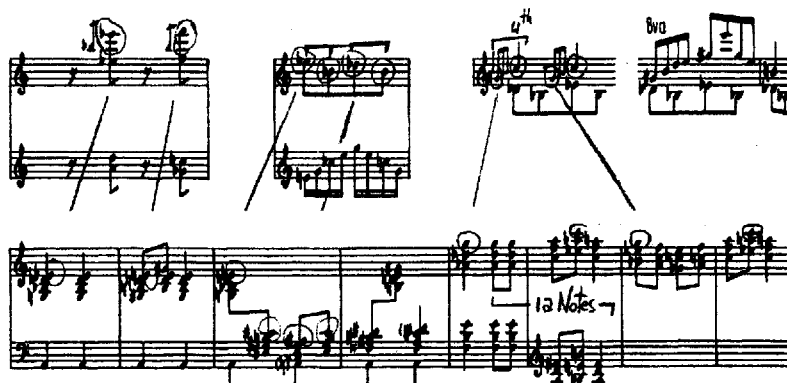
Material 9 of the sketchbook (melody derived from the 1st part of the Song)



Initial motif of the 2nd part of the Song, elaborated in the draft below (1978 sketch)



Analysis of the 1978 Sketch (Stravinsky/Craft 1978, 597)



The previous comparison of sketches also shows perfectly the way Stravinsky uses the borrowed melodies: once the composer decides on the type of harmony or motives on top of the page, he starts introducing transformations on fragments of the melody in order to accomplish certain compositional requirements, following an ideal clearly exposed in his *Poetics of Music*:

"My freedom will be so much the greater and more meaningful the more narrowly I limit my field of action and the more I surround myself with obstacles. Whatever diminishes constraint diminishes strength. The more constraints one imposes, the more one frees one's self of the chains that shackle the spirit." (Stravinsky 1977, 65)

Morton had already noticed the relationship between the melody in the sketchbook and the beginning of the Lithuanian song (Morton 1979, 15). However, the appearance of the second part of the melody in the 1978 sketch confirms that this folklore melody was definitively used in the composition and, therefore, the introduction of borrowed materials was intended from the very first draft in *The Rite*. It also provides a clear example of the kinds of transformations to which the melodies were exposed to; something that throughout the sketchbook rarely happens⁵.

Comparing Stravinsky's use of folk tunes in *The Rite* with his previous ballets, *The Firebird* (1910) and *Petrushka* (1911), it appears that the composer takes a step forward in *The Rite* in terms of transformation of the melodies and as a result the original folk influence is diluted. In this respect, Taruskin writes: "The melodies [...] are absorbed into Stravinsky's musical fabric to such an extent that without the sketchbook their presence could never be suspected" (Taruskin 1980, 512). On the other hand, the borrowed melodies helped the composer develop a compositional process that seems quite successful since most of the drafts in the sketchbook are never far from the final score.

Reconstruction of the Compositional Process of the 1st Dance of *The Rite*

Given all this exploration, this section will now try to reconstruct the compositional process followed by Stravinsky in this 1st dance. In order to carry out this task, some analysis is needed:

Motif 4, the first annotation on the book, is based on a harmonic skeleton of augmented 4^{ths} and augmented 8^{ves}, or double chromatic polarization that is a key harmony in the ballet (Deliège 1988, 87–88). An analysis of motives 3, 6, and 10 of the sketchbook puzzles us with the first question: why are these three similar motives annotated on top of the page when it seems that Stravinsky reserved this area for the apparently strictly necessary? A plausible answer is that the motives represent different stages in the dance. Motif 3 is closely related to the kernel chord, motif 2, except in a couple of notes, G and C that are part of a C Major chord. The motif is presented as a melodic version of the kernel chord and also creates an ostinato. Motif 6 is a derivation of motif 3 although here the C major *arpeggio* is not confronted with E minor. Finally motif 10 is the longest version of these motives, although here C major seems to dominate whereas the final E dominant chord reappears just at the end, making us recall the original kernel chord.

In the score, the three motives follow each other successively, after interruptions of the melodic line. They represent three stages in the evolution of the original motif and in the harmonic development, with a clear beginning and ending in E and a middle part in C. The Eb dominant chord superimposed to all these motives as a fixed object is carried throughout with no alteration creating a pedal sonority. However, directionality is avoided by the association of these motives to building blocks that are juxtaposed to other elements in the form. The overall result is not sequential and gives the music a special quality, often associated with Stravinsky.

On the other hand, the Lithuanian melody is treated in a different way: it is not the beginning but the end of a process again in three stages. The 1st version of the melody, motif 5, is chromatic and is introduced in the continuity draft. It has the same length and contour as the original melody. Motif 7, below, is diatonic and just introduces the beginning motif of the melody on C. After that the borrowed melody is presented in the score.

The 1st part of the dance is organized in three building blocks: the kernel chord (a) is fixed throughout and is juxtaposed to its melodic version as an *arpeggio* (b). These *arpeggios* also create an ostinato that varies each time so that there is evolution through time. This type of structure became a constant in Stravinsky after *The Rite*.

Edward T. Cone in his analysis of Stravinsky's Symphonies of Wind Instruments (1920) points out: "From *Le Sacre de Printemps* onward, Stravinsky's textures have been subject to sudden breaks affecting almost every musical dimension [...]. To take the simplest possible case, consider two ideas presented in alternation: A-1, B-1, A-2, B-2, A-3, B-3. Now one musical line will run through A-1, A-2, A-3: another will correspondingly unite the appearances of B. Although heard in alternation, each line continues to exert its influence even when silent. As a result, the effect is analogous to that of polyphonic strands of melody: the successive time-segments are as if were counterpointed one against the other" (Cone 1962, 18–19).

Conclusion

Elaboration and inspiration are often discussed by Stravinsky in his Poetics of Music as part of the creative process (Stravinsky 1977)⁶.

As we have seen, the motives apparently improvised at the piano are written down after careful consideration of their potentials and relationships with other materials. In the course of the composition, however, some motives might be added, called upon in another context or finally discarded. In the last case, they will be "recycled" afterwards in order to economize means and create cross-references between dances throughout the ballet, which is possible for the open nature of the motives and their brevity. This highly praised use of cross-references in *The Rite* is the result of an open attitude to the materials once they have been conceived to match certain characteristics.

Openness also has its place in the elaboration of the materials by the creation of building blocks as a recurrent way of starting a composition. These blocks can be shortened or lengthened at any time and provide the motives with a context for elaboration. During the course of the composition, these building blocks might change place or disappear. The final form is simply the addition of all these components.

This attitude to creating additive forms based on both building blocks and carefully designed materials is, in a way, a compromise between openness and strict elaboration. Stravinsky's compositional process in *The Rite* "springs" from this compromise: the motives are very general so that they can adapt to different situations, change place or even context. On the other side, they are strongly interrelated so that elaboration takes place in order to achieve their potentialities. This elaboration is organized in blocks that individually have a purpose in the final form but are subjected to the same operations as the motives: additions, change of place, or rejection. Figure 5 summarizes the compositional process of this dance.

Figure 5. Composition Process of the Dance

- | |
|--|
| <p>1.- Careful annotation of motives when needed. Motives inspired in Folk Music, or composed</p> <ul style="list-style-type: none"> - Short and general motives that can adapt to different contexts <p>2.- Open attitude to Composition:</p> <ul style="list-style-type: none"> - Motives used either for its original purpose; set in a new context; 'recycled' in a different dance or finally discarded. <ul style="list-style-type: none"> • As a consequence, Cross-reference between dances <p>3.- Elaboration of Materials:</p> <ul style="list-style-type: none"> - Creation of building blocks as a recurrent way of starting a composition and provide motives with a context. <ul style="list-style-type: none"> - Blocks can be shortened or lengthened - Blocks might change place in the piece, mosaic-like quality - Blocks might be finally discarded • As a result: Additive Form, addition of all these components |
|--|

Coda

In this essay I have tried to address some issues related to Stravinsky's compositional methods in *The Rite of Spring*, in particular the myth of the "infallibility" of the composer in relationship to the absence of discarded materials, the order in which the materials took shape or the way in which the introduction of borrowed melodies helped him in his compositional process. Surprisingly enough a reconstruction like the one developed here has not been tried before. The focus on the ballet has been mainly analytical or "interdisciplinary".

The 1st dance of the ballet is the only one in which there are two different sketches of the same music to compare. The 1978 sketch, although later discarded by Stravinsky, confirms the use of folklore melodies in *The Rite*, providing at the same time a clear example of the kinds of transformations to which the melodies were exposed to.

There is still plenty to do on this subject, perhaps not in *The Rite* due to the lack of sketches to confront, but in other ballets of the period. This reconstruction, however, has given some hints into some of Stravinsky's compositional methods and also established the use of the sketchbook as a way to demystify the creation of the work.

Finally, it is worth noticing that the study of sketches can help not only with the analysis of a work but also with understanding the complexities of its creation. In this way, the field can be a real tool for future composers who can learn, if not methodologies, then working attitudes and lines of thought. This is definitely a more interesting approach than simply the analysis of a finished piece, in which the jottings, cross outs or discarded materials are no longer there and all the creative problems have been solved.

Notes

¹ The sketches that Stravinsky showed to Carter belonged to *The Flood* (1962). However, the techniques that Carter describes as part of Stravinsky's creative process "may be found throughout Stravinsky's sketches during the fifty years before *The Flood*" (Shepard 1984, 722). The composition process was common in Stravinsky, as we can infer from the composer's analysis of the fugue of Orpheus (1947) in a session that Nicolas Nabokov attended (Nabokov 1951, 204) and from the analysis of Stravinsky's Symphonies of Wind Instruments (1920) by Cone (Cone 1962).

² See (Craft 1966, 22) and (Craft 1977, 2–8).

- ³ "The opening bassoon melody in *le Sacre* is the only folk melody in that work. It came from an anthology of Lithuanian music I found in Warsaw" (Stravinsky/Craft 1960, 98). Folk Music collections used by Stravinsky include the Juskiewicz collection of Lithuanian folk music and the Rimsky-Korsakov's Folk Tunes Collection of 1877 (Taruskin 1980, 510–511).
- ⁴ "Very little immediate tradition lies behind *Le Sacre du Printemps*. I had only my ear to help me. I heard and I wrote what I heard. I am the vessel through which *Le Sacre* passed." (Stravinsky and Craft, 1962: 147–8)
- ⁵ Taruskin after analysing the sketchbook comments: "We rarely can observe a true shaping process, save in a few instances (notably the Introduction to Part II)" (Taruskin 1980, 509).
- ⁶ Stravinsky says: "The study of the creative process is an extremely delicate one. In truth, it is impossible to observe the inner workings of this process from the outside. It is futile to try and follow its successive phases in someone else's work. It is likewise very difficult to observe one's self." (Stravinsky 1977, 68)

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Santrauka

Eskizai, skoliniai ir „neklystančio“ kompozitoriaus mitas. Eskizų naudojimas I. Stravinskio „Šventajame pavasaryje“

I. Stravinskio „Šventojo pavasario“ eskizų knygelė yra neįkainojamas dokumentas, ne tik atskleidžiantis šio kertinio XX a. kūrinio genezę, bet ir keliantis naujų klausimų apie tai, kaip pasiskolintos melodijos gali pasitarnauti kūrybiniam procesui, bei apie priežastis, nulėmusias kai kurių ten esančių eskizų atsisakymą galutiniame partitūros variante.

L. Mortonas, R. Smalley'us ir R. Taruskinas, kurie nuodugniai nagrinėjo kūrinį panaudotų melodijų liaudišką kilmę, pripažino, kad kompozitorius buvo visiškai teisingas, atmesdamas tiksliai du taktus iš 139 puslapių turinčios eskizų knygelės.

Siekiant demistifikuoti „Šventojo pavasario“ sukūrimą, šiame pranešime atkuriamas procesas, atskleidžiantis, kaip I. Stravinskis naudojo savo eskizus. Ši rekonstrukcija yra pagrįsta trijų tipų medžiagos – skolinių, eskizų ir galutinės partitūros – lyginamąja analize. Tokia analizė gali atskleisti daugiau nei galutinė partitūra, kurioje visi kūrybiniai klausimai jau yra išspręsti. Jei tikėtume paties kompozitoriaus išsakyta mintimi, kad „kūrybinis procesas man patinka labiau nei pati muzika“, tai tokia rekonstrukcija galėtų paaiškinti ne vieną jo kūrybinį sprendimą ir mes galėtume suvokti tikrąją jo kūrybos motyvą.

Understanding the Limping Meters: from Brass Band to Ligeti

It is a matter of learning that there exists a categorical distinction between simple meters like 2/4, which do specify a number of counting units in a measure – two beats, each expressed as a quarter note – and compound meters, like 6/8 (also a duple meter), that do not. A time signature of 6/8 usually does not represent a six-beat measure, rather it expresses a type of subdivision of the main beat (that is, two beats are each divided into three pulse units, rather than two). Beat hierarchy in these two different types of duple meters is summarized in Example 1.

Misunderstanding of the notation and reading of beat patterns in compound and composite meters is frequent. This paper is devoted to the interpretation of beat-groups in meters that shun predictable metric environments and the extension of principles applied to compound meters into the realm of composite metric patterns.

I will refer to the beat hierarchy of composite meters on five beat levels; see Example 2.¹ The main counting unit is identified as *Tactus*, avoiding the more general term beat. The grouping of counting units into a higher-level beat is designated as *Supra-Tactus*, which can, but does not have to correspond to a notated bar. The subdivision of *tactus* is termed *Pulse*, while the subdivision of pulse is a *Sub-Pulse* unit. In the presence of multiple beat levels, either can potentially represent the *chronos protos* level, which represents the smallest common denominator between metric units.²

The highest level of the beat hierarchy is indicated as a *meta-measure*. This level of beat hierarchy pertains to repertoire based on composite meters since meta-measures organize beats and beat groups into middleground periodicities that avoid traditional metric interpretations.

I define meta-measures as recursive composite metric patterns that can be represented with a composite time signature. My last example, drawn from György Ligeti's *Capriccio No. 2* (1947), will extend the discussion of beat patterns of compound meters into composite metric patterns and demonstrate how *meta-measures* can represent a significant structural force in twentieth-century metric music.

Returning to the *tactus*-beat patterns (Example 3), note that meters of 3/4 and 6/8 are frequently equated from the bottom up since each metric unit contains the same number of pulses. This represents a *quantitative* approach to beat patterns. However, the two are not metrically equivalent top-down, since 3/4 implies triple meter and 6/8 implies duple meter. These two meters are *qualitatively* different.

Understanding the beat hierarchy in compound meters facilitates the analysis and interpretation of less traditional time signatures such as those involving prime numbers, like 5/8 and 7/8. Since the time signature of 6/8 requires that we look for a beat level higher than the one specified in the denominator (a beat longer than an eighth note), the same course can be applied to the 7/8 meter.

How many beats are there in a bar of 7/8 and of what kind? Unlike the pulse units (eighth notes) the beats customarily are not of the same duration, since seven can not be evenly divided by either two or three. Most often, in a measure of 7/8 we will find three non-isochronous *tactus* beats, two equivalent to a quarter note and one longer beat, equivalent to a dotted quarter note.³

Example 1. Beat hierarchy in two different duple meters

Time signature	2/4	6/8
Supra-tactus	♩	♩.
Tactus beats	♩ ♩	♩. ♩.
Pulses	♩♩♩ ♩♩♩	♩♩♩ ♩♩♩

Example 2. Five levels of beat hierarchy for composite metric patterns

5. Meta-Measure
4. Supra-Tactus
3. Tactus (main counting unit)
2. Pulse
1. Sub-Pulse

Example 3. The same number of pulses does not signify the same number of *tactus* beats

Time signature	3/4	6/8
Supra-tactus	♩.	♩.
Tactus beats	♩ ♩ ♩	♩. ♩.
Pulses	♩♩♩ ♩♩♩	♩♩♩ ♩♩♩

Meters that contain beats of different length, comprising two and three isochronous pulse units are also known as *aksak* meters.⁴ Aksak is a Turkish word for limping, lopsided, or even lame. In one of ethnomusicologist Simha Arom's recent classification, aksak meters fall into three categories:

a) in authentic aksak meters the number of pulsations is a prime number, as in a three-beat 7/8 meter, since 7 is a prime number;

b) in *quasi*-aksak meters the number of pulsations is an odd, but not a prime number, as in a four-beat meter notated with 9/8; and

c) *pseudo*-aksak meters have an even number of pulsation – such as 8/8 divided comprising three beats, as is the case in *tresillo* and *clave* beat patterns.⁵

Musical examples in this paper will illustrate each of Arom's three categories. In authentic aksak meters, tactus beats are non-isochronous, since prime numbers can not be evenly divided by two or three. Additionally aksak meters, such as a notated 7/8 comprising three tactus beats, are exemplified by multiple distinct types of beat patterns depending on the placement of the longer beat in relation to shorter beats. This variation bestows the rhythmic foreground with potential for additional variety; there are three 7/8 variants in Example 4.⁶

Example 4. Three distinct types of 7/8 bars with a different long-beat placement

- a) < ♩ . ♩ ♩ >
< L, S, S >
- b) < ♩ ♩ . ♩ >
< S, L, S >
- c) < ♩ ♩ ♩ . >
< S, S, L > *L = long beat & S = short beat

In *quasi*-aksak and *pseudo*-aksak meters the sum of pulse units, like 9/8 or 8/8, can also represent isochronous beats, four and three respectively. Many of the folk dances in quasi- and pseudo-aksak meters juxtapose isochronous and non-isochronous variants of possible series of tactus beats.

A *Čoček* dance from Serbia is based on this type of metric juxtaposition. Example 5a contains a transcription of the introduction.⁷ In the first three bars of the introduction the 9/8 is first heard as a three-beat meter, followed by one bar of four-beat meter. In the song itself, the four-beat meter is predominant (Example 5b), but it occasionally switches into the triple meter (Example 5c).⁸

Example 5a. Serbian *Čoček* Dance: three- and four-beat 9/8 meter in the introduction

The musical score for Example 5a consists of three staves: Trumpet in Bb, Snare Drum, and Bass Drum. The time signature is 9/8. Above the first three bars, a bracket labeled 'tactus beats: 1 2 3' spans the first three measures. Below the first three bars, a bracket labeled 'tactus or syncopation? 1 2 3*4' spans the same three measures. The Snare Drum and Bass Drum parts show a pattern of pulses: two pulses of 2/8, followed by two pulses of 2/8, and finally one pulse of 3/8, totaling 9/8. The Snare Drum part has a '2+2+2+3' label above the last measure, and the Bass Drum part has a '2+2+2+3' label above the last measure.

Example 5b. Serbian *Čoček* Dance: four-beat aksak meter

The musical score for Example 5b consists of two staves of music in 9/8 time. The first staff has a treble clef and a key signature of two flats. The second staff has a bass clef and a key signature of two flats. The music is in a 9/8 time signature and features a four-beat aksak meter.

Example 5c. Serbian *Čoček* Dance: alternating three- and four-beat meter

The brass band example exemplifies a *pseudo-aksak* meter, notated in 9/8 with one longer beat; here, consistently the last in the group of four. Similar examples are also frequently encountered in the music of Bela Bartók who often draws on the folk traditions of the extended Balkan region. One of the Bulgarian Dances from *Microkosmos* is very similar to the brass band example in its treatment a four-beat meter with one longer beat; see Example 6. The last beat in each bar is consistently the long one – each is circled in the example. The time signature is expressed as a composite of <2+2+2+3> eighth notes, for a total of nine, reflecting Bartók's understanding of a bar comprising four non-isochronous tactus beats.

Example 6. B. Bartók, *Microkosmos* No. 152: a four-beat, *quasi-aksak* 9/8 meter

Allegro molto, $\text{♩} = 40$

Tactus beats: ↗

Another four-beat pattern with one longer beat, represented with a composite time signature of <5/8, 4/8>, is the metric foundation for Ruth Crawford's Prelude No. 6 from 1941; see Example 7. There are three distinct textural layers in the prelude: a) an *ostinato* in the uppermost part that contains mostly contiguous eighth notes, b) a sustained chordal bass that is always arpeggiated, and c) a mid-range line that gradually assumes a melodic character.

The first beat of the composite metric pattern is also the long beat in the overall group of four (circled in Ex. 7). The longer duration of the downbeat lends it greater metric weight, which is subsequently reinforced by the *arpeggio* that leads into it. The *arpeggios* that terminate on the downbeat, rather than just before it, are boxed in the example and the arrows point to the "strong" beats they precede.

The composite metric pattern is always followed by a spin-off in <4/8, 4/8> where the middle layer becomes more active than during the <5/8, 4/8> pattern. Otherwise, the two patterns are comparable, since both represent groups of four beats and are both preceded by the arpeggiated bass.

The metric elongation of the first beat in Crawford's Prelude works well with the natural elongation that takes place in the presence of widely-spaced broken chords in the bass line. When the chords are spaced particularly broadly in the 4/8 + 4/8 meter, as in bar 8 (the last bar in Ex. 7), the *ostinato* line

Example 7. Crawford, *Prelude*: 9/8 and 8/8 as two four-beat variants (notated as composite metric patterns)

The image shows three systems of musical notation for a piano piece. Above the first system, the word 'Tactus:' is followed by three groups of four beats, each group enclosed in a bracket and numbered 1, 2, 3, 4. The music is written on two staves (treble and bass clef) with various notes, rests, and dynamic markings such as 'pp' and 'mf'. The notation is complex, with many beamed notes and slurs. The first system is followed by two more systems of similar notation, each with its own set of bracketed 'Tactus' groups.

starts with a rest. While the reason for this may be primarily technical, that is the pianist's right hand is occupied by the *arpeggio*, the effect is also of an elongation and emphasis on the downbeat, now provided by the middle layer.

The notation of $4/8 + 4/8$ is clearly meant as a parallel to the $5/8 + 4/8$ composite meter, even though it was possible to sign the former as either $8/8$ or $4/4$. Crawford is probably considering $\langle 5/8, 4/8 \rangle$ as a variant of $4/4$ with an elongated first beat. The consistency in her notation emphasizes the kinship between the measures with isochronous and those with non-isochronous tactus beats (that is $4/8$ and $5/8$).

A similar metric pattern occurs in the second movement of Bartók's *Music for Strings Percussion and Celesta* (see Example 8), and is notated as a $\langle 2/4, 5/8 \rangle$ in a kind of a retrograde of Crawford's beat grouping. Bartók's pattern is built upon two duple measures, with one longer beat in the second measure.

Unlike Crawford, who notationally equates $4/8$ and $5/8$ meters from the bottom up, from the level of the eighth-note pulse, Bartók's notation suggests an understanding of the composite metric pattern $\langle 2/4, 5/8 \rangle$ as fundamentally of two duple meters, but without a notational equivalent that would allow consistent notation accounting for the tactus beats qualitatively, from the top down.

As was made evident in the brass band example, metric interpretation of tactus beats in compound meters, such as presented in the analysis of the $7/8$ and $9/8$ meters is a common feature in much folk music of the Balkan Peninsula. A traditional song from Serbia, arranged by a renowned Yugoslav composer Josip Slavenski (1896–1955) and reproduced in Example 9, is based on a $\langle 9/8, 8/8 \rangle$ metric pattern. This pattern is bracketed above the score and the time signature is circled each time it changes.⁹

Example 8. B. Bartók, *Music for Strings, II*: <2/4, 5/8> four-beat groups in bb. 266–70 ff

Tactus: 1 2 3 4* 1 2 3 *4 1 2 ... →

Example 9. A four-beat 9/8 meter in the Serbian folk song *Dilber Tuta*

Tactus: 1 2* 3 4 1 2 3 4 1 2* 3 4

Again, the time signature of 9/8 does not signify a triple meter. Rather, there are four beats in the 9/8 bar with the second beat longer than the other three. While the sixteenth notes in bars 7 and 9 elaborate the tactus in a way that may appear uncertain, bar 13 presents the tactus beats unambiguously. The dotted quarter-note tactus on the second beat is clearly the longer one in the group of four (marked with an asterisk). In the second metric unit (8/8 bars that follow) the last two beats are consistently syncopated, providing for an even greater variety in four-beat groups. *Dilber Tuta* song treats the <9/8, 8/8> metric pattern as a flexible cycle whereby the number of 8/8 bars in a composite meter varies from one to three. As a result, the sense of hypermetric groupings is lacking.

Each of my previous examples is based in a non-isochronous four-beat meter. While Crawford's Prelude and Bartók *Music for Strings* entail composite metric patterns that are equivalent to the notated 9/8 quasi-aksak meter in the Bulgarian dance from *Mikrokosmos*, the Serbian folk song *Dilber Tuta* contains the four-beat 9/8 meter as part of the composite time signature pattern. Periodicity of the <9/8, 8/8> composite metric pattern is varied by virtue of a different number of 8/8 units. Despite this variation, each phrase is characterized by the return to the non-isochronous beat complement of the 9/8 unit and represents a meta-measure pattern.

My next example explores the types of periodic entities composite meters, such the one from *Dilber Tuta*, engender. Ligeti's *Capriccio* No. 2 (1947) illustrates an aksak-like metric pattern that represents a recurring thematic element (Example 10). I will summarize the form of *Capriccio* via a graphic representation called the *time signature map*. Time signature map is a visual account of form from the standpoint of the underlying meta-measure structure. The map provides an overview of a work's temporal shaping in the formal middleground and points to structurally important or form-generating elements.

Example 10. Ligeti, *Capriccio*: beat duplication in the opening *meta-measures* (bb. 1–17)

The image shows a musical score for Ligeti's *Capriccio* No. 2, measures 1-17. The score is in 9/8 time and marked "Allegro robusto" with a tempo of 200. It features a complex, non-isochronous four-beat meter. The notation includes various rhythmic values, dynamic markings like "f" and "più f", and articulation marks. A large, stylized graphic element resembling a bird or a wing is positioned above the first system of music.

The time signature map of Ligeti's *Capriccio*, produced in Example 11, summarizes the sequence of bar lengths in the entire work (except the b section). In this map, repeated metric units are indicated successively within a meta-measure pattern and are separated by barlines.¹⁰ The map shows a repeating <5/8, 5/8, 7/8, 8/8> metric pattern, which exemplifies a meta-measure.¹¹

Example 11. Ligeti, *Capriccio*: an annotated *time signature map*

a1 $\langle \underset{8}{5} | \underset{8}{7} | \underset{8}{8} | \rangle \langle \underset{8}{5} | \underset{8}{7} | \underset{8}{8} | \rangle \underset{8}{5} | | | | \underset{8}{3} | \langle \underset{8}{5} | \underset{8}{5} | \underset{8}{2} | \underset{8}{8} | | | \rangle \langle \underset{8}{5} | \underset{8}{7} | \underset{8}{8} | \rangle$
 meta-measure meta-measure spin-off 'hidden' meta-measure ($5/8 + 2/8 = 7/8$)

a2 $\langle \underset{8}{5} | \underset{8}{7} | \underset{8}{8} | \rangle \langle \underset{8}{5} | | \underset{8}{7} | | \rangle \underset{8}{5} | \underset{8}{7} | \underset{8}{5} | | \underset{8}{4} | \underset{8}{5} | | \underset{8}{2} | \underset{8}{5} | |$
 meta-measure meta-measure without 8/8 spin-off

b map not provided

a1 $\langle \underset{8}{5} | \underset{8}{7} | \underset{8}{8} | \rangle \langle \underset{8}{5} | \underset{8}{7} | \underset{8}{8} | \rangle \underset{8}{5} | \underset{8}{7} | \underset{8}{5} | \underset{8}{8} | \underset{8}{5} | \underset{8}{3} | \underset{8}{8} |$ 5/8 [x7 bars]
 meta-measure 1 meta-measure 2 spin-off

Coda 5/8 [x15 bars]

In addition to the repeating meta-measures, the map also makes apparent the preponderance of 5/8 meter in the "spin-off" section, as well as the Coda. This emphasis on 5/8 meter points to another important rhythmic process unfolding in *Capriccio*.

The opening 5/8 motive is expanded in 7/8 with the repetition of the first figure – the first beat of 5/8 is *duplicated* in the 7/8 bar (see the score in Example 10). The term *duplication* refers to a process of pattern – variation: subsequent groups of any kind are based on the repetition of one or more constituent units of the basic group I call the *core pattern*. In this instance, the core pattern of the entire meta-measure and all its subsequent variations is the 5/8 aksak meter. Often, the core pattern is presented alone and this is the case in the *Capriccio* as well, particularly in the Coda and immediately preceding the Coda.

The 8/8 bar represents a spin-off on the second figure in 5/8, the one containing contiguous eighth notes, and it duplicates the long beat of the 5/8 bar. Meta-measure is stated twice before being subjected to further development of the initial 5/8 figure. Duplicated beats have an effect of a motivic prefix and are underlined in Example 12, which summarizes the beat pattern in the opening meta-measure.

Since the tempo marking indicates a very fast eighth-note pulse unit (MM = 200), it is reasonable to hear *tactus* at the next level up – that of a quarter and a dotted quarter note. This corresponds to the *tactus* pattern in my reduction (Ex. 12).

The main meta-measure pattern fairly closely resembles a dance in *aksak* meter – the beats are underscored by the left hand, with a quarter note (including the rest) corresponding to the short beat and a dotted quarter note (including the rest) to the long beat, while the right hand elaborates the off beats. The last bar in the pattern (8/8) has only one articulation in the bass, revealing its concluding role as a gesture of rhythmic cadence. The difference between meters in *Capriccio* and *aksak* meters previously surveyed is that the composite metric pattern in Ligeti's work comprises three different *aksak* meters: 5/8, 7/8, and a three-beat 8/8 meter.

Interestingly, the repetition of the meta-measure pattern undergoes a slight internal rearrangement; see Example 13.

Example 12. Ligeti, *Capriccio*: beat duplication in the opening *meta-measures*

$\langle \underline{\bullet} \underline{\bullet} \underline{\bullet} | \underline{\bullet} \underline{\bullet} \underline{\bullet} | \underline{\bullet} \underline{\bullet} \underline{\bullet} | \underline{\bullet} \underline{\bullet} \underline{\bullet} \rangle$

Example 13. Ligeti, *Capriccio*: internal rearrangement of the beat pattern in two *meta-measures*

MM1 $\langle \underline{\bullet} \underline{\bullet} \underline{\bullet} | \underline{\bullet} \underline{\bullet} \underline{\bullet} | \underline{\bullet} \underline{\bullet} \underline{\bullet} \rangle \rightarrow$

$\langle S, L \rangle SSL$

MM2 $\langle \underline{\bullet} \underline{\bullet} \underline{\bullet} | \underline{\bullet} \underline{\bullet} \underline{\bullet} | \underline{\bullet} \underline{\bullet} \underline{\bullet} \rangle$

$\langle L, S \rangle SLS$

The long beat, equivalent to a dotted quarter note, is no longer the last in each unit, rather it becomes the first beat in the second 5/8 bar and the middle beat in the 7/8 bar (marker "L" in the reduction in Ex. 13, as well as the score in Ex. 10). The longer beats, subject to this rearrangement or a shift forward in the sequence of beats, are underlined.

Internal variation between the two opening meta-measures allows for some flexibility and playfulness within a rather unyielding adherence to the meta-measure pattern in all the sections. However, regardless of this internal variation, the number of beats in each measure and the sequence of complete metric units remain unchanged.

The a2 section begins as a restatement of a1, but the pitches are repeated only in the first measure. Subsequent repetition is rhythmic and not melodic and it affirms our hearing of the composite metric pattern as the primary vehicle of structural coherence. In support of the thematic character espoused by the main meta-measure pattern, the 8/8 cadential bar is omitted in the second phrase of a2 as the process of liquidation and fragmentation intensifies in preparation for the further development taking place in the middle section, marked b in the time signature map.¹²

In this paper I investigated implicit reading and hearing of metric patterns whose time signatures do not specify the number of counting units, or tactus beats. Initially, the compound meters were seen to specify the number of pulse units, counting from the bottom up. Certain compound meters like 9/8 can also signify aksak meters, which contain beats of different length. I presented different examples of four-beat "9/8" meters in support of this claim – there were four different notational patterns for a four-beat group containing one beat longer than the other three.

Serbian folk song *Dilber Tuta*, based on a composite meter <9/8, 8/8> provided a transition into the analysis of beat groups in Ligeti's *Capriccio*, which was based on composite metric pattern of <5/8, 7/8, 8/8> that I termed a meta-measure.¹³ The analysis of Ligeti's *Capriccio* also completed the discussion of beat hierarchy on five levels, as it illustrated the concept of meta-measures.

In addition to the middleground stability provided for by the meta-measure patterns which comprise four notated bars, rhythmic motives in *Capriccio* are generated through the process of beat duplication in the foreground, with the main aksak meter of 5/8, spawning additional metric groups of 7/8 and 8/8. The combined effect of the two main rhythmic processes taking place in *Capriccio* projects a sense of continuity in the domain of rhythm that includes elements of structuring and variation both.

All of the notational variants explored in this paper stand as incomplete reflections of musical events they symbolize. This paper aimed to provide a small contribution towards a better understanding of challenges associated with our system of musical notation as well as our tendency to simplify rhythmic impulses *quantitatively* (like the bottom up models), rather than *qualitatively*.

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Notes

- ¹ While beat levels 1–4 in Example 2 apply to any instance of metric hierarchy, level 5 (meta-measure) is applicable only to composite metric patterns that cohere into formal units at the level of phrase.
² The term *chronos protos*, used here to identify the level of beat that is smallest common denominator between various metric units, was used by Aristoxenus in *Elements of Rhythm* and *Elements of Harmony*, 4th cent. B. C. The surviving work has been translated and edited by Andrew Barker in *Greek Musical Writings Vol. II: Harmonic and Acoustic Theory* (New York, Cambridge University Press, 1990): 119–208.
³ *Isochronous*, from Greek *iso-chronos* (same time), refers to evenly spaced events or beats.
⁴ For a recent discussion and classification of aksak meters see Simha Arom's "L'aksak: Principes et typologie", *Cahiers de Musiques Traditionnelles*, Vol. 17 (2004): 12–48. The earliest discussion of aksak meters is attributed to Constantin Brăiloiu; see "Le rythme aksak", *Revue de musicologie* 33 (1952): 71–108.
⁵ Latin *clave* patterns are based on two metric groups sometimes equivalent to 2 notated bars. One of these metric units is a non-isochronous *tresillo* pattern, which often entails a series of beats equivalent to 3+3+2 eighth notes.

- ⁶ The long beat can occur as first, middle or last among three beats, hence the three variants in my example.
- ⁷ In this simplified transcription (Ex. 5a), the trumpet line is in rhythmic unison with the entire brass section, whereas the bass drum is included because of its locally syncopated beat pattern. The transcription approximates durations to the nearest eighth note and is based on a performance by an American "Balkan" Brass Band *Zlatne Uste*. The ensemble themselves refers to this dance in asymmetrical 9/8 meter. The recording is on the album *Zlatne Uste, "No Strings Attached"* (Cambridge: Rounder Records, 1993).
- ⁸ Examples 5b and 5c contain only the transcription of the melodic line.
- ⁹ The first bar of the composite pattern corresponds to the *quasi*-aksak meter, defined by a number of pulsations (9) that are an odd, but not a prime number.
- ¹⁰ If the number of repetitions is excessive enough to cause clutter on the graph, a number indicating repetitions of a metric unit follows the time signature in parentheses (i.e. $5/8$ [*x15 bars*]).
- ¹¹ Here, it is important to remember that time signatures of $5/8$ and $7/8$ represent bars of two or three non-isochronous beats; $5/8$ is of duple and $7/8$ of triple meter with one beat longer than the others in each case.
- ¹² Liquidation and fragmentation are used in Arnold Schoenberg's sense of the term. See Arnold Schoenberg, *Models for Beginners in Composition* (New York: Schirmer, 1943: 11).
- ¹³ The composite metric pattern in *Dilber Tuta* ($\langle 9/8, 8/8 \rangle$) also represents a meta-measure, although it exemplifies a flexible-cycle type of variation of the core metric pattern. For the sake of space and clarity, this type of meta-measure construction is not fully addressed here.

Santrauka

Netolygių metrų suvokimas: nuo varinių pučiamųjų orkestro iki G. Ligeti

Pranešime aptariamos problemos, su kuriomis susiduriama, kai sudėtiniai metrai yra skaitomi ir suvokiami „iš viršaus į apačią“, o ne „iš apačios į viršų“. Vienas iš būdų suprasti metrinų vienetų hierarchiją yra susijęs su viduramžiais naudotų terminų *tempus* ir *prolatio* koncepcija – suvokimu „iš viršaus į apačią“. Ir *tempus*, ir *prolatio* atvejais viršesnis metrinis vienetas yra dalijamas į dvi arba tris dalis (tačiau negali būti dalijamas ir į dvi, ir į tris dalis tame pačiame lygmenyje). Alternatyviai – „iš apačios į viršų“ – *chronos protos* (subritminiai ar ritminiai) vienetai grupuojami po du arba po tris. XX a. partitūrose dažnai pasitaiko dvigubų ir trigubų elementų naudojimo viename metrinų vienetų lygmenyje, ir ši priežastis generuoja netolygumo aukštesnio lygio metrinuose vienetuose atsiradimą. Tokie atvejai, kaip ir pulsiniams laikomi metrai, dažniausiai analizuojami „iš apačios į viršų“.

Čia nagrinėjami sudėtiniai metrai, sudaryti iš neizochroninių metrinų vienetų, pvz., keturių metrinų dalių $9/8$ metras, būdingas didelei daliai Balkanų tautų liaudies muzikos, kuri neretai randama XX a. partitūrose ir yra užrašoma labai įvairiai. Taip pat iliustruojamas ryšys tarp įprastinių liaudiškų idiomų ir šiuolaikinės muzikos, pateikiant pavyzdžius iš serbų muzikos varinių pučiamųjų orkestrui bei B. Bartóko, R. Crawfordo ir G. Ligeti partitūrų.

Metrinės grupės ženklas, kaip metrą ir metrinų dalių hierarchiją nusakančio rodiklio, tikslios prasmės klausimas yra labai įdomus. Metro ženklai, naudojami tradiciškai, ne visada yra intuityvūs ir nuoseklūs, nustatant pagrindinį matavimo vienetą (arba taktus) vyraujančioje metrinų vienetų hierarchijoje. Tiesiog reikia suvokti, kad egzistuoja kategorinis skirtumas tarp paprastųjų metrų, pvz., $4/4$, kuris aiškiai nusako sudedamųjų dalių skaičių takte – keturios metrinės dalys ir kiekviena iš jų yra ketvirtinė, ir sudėtinųjų metrų, pvz., $6/8$ (taip pat dviejų dalių metras), kuris to nenusako. $6/8$ metro ženklas visai nereiškia, kad taktas būtina susideda iš šešių metrinų dalių, o greičiau nurodo, kad pagrindinis metrinis vienetas skaidomas į smulkesnes dalis (t. y. kiekvienas iš dviejų metrinų vienetų yra dalijamas į tris, o ne dvi dalis).

Situacija tampa dar įdomesnė, kai susiduriame su neizochroniniais metriniais vienetais ar jų grupėmis, pvz., $7/8$, $13/8$ ir kt. metrai. Metrai, kurie negali būti dalijami į dviejų ar trijų vienetų metrinų vienetų grupes, dažnai vadinami „mišriaisiais“ arba „netaisyklingais“ ir nėra laikomi nei periodiškais, nei tarpiniais, giminingais hipertaktams. Vis dėlto sudėtiniai metrai dažnai suformuoja struktūriškai aiškius darinius, kurių periodiškumas ir struktūrinis reikšmingumas reikalauja didesnio dėmesio ir specifinių analitinių priemonių. Pranešime suformuluoti šiuos reikalavimus atitinkantys teoriniai pagrindai.

Several Mathematical Aspects of Music Notation in the 20th Century Music Composition

This article continues the musicological research about music and mathematics connection problem. Parallel between music and mathematics looks back to the period of Antiquity. Then the music was a branch of science *quadrivium* – the music was alongside with and equivalent to other exact sciences, such as arithmetic, geometry and astronomy. Mathematical point of music manifests in later periods also. In the 20th century music composition we may see the synthesis of various numerological traditions of earlier epochs.

I would analyse one of the aspects of music and mathematics interaction. It is connected with a question of music notation. Generally, the use of mathematical phenomenon in music composition may be analysed in various ways – from investigation of composing techniques with mathematical background to symbolic incrustations of mathematical aspect into music material. For example, it is well known the case to signify the music tones with the numbers in twelve-tone and serial music practice – the transcription of music pitches, duration or dynamics into digits, the transform of chromatic tone scale into number sequence from 1 to 12.

I would address to the examples of 20th century music compositions where the notation may be interpreted mathematically. But at first I would like to concretize the use of the term “mathematical” music notation. A term was invoked in general view and I appeal to the definition of mathematics – as a research of abstract structures, using logics and mathematical markings.

The mathematical aspects of music notation I would differentiate: the first, the use of abstract or pure mathematical elements in the notation procedure. I would call it a technical aspect of music composition. The second, also a technical aspect is a particular mathematical construction, which becomes the initial idea or prototype of musical composition, the possibility to transform the traditionally notated music composition into constructive-mathematical model. And the third concerns the semantic aspect – it means that the mathematical model or the mathematically notated music composition manifests as a semantic code.

The first aspect includes the use of direct mathematical elements for music composition notation. For example, one of elements of notation, the tempo parameter may become an example of complex mathematical expression. The Studies for piano playing by Conlon Nancarrow represent the original composer's attempt to coordinate the tempos of separate voices of the score with the use of mathematical proportions. For example, Study N. 15 is an exact canon for 2 voices. The balance of two different tempos correspond the formula $\frac{3}{4}$ and the title of the Study is marked “Canon $\frac{3}{4}$ ” (Example 1). Next two examples of Studies overpass the trivial poly-metric boundaries and become transcendental music compositions. For example, in the beginning of the Study N. 27 in 4 voices we read the title by composer “Canon 5%-6%-8%-11%”. This marking of percents means the proportion in which the tempo or the movement of each of 4 voices is harmonized. Another example is the Study N. 37 for 12 voices: here the tempo marking of every voice composes into the digital row 150-160⁵/₇-168³/₄-180-187¹/₂-200-210-225-240-250-262¹/₂-281¹/₄. The 12 different tempos inter-coordinate according to these number proportions. And this digital row is not accidental – it is known that these mathematical proportions express the relations between the successive tones of all the chromatic scale and Nancarrow was influenced in such complex mathematical expressions.

These examples concern the particular parameter of music composition. Also the whole music score may be digital apparently. It is Morton Feldman's score “IXION” that is full of the digits in the panes on the paper only (Example 2). Composer used the numbers as symbols for notation and the numbers determined the amount of tones. Already in the first composition “Extensions 1” (1951) that was notated in the same way – it means the numbers were written on the special graphic paper – the numbers signified the amount of played notes, the lines of paper signified the register, but the concrete pitch of tones was chosen by the interpreter. The analogous numerical symbols of music notation are used in the mentioned “IXION” as in the score of the second, third of fourth “Intersections”. This “IXION” score version is written for the ensemble of two pianos. The central black line indicates the partition of the pianos. According to the explanation how to perform this

Example 1. Conlon Nancarrow's Study N. 15 "Canon $\frac{3}{4}$ ". The formula $\frac{3}{4}$ is represented in the tempos marking $165 : 220 = 3 : 4$

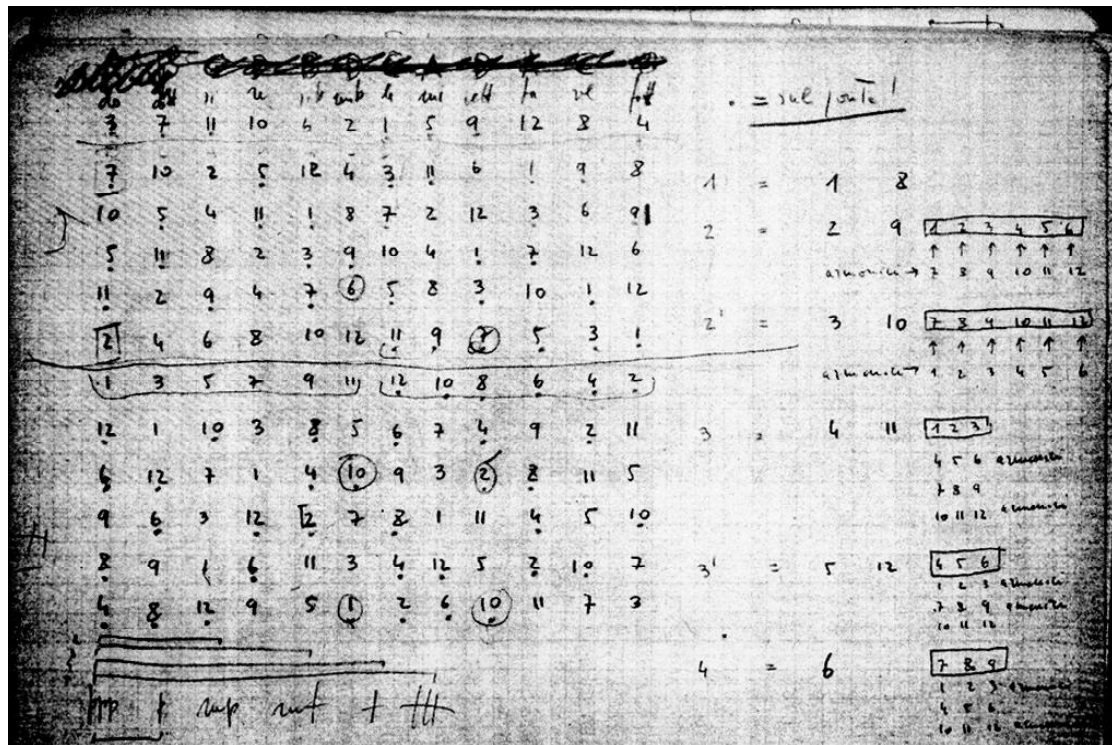
Example 2. Morton Feldman's "IXION" – the "digitised" score for two pianos

I																II																III																IV															
5	7	5	1	11		9	7	4	7		6	3		3	7	6		7	9	1	8	7	14			7	4	2																																			
3	3	5	9					2			1	1	2	3		3		2	1	1		1			1	5	1	2																																			
4	1		3		4			3		3	2	4	3	4	3	2	5									7	1	1																																			
7	7		7	3	1												4											3																																			
														3	8	7		1	1	7	5				1	6	1	1																																			
4	3		2	3		1	6			4	1	4	4				1	2	4							1	2																																				
V																I'																II'																III'															
14	3	2	7	3	3	9		1	11	5	1	2	3	1	13	1	1	3	1		5	1		13	2	5	16		5																																		
			2	2		5	1		2	2		4	2		3	2		4			4			2	5	6		4																																			
4	1			9		6	5	9				9		5				1			7	6	1	4	6	4	3																																				
1	1		1	4		1	3				5		1								6	4		5																																							
4	2		2		1	1	1			1	1	2	4	1	1			5	5	3	4	4	3	1	3	1	2																																				
IV'																V'																I ²																II ²															
3	3	11		4	5	6	1					3	2	5	17		4	7	1	1	2		6					6																																			
2			1	3	2	5	1	16	5		5		3	2	3	6	6	6	3	1	1	5	1	7			7																																				
1	2		2	7	2	5	1	2	1	1	1	6	2	2	2	5	1	1	1	1	4	3	5					4																																			
1	1	1	1	2	1	7								5			5	4	1									5																																			
1	1		1	3	2	3	7	9	5	10		1		2	11		4	5	1	1	3	5					4																																				
1	1		1	4			1			2	2	1	1	5	3						1	3	4	2																																							
III ²																IV ²																I ³																II ³															
7	2		2	8	2	9		4	12			1	6	4	2	6	8	8	6	8	11	11	7			6																																					
5	2	8			3			1	4			5	5	1	3	2	7	3	7	8	5	3	3			5																																					
7	5	7		6	1					3			2	3		5			1		2	7	7			4																																					
11	1	4	4		3	1		2	1			6	4		6	2	6		5	3	3					1																																					
	5			4	4	4	3	4		5					1				4	3	6	5	2	3																																							
2			5	7	1	1		4		3	5							2	2	3	5	1	5																																								

composition the vertical of three panes means the approximate partition into three registers – the high, middle and the low. One pane is equal to the duration of one second and the number in the pane means the amount of tones. The interpreter decides what pitches to play and in what manner – to play all tones together (harmonic) or in course (melodic). Prima facie the score of "IXION" seems a chaotic dispersion of numbers and the composer eliminated whatever constructive moment because he tried to create a phenomenon of a chance. But after detailed analysis it was observed that composer uses even the isomorphic principle – in the middle of composition Feldman exactly repeats two sections one after another.

The second aspect may be illustrated by well known example of Webern and number square, which composer used in his serial composition. Also it is known a sketch of number square that was used by Luigi Nono. Composer adjusted the sequence of the square to the rhythmical parameter in his piece "Varianti" (Example 3). And so we may say that such a mathematical sketch, also a model, pattern or constructive frame becomes a prototype for music composition before its notation. I would call it a primary tool for the further composing process.

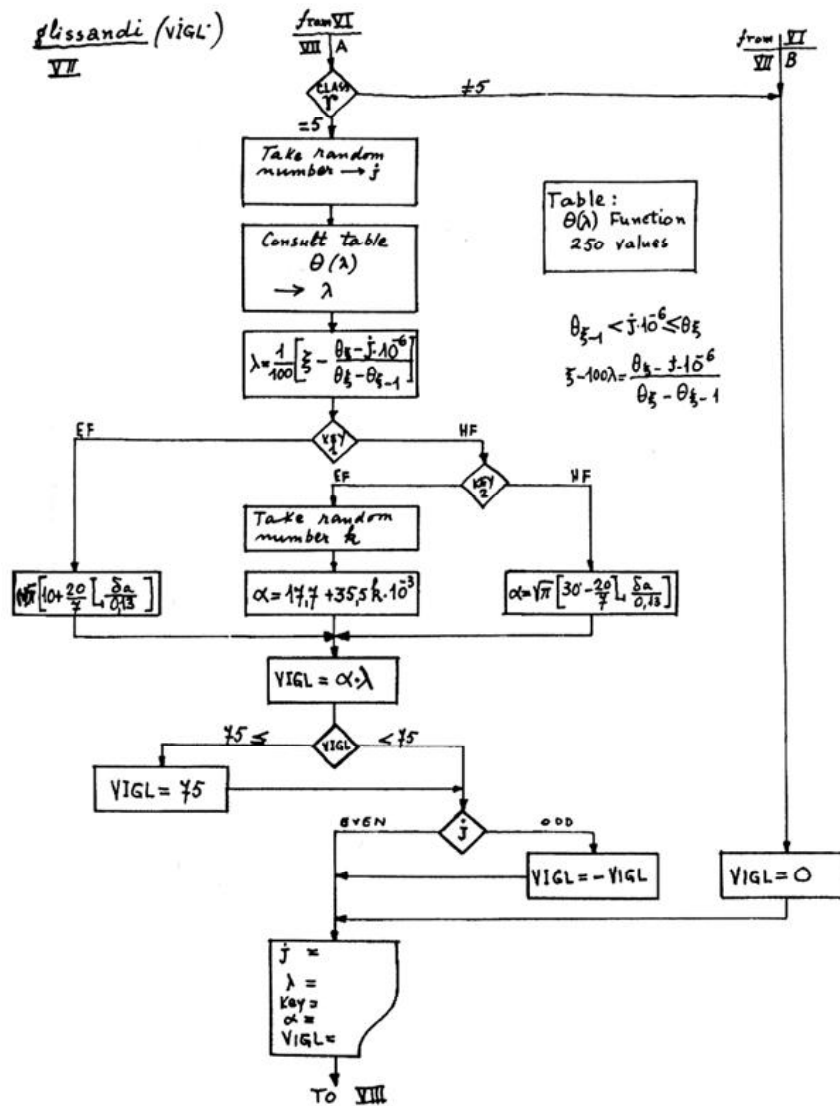
Example 3. Luigi Nono's "Varianti". The number square sketch – a model for rhythmical organization



Another example shows that the primary idea, the primary model of music composition is a complex mathematical structure. It is a sketch by Xenakis for his composition "Achorripsis" (Example 4).

The graphical algorithm also may become a primary mathematical model of music composition. The music composition may be notated in traditional way after the creation of the graphical algorithm. The graphics may influence and determine the concrete parameter of music. For example, Lithuanian composer Šarūnas Nakas in his composition "Ziqquratu" initially used graphical charts for piano clusters. According to composer's remarks the graphic charts were transformed into piano part. After analysis and detailed recording the cluster scales it was observed the symmetry between the curved forms. Composer divided the symmetrical form into parts and incorporated them in the various sections of the composition. Another example of symmetrical graphical expression of musical notation may be illustrated by Tom Johnson's composition for piano in four hands "Symmetries" (1981–1990). The cycle consists of 49 little pieces and you may see in the example a symmetrical structure made by composer and its application – musical harmonization (Example 5).

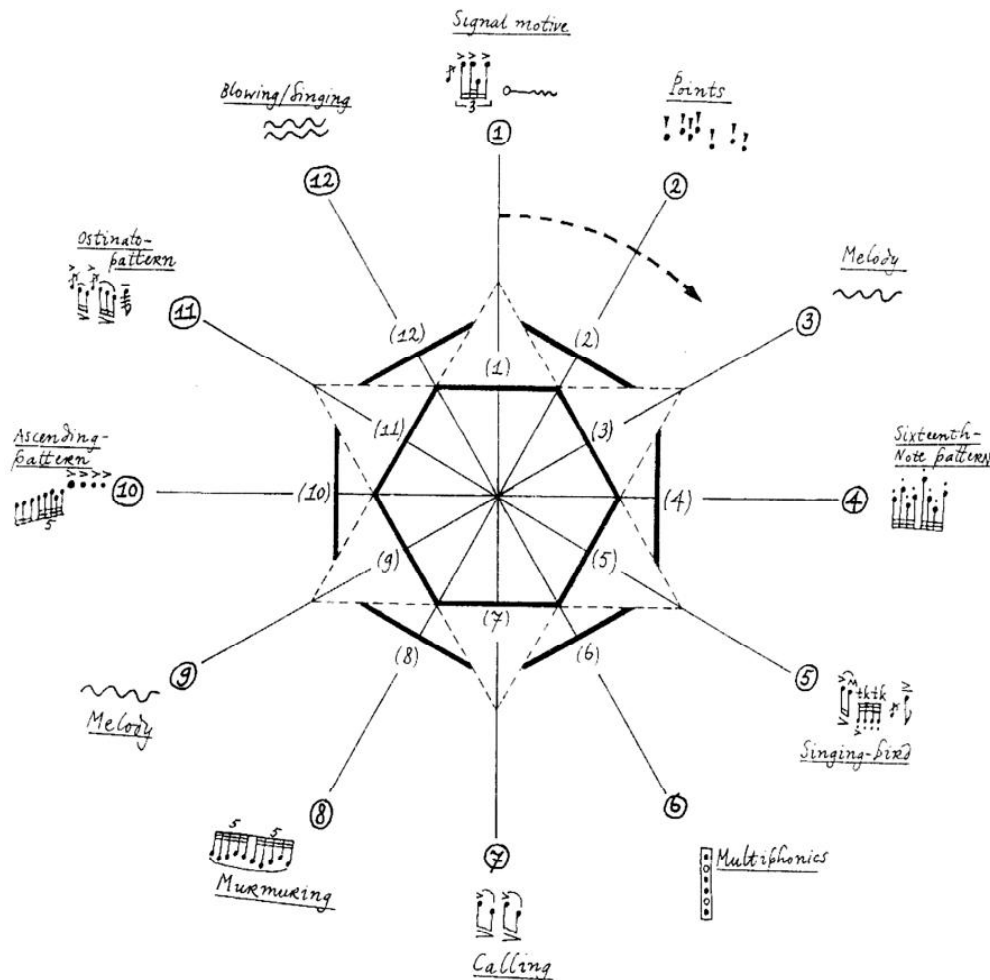
Example 4. Xenaki's "Achorripsis". The sketch of mathematical formulas – a prototype for the composition



Example 5. Tom Johnson's "Symmetries". A symmetrical pattern involved in the piano pieces

But the graphical example may become the model of the whole music composition. In the beginning of Jan Rokus Roosendael's composition "Rotations" score you may see a hexagonal figure and various possibilities of its rotations and combinations of the corners. This hexagonal figure was used for the composing process of the whole music piece (Example 6).

Example 6. Jan Rokus Roosendael's "Rotations". The initial hexagon – an expression of the whole music composition

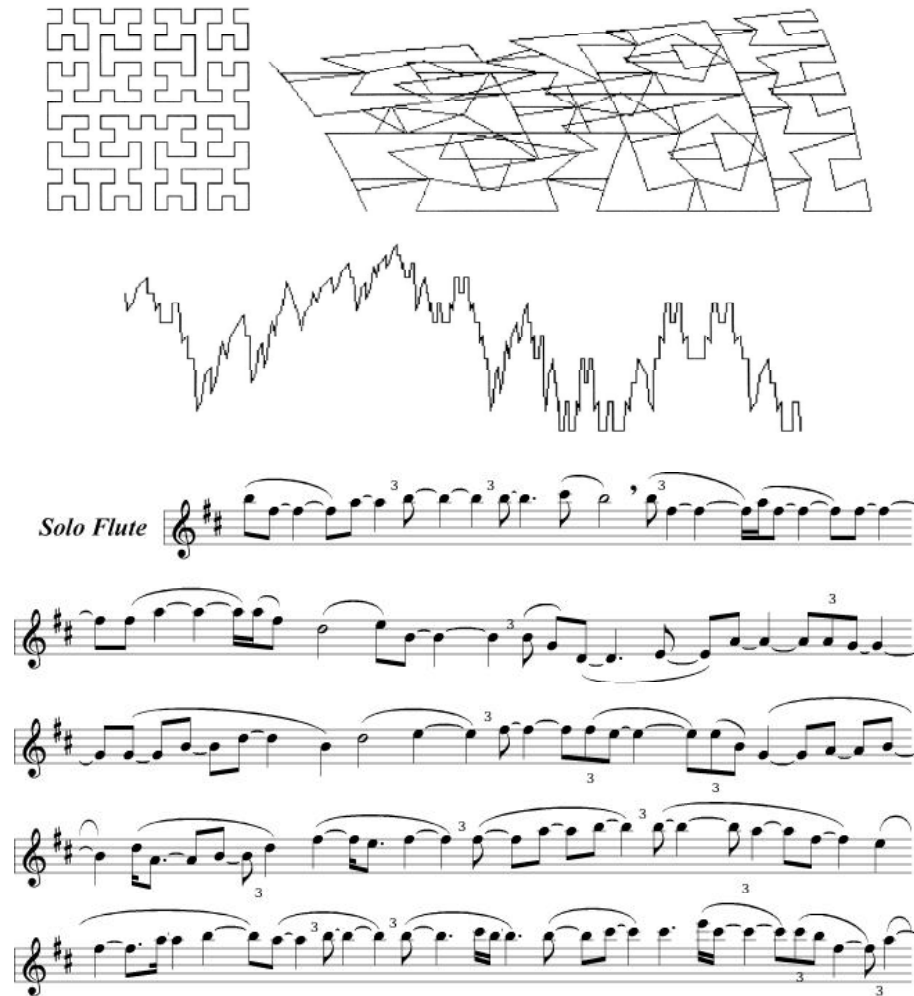


One more kind of graphical algorithm became a basis for the whole music composition. It was so called L-system curve that was the inspiration source for composer Gary Lee Nelson. The Hilbert curve was a primary model for his flute solo piece "Summer Song". The traditional curve was modified – composer changed the ordinary step of 90° (degree) to the angle of 101°. After that Nelson made a horizontal extension of the new graphic model and transferred it into the tone scale (Example 7).

Another example is John Adams' "China Gates" score. In the beginning composer provides the symmetric curve with the remark "Gating". This composition is based on minimalism technique and the mentioned curve was used as a composing algorithm that determined the structure of the whole piece, the duration and rhythmical parameters. Every change in the curve direction means the changes of "Gating", so called the tunes after Adams (Example 8).

And for **the third aspect** I would like to provide several examples, where the mathematical model, which was adjusted to the music composition, is not only a technological thing, not only a tool for composer and determines not only the composing process. Such model becomes semantic. For example, it may be the incrustation of various meaningful geometric forms in the music score.

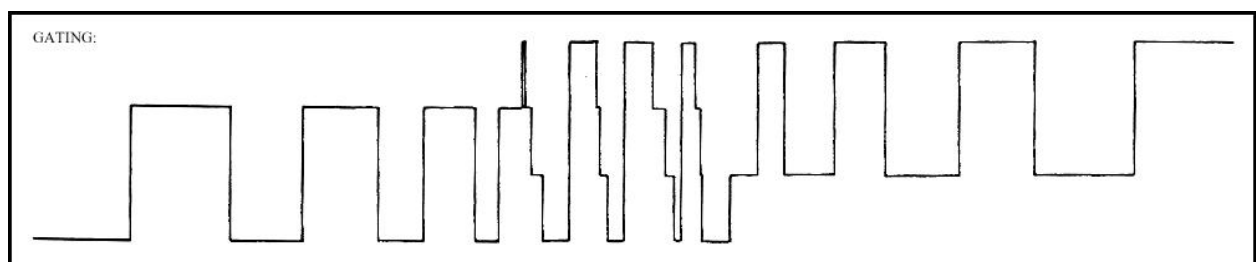
Example 7. Gary Lee Nelson's "Summer Song". The Hilbert curve, its modified version, linear extension and transformation into melody



The diagram illustrates the transformation of a Hilbert curve into a melody. It consists of four parts:

- A standard Hilbert curve, a square fractal curve.
- A modified version of the Hilbert curve, which is more complex and overlapping.
- A linear extension of the modified curve, showing its path as a jagged line.
- A musical score for Solo Flute, showing the melody derived from the linear extension. The score is in G major (one sharp) and 4/4 time. It features several triplet markings (indicated by a '3' above the notes) and slurs.

Example 8. John Adam's "China Gates". The curve as an algorithm of the duration parameter



Lithuanian composer Bronius Kutavičius in various his compositions implicated the graphical models with sacral character. Composer was admired by various symbols, for example, the Celtic cross, which you may see in the composition "Kampf der Bäume" (1996) – the score of the first and the second parts is arranged in the cross form namely. The score of "Magic Circle of Sanskrit" (1990) symbolizes the circle, and the score of "Last pagan Rites" (1978) is arranged into the star-circle form. Composer George Crumb in his piece "The Star Child" used such symbols also. It is not incidental that in the two parts "Musica Mundana 1" and "Musica Mundana 2" the traditional music score is recomposed into the graphical symbol of mundi/universe – the staves are curved into the circle.

Such music notation examples show the various ways how may be used the mathematical models or elements. I may state that such phenomenon manifests from pure technological side, where it is used abstract mathematical tool, to the semantic character, where the composer uses structural mathematical model as a special semantic code for the interpretation of his composition. These various examples are unified in their background which I would define as mathematical. The question may arise – why such tendency of mathematical music may be exclusive? However, it turns to the problem of music and mathematics interaction that continues more than millennium and excites the theorists and speculators. From one side, a problem presented in this paper turns towards the renaissance conception of human as *homo ludus* (lat. the playing human). And here I would like to refer to Stravinsky's quotation: composer says better enjoys the composition of music. So this problem prompts a question: are such composing processes and in such ways composed music piece as a result devoted more to the visual/analytical purpose or to the audible/receptional purpose? Would such mathematical manipulations in music are the composers' compositional game or a game for researcher's mind only? Is it needed a mathematical explanation to the listener who perceives such music? A mathematical perceiving and cognizing of music composition may be one more way of listening to the art of sounds. But sometimes may be that composers may hide themselves under these intriguing explanations of their work and raise the interesting prototype above their result – above the music.

Santrauka

Keletas matematizuotų XX a. muzikos kompozicijos užrašymo atvejų

Pranešime pristatoma muzikos notacijos problema tęsia muzikologinius tyrinėjimus, susijusius su muzikos ir matematikos sąveika.

Muzikos ir matematikos paralelė, kilusi dar antikos laikais, kai muzika buvo priimta į *quadrivium* greta kitų trijų mokslų – astronomijos, aritmetikos ir geometrijos, įvairiomis formomis ir raiškos pobūdžiu tęsiasi per įvairias epochas; o XX a. muziką šiuo požiūriu galima apibūdinti kaip ankstesnių laikotarpių numerologinių tradicijų sintezę.

Pranešime pateikiama keletas šiuolaikinių muzikos kompozicijų pavyzdžių, kurių notacijos/užrašymo būdas interpretuojamas kaip matematizuotas. Sąvoka „matematizacija“ aprėpia įvairius konstruktyvius būdus. Tiesioginė nuoroda į muzikos kompozicijos matematizaciją būtų M. Feldmano partitūros „IXION“ notacija/užrašymas, kuris tėra tik skaičių langeliuose kombinacijos.

C. Nancarrowo studijų pianolai tempų užrašymai iliustruoja originalų kompozitoriaus mėginimą atskirus balsus tarpusavyje derinti pasitelkus sudėtingus matematinius apskaičiavimus: pvz., keturbalsės Studijos Nr. 27 pradžioje kompozitorius pateikia užrašą „Kanonas 5%-6%-8%-11%“, kuriuo nurodo, kokių tempo santykiu jis tarpusavyje suderino keturias linijas; dvylikabalsės Studijos pianolai Nr. 37 kiekvienos linijos tempas su kitomis sutinka pagal matematinę išraišką: $150-160^{5/7}-168^{3/4}-180-187^{1/2}-200-210-225-240-250-262^{1/2}-281^{1/4}$, o ši skaičių seka atitinka skaitmeninius santykius tarp garsų iš pilno (visų dvylikos garsų) chromatinio garsaeilio.

Prie muzikos kūrinių matematizuotos notacijos priskirtume grafinio algoritmo taikymą. Grafinis algoritmas interpretuojamas kaip pirmavaizdis muzikos kūrinių, vėliau užrašomo tradicine notacija. Pavyzdžiui, J. Adamso „China Gates“ partitūros pradžioje pateikiama kreivė. Kaip Š. Nako kompozicijos „Ziqquratu“ pirmavaizdžius galima nurodyti ne tik partitūroje implikuotus dviejų skaitmeninių kvadratų dėsnis, kurie lėmė atskirų instrumentų partijų ritminį piešinį, bet ir grafinės figūras – remiantis kompozitoriaus pastabomis, fortepijono partijos klasterius lėmė kompozitoriaus iš anksto padaryti grafiniai brėžiniai.

Schoenberg, Busoni and Kandinsky: a New Approach to Expression of Text and Music

In the beginning of the 20th century there has been a whole array of modernist styles created by various innovative artists and composers, their technical experiments surpassing anything that Western music and art has ever known throughout its history. New aesthetical positions have been established, which have reevaluated many of the artistic aims of music and of the other arts. One of the most important elements of art to be reevaluated was that of expression of feelings. Composers and artists of the early 20th century have brought new approaches to expression in art and music, including depiction of the literary text in vocal music. Many composers have distanced themselves both from the traditional classic form patterns such as, for instance, the sonata form, as well as the description of programmatic extra-musical content in works, brought about by Wagner. This report shall examine three authors – one artist and two composers – who have brought about new ideas of expression in the arts, which have paved the way for their respective discoveries of new artistic and musical tendencies, marked by both innovative technical achievements and profound artistic and spiritual insight. They are the composers Arnold Schoenberg and Ferruccio Busoni and the painter Wassily Kandinsky.

Ferruccio Busoni, a well-known German pianist and composer of Italian descent, most famous for his editions of Bach's clavier works as well as his arrangements of Bach's organ music for piano, was also a notable composer, whose style swayed towards a kind of neoclassicism, which has evolved prior to Stravinsky's style of the 1920s. Among his most exceptional compositions are the *Fantasia Contropunctistica* for piano, *Six Sonatinas* for piano and his final work, the opera 'Doctor Faustus'. He is also famous for his musical theoretical treatise the "Sketch for a New Aesthetic in Music", written in 1906. In this treatise he tried to elaborate on the theme of opening up new horizons in music. Following the overall artistic trends of his time, Busoni in his treatise presents a vision of a free and unrestrained type of new music, unfettered by both the traditional, classic forms and of the literary programmatic subject matter, which music was meant to depict following the Wagnerian aesthetics; he also presents his ideas, new at that time, of unrestricting music to the constraints of the twelve-note equal-tempered scale as well as to the limitations of the major and minor modes, and proposes new types of seven-note scales, which he counts at 113, as well as new, microtonal temperaments, introducing one-third of a tone as well as one-sixth of the tone. This is how he proclaims the inherent freedom of music, a freedom excelling that of all the other arts:

Music was born free; and to win freedom is its destiny. It will become the most complete of all reflexes of Nature by reason of its untrammelled immateriality. Even the poetic word ranks lower in point of incorporeality. It can gather together and disperse, can be motionless repose or wildest tempestuousity; it has the extremest heights perceptible to man – what other art has these? – and its emotion seizes the human heart with that intensity which is independent of "the idea".¹

He criticizes what has come to be known as "Absolute music" for its rigid adherence to form, including the traditional classical forms, which fetter the free imagination of the composer with its strict rules:

Absolute Music! What the lawgivers mean by this is perhaps remotest from all the Absolute in music. "Absolute music" is a form-play without poetic program, in which the form is intended to have the leading part. But Form, in itself, is the opposite pole of absolute music, on which was bestowed the divine prerogative of buoyancy, of freedom from the limitation of matter... Per contra, "absolute music" is something very sober, which reminds one of music-desks in orderly rows, of the relation of Tonic to Dominant, of Development and Codas.²

His criticism of the rigid attitude of Absolute music towards free imagination could be summed up in the following lines:

Is it not singular, to demand of a composer originality in all things, and to forbid it in regards to form? No wonder that, once he becomes original, he is accused of "formlessness".³

The opposite trend from absolute music, present in the aesthetics of late 19th century music, namely program music, stemming out from Wagner's call on music to express the subject matter of extra-musical literary texts also receives criticism from Busoni. He commends Wagner for freeing music from the shackles of the traditional, classical forms, yet he criticizes him and his followers and successors for providing music with a new kind of rigidity – that following the literary program at the expense of its own natural development:

The name of Wagner leads to program-music. This has been set up as a contrast to so-called "absolute" music, and these concepts have become so petrified that even persons of intelligence hold one or the other dogma, without recognition for a third possibility beyond and above the other two. In reality, program-music is precisely as one-sided and limited as that which is called absolute. In place of architectonic and symmetric formulas, instead of the relation of Tonic to Dominant, it has bound itself to the stays of connecting poetic – sometimes even philosophic – program.⁴

The chief flaw of program music is that the strict adherence to expressing the literary text forces the music to renounce the inherent purely musical possibilities of developing the motives in favor of following the development of the plot which at times could go against the logic of the musical development and, thus, force the musical logic to go against its will:

The motive in a composition with program bears within itself the same natural necessity; but it must, even at its earliest phase of development, renounce its own proper mode of growth to mould – or, rather, twist – itself to fit the needs of the program. Thus turned aside, at the outset, from the path traced by nature, it finally arrives at a wholly unexpected climax, whither it has been led, not by its own organization, but by the way led down in the program, or the action, or the philosophical idea. And how primitive must this art remain!⁵

One of the most convincing points that Busoni brings up is that music is capable of expressing much greater cosmic and even eternal phenomena, and this capability exceeds the urge to express a local dramatic incident, which may happen in some literary plot:

And, after all, what can the presentation of a little happening upon this earth, ... have in common with that music, which pervades in the universe?⁶

Busoni calls for composers not to obey laws created previously, whether they are those of strict adherence to traditional forms as in Absolute music, or following an extra-musical program as in program music. Instead, they should create new laws to meet their own creative necessity:

The creator should take over no traditional law in blind belief, which would make him view his own creative endeavor, from the outset, as contrasting with that law for his individual case he should seek out and formulate a fitting individual law, which, after the first complete realization, he should annul, that he himself may not be drawn into repetitions which his next work shall be in the making.⁷

As a result of this, a new, innovative type of music will be created, which will be truly free, since it will be unconstrained both by traditional forms and of extroversive Romantic expression. It will have a new type of expression, which will be more balanced and will not interfere with the natural development of the musical material. As a result of this balance, a new aesthetic in music will be created.

This approach to searching a new musical style with new forms of expression corresponds to the artistic aspirations of other artists of Busoni's time. One of the most striking approaches to expression in music was elaborated by two authors in the artistic almanac *Der Blaue Reiter*, devoted to Expressionistic art, published in Berlin in 1912 by the famous painter Wassily Kandinsky. The first of these two authors was Arnold Schoenberg, who contributed to the almanac an essay, titled "Concerning Text Setting in music" (subsequently published in the collection of Schoenberg's articles, *Style and Idea*). In this article Schoenberg cautions against excessive outward expression of the written texts when setting a text to music. He writes that when a composer follows a text

too literally and depicts every word, the music ceases to have an organic growth of its own and breaks the laws of musical development and coherence when following the logic of the text instead of its own. Distancing oneself from the text and following the development of the music itself while grasping the main idea or mood of the text will create a deeper kind of inner expression of the text as opposed to a mere superficial outward depiction. Schoenberg wrote of his experiences in writing a song on a certain poem, that he was inspired by the mood of the poem's first few lines, after which he divorced himself completely from the poem and continued to develop the musical material with which the song began, guiding himself merely by some of the phonetic sounds of the poem for more structural coherence. Upon finishing the song Schoenberg claims that he discovered for himself that he was much more successful in grasping the inner mood and spirit of the poem than if he had adhered to the written text more literally.

I had composed many of my songs straight through to the end without troubling myself in the slightest about the continuation of the poetic events, without even grasping them in the ecstasy of composing, and that only days later I thought of looking back to see just what was the real poetic content of my song. It then turned out, to my greatest astonishment, that I had never done greater justice to the poet, than when, guided by my first direct contact with the sound of the beginning, I divined everything that obviously had to follow the first sound with inevitability.⁸

The second of the two mentioned authors of *Der Blaue Reiter*, its editor, Kandinsky, contributed several articles to the almanac in which he presented some of the most important concepts of the newly emerging Expressionist art. Kandinsky claimed that the means of expression for the old art and the new art were complete opposites. The expressive means for the old, traditional art was that of literal depiction, which described emotions as they happened or were supposed to happen. The expressive means for the new, Expressionistic art was shedding the literal material depiction of events and following a more inward, spiritual description of events, which, upon first encounter might entirely contradict their appearance, in terms of literal depiction. Nevertheless, this new form of description describes the given emotions or events more thoroughly by grasping its spiritual essence. Kandinsky gave formulas for the two trends of art, which present an adequate representation of their respective functions of description of emotions or events. Thus, the formula for traditional art is: $1 + 1 = 2$, while the formula of the innovative art is: $1 - 1 + 2$. This latter formula gives a very clear and concise portrayal of the means of expression in this new form of art: by subtracting from the descriptive means of the outward, superficial events of a narrative, the artist contributes to the hidden, inner meaning of the events and provides a deeper description of the emotions inherent in the work of art. This is how some of the first foundations of the new art and the new means of expression were created.

This is what Kandinsky writes in his article "On Stage" Composition":

The nineteenth century is distinguished as a period that lay far from inner creation. Its concentration on material appearances and on the material aspects of appearances logically caused internal creative powers to decline to the point of their virtual disappearance...

The positive character of the spirit of the time could lead only to a point of combination that was likewise positive. People thought: two is more than one, and they tried to strengthen each effect by repeating it. With inner effects this may be reversed, and often one is more than two. In mathematics $1+1=2$. In the soul it is possible that $1-1=2$...

Wagner tried to intensify the means and bring the work to a monumental height by repeating one and the same external movement in two concrete forms. His mistake was to believe that he had a universal method at his command. Actually his method was only one of a series of even more powerful possibilities of monumental art...

The logical result of this is the limitation, the one-dimensionality (impoverishment) of forms and methods. Gradually they become orthodox and each tiny change becomes revolutionary...

Let us start on the basis of the internal. The whole state of affairs changes fundamentally.

1. Suddenly the external appearance of each element vanishes, and its inner value sounds fully.
2. Clearly, when the criterion of the inner sound is applied, the outer action obviously is not only unimportant but also creates harmful obscurity.
3. The external connection appears in its proper value, i.e., setting up unnecessary limits and weakening the inner effect.
4. Automatically the feeling of necessity of internal unity is aroused. This is supported and even caused by external irregularities.
5. It opens up the possibility for each element to keep up its own external life, even if it contradicts the external life of another element.⁹

In his second article "The Question of Form," Kandinsky writes:

The "artistic" reduced to a minimum must be considered as the most intensely effective abstraction.

Footnote: The quantitative reduction of the abstract therefore equals to the qualitative intensification of the abstract. Here we touch one of the most essential rules: the external enlargement of a means of expression leads under certain circumstances to the reduction of its internal power. Here 2+1 is less than 2-1... In short: true form is produced from the combination of feeling and science.¹⁰

Similarly to Kandinsky, Busoni states that a viable way of expressing emotions in music could be not only in pouring them out but also in hiding them in moderation. He goes as far as to distinguish feeling from emotion, the latter including in it restraint of outward feeling:

For in life, too, the expressions of feeling, by mien and words, are oftenest employed; rarer, and more genuine, is that feeling which acts without talk; and most precious is the feeling which hides itself. ... "Feeling" is generally understood to mean tenderness, pathos, and extravagance, of expression. But how much more does the marvelous flower "Emotion" enfold! Restraint and forbearance, renunciation, power, activity, patience, magnanimity, joyousness, and that all-controlling intelligence wherein feeling actually takes its rise. ... It is not otherwise in Art, which holds the mirror up to Life; and still more outspokenly in Music, which repeats the emotions of Life – though for this, as I have said, taste and style must be added; Style which distinguishes Art from Life.¹¹

He goes even further by stating that the extroverted "feeling," expressed by epigones of romantic artists, when depicting a particular episode of a literary plot in an outwardly affective means presents but a "fragment" of a large-scale "feeling" present in an entire work of art, which includes not only outward affectation of emotion but also moderation of expression; for the latter he also brings in the term "economy", meaning economy of expressive means:

What the amateur and the mediocre artist attempt to express, is feeling in little, in detail, for a short stretch. ... Feeling on a grand scale is mistaken by the amateur, the semi-artist, the public (and the critics too, unhappily!), for a want of emotion, because they all are unable to hear the longer reaches as parts of a yet more extended whole. Feeling, therefore, is likewise economy. ... Hence, I distinguish feeling as Taste, as Style, as Economy. Each a whole in itself, and each one-third of the Whole. Within and over them rules a subjective trinity: Temperament, Intelligence, and the instinct of Equipoise.¹²

Busoni states that there is a difference in the various approaches to feeling and its artistic expression, and brings out a distinction between an extroversive and an introversive presence of emotion and its expression. He also states the difference between concentrating on expressing in an affected manner a fleeting, passing emotion and a balanced, moderate yet profound expression of a lasting, inherent emotion:

...Depth of feeling roots in a complete absorption in the given mood, however frivolous, and blossoms in the interpretation of that mood; whereas the current conception of deep feeling singles out only one aspect of feeling in man, and specializes in that. ... In the so-called "Champagne Aria" in Don Giovanni there lies more "depth" than in many a funeral march or nocturne: – Depth of feeling also shows in not wasting it on subordinate or unimportant matters.¹³

This new approach to expression in art was shared by many composers and other artists of the time. Schoenberg himself claimed that his discovery of atonality helped him discover for himself the possibility of expressing a whole array of new emotional states, which were not available for description in the traditional major-minor system. This is especially well manifested in the compositions from his Expressionist period, before he invented the twelve-tone system, such as, for instance, his monodrama *Erwartung* for soprano and orchestra, set to the text of Marie Pappenheim. The literary plot of this work is about a woman who is looking for her lover in the forest at night and finds him dead. The woman goes through a whole series of emotions, which the music describes dramatically by using its new, atonal language, since the emotions described in the text are of too wide a variety and of too unusual type to be limited to being depicted by the major and minor modes.

Mention must be made of Arnold Schoenberg's work of transition between his early, romantic style and his middle period, in which he has discovered a new musical language with atonal harmonies. The Second String Quartet, written in 1908, contains four movements, the first two are purely instrumental, and the last two also involve a soprano, singing text settings of two poems of the famous Expressionist poet Stefan George, titled, respectively, "Litanei" (Supplication) and "Entrückung" (Awakening).

The poems of George and the vocal writing in the quartet greatly enhance the emotional, expressionistic qualities and bring its programmatic aspects to the foreground. After the lamenting first movement and the grotesque and morbidly ironic second movement, the third movement, which functions as the slow movement, contains the setting of George's poem "Litanei". While the harmony of the music, which though tonal, features some very advanced features of chromaticism, is brought to the utmost limits of tonality, the text brings out the decadent, lamenting emotional message of the String Quartet's first three movements, which could only be intimated by the listener until now. The fourth movement provides an emotional relief from the morbid mood of the first three movements, by depicting a state of spiritual enlightenment and transfiguration, as emphasized in the poem's text. The text describes the spiritual awakening of the poet to a higher existence and dissolution of the previous state of anxiety. The music clearly follows the mood conveyed by the poem by depicting an exalted, enlightened emotional state. However, it does not depict this by using a joyous major, but reverts to atonal harmonies and very non-standard and innovative textural means, which extend greatly beyond the hitherto standard semantic means of expressing "joy" and "victory over tragedy". It is not accidental that Schoenberg depicts the emotional content of a poem about spiritual enlightenment, the first lines of which are "I feel the air from other planets" with a new means of expression, allowing for the depiction of the most unusual emotional states, and with practically the first example of atonal music in the observable human history.

The bold step taken by Schoenberg in his music of exceeding the traditional tonal system for the sake of finding new means of expression of emotions was called on by Busoni in his pamphlet. The semantic limitation of the major and minor scale to depicting a bipolar perspective of an opposition of "happy" and "sad" moods has been observed by Busoni, who proposed finding new scales and new temperaments for the objective of being able to depict a much wider array and gradation of emotions, falling outside of this simple dichotomy:

Upon the two Series of Seven, the major key and the minor key, the whole art of music has been established; one limitation brings on the other. ... To each of these a definite character has been attributed; we have learned and have taught that they should be heard as contrasts, and they have gradually acquired the significance: – Major and Minor – Maggiore e Minore – Contentment and Discontent – Joy and Sorrow – Light and Shade. The harmonic symbols have fenced in the expression of music, from Bach to Wagner, and yet further on until to-day and the day after to-morrow. ... We are tyrannized by Major and Minor – by the bifurcated garment.¹⁴

In his own music Busoni has hardly crossed this boundary of tonality, his music, with a few exceptions, always being limited to a certain level of tonal centrality, albeit, modified more in a neo-classical style of pandiatonicism. However, Busoni was able to overcome the excessive romantic emotionality in favor of a more emotionally balanced style.

Further developments in the 20th century have increased the technical possibilities of music, and with those, the capabilities of arousing emotional responses in the listeners by means of ever-increasing varieties of new and unusual techniques and sound effects. It follows that there have been more varied and contrasting approaches to text setting and the relationship to the text, as well as the opposition between attempting to describe a written text in music and concentrating on the purely musical development in a musical vocal work, using the text merely as a foundation. In the later part of the 20th century there has also been an increased attention to the pure phonetic capabilities of the language, using a written text as a sound palette which ties in with and complements the sound palette of the music. Often composers exploit the approach by emphasizing isolated syllables with their phonetic sound possibilities, as opposed to complete words.

In contrast to 19th century Romantic aesthetics, which advocated an unrestrained outpouring of a highly emotional musical syntax, the musical aesthetics of the 20th and 21st centuries demand considerably more moderation of emotions, an abandonment of "literal" expression of a literary text, and a greater concentration on aspects of form and logical coherence, as well as new textural and timbral possibilities. Just as there has evolved a more abstract approach to text in literature and to forms of painting and sculpture, the "old form expression", which had featured literal depiction of extra-musical subject matter has given way to a more abstract, ambiguous relationship between textual meaning and the shape of a finished work of art. Avoidance of the literal, the pictorial, and the standard accepted associations of expression of emotions, has led to a new syntactical meaning, virtually devoid of extra-musical associations. As Schoenberg writes:

There are relatively few people who are capable of understanding purely in terms of music, what music has to say. The assumption that a piece of music must summon up images of some sort or another, and that if those are absent the piece of music has not been understood or is worthless, is as widespread as only the false and banal can be. Nobody expects such a thing from any other art, but rather contents himself with the effects of its material, although in the other arts the material-subject, the represented object, automatically presents itself to the limited power of comprehension of the intellectually mediocre. Since music as such lacks a material-subject, some look beyond its effects for purely forma beauty, others poetic procedures.¹⁵

Busoni stresses the point that an excessive depiction of feeling can be a drawback for the purely musical qualities of a composition. Moderation in emotional expression, according to him, could enhance the musical qualities of a work and present its emotional and descriptive aspect in its adequate position. For this he evokes the concepts of "taste" and "style", the aim of which is to balance the emotional aspect of music with a sense of inner restraint and balance:

Feeling – like honesty – is a moral point of honor, an attribute of whose possession no one will permit denial, which claims a place in life and art alike. But while, in life, a want of feeling may be forgiven to the possessor of a more brilliant attribute, such as bravery or impartial justice, in art feeling is held to be the highest moral qualification.

In music, however, music requires two consorts, taste and style. Now, in life, one encounters real taste as seldom as deep and true feeling; as for style, it is a province of art. What remains, is a species of pseudo-emotion which must be characterized as lachrymose hysteria and turgidity. And, above all, people insist upon having it plainly paraded before their eyes! ...¹⁶

Stravinsky, in his book *Poetics of Music*, comes to a concise conclusion in regards to this subject:

What is important for the lucid ordering of the work – for its crystallization – is that all the Dionysian elements which set the imagination of the artist in motion and make the life-sap rise must be properly subjugated before they intoxicate us, and must finally be made to submit to the law: Apollo demands it.¹⁷

Stravinsky's Anti-Romantic polemic was an important step in overcoming the excessively literal pictorialism of his time. It has been said that had Schoenberg, Stravinsky and the other early 20th century modernist composers not discovered their respective, individual, innovative styles which provided alternative aesthetical positions to the dramatic and pictorial expressivity found in

the musical language of Wagner, Mahler and Richard Strauss, the latter would have gradually degenerated into a superficial pictorialism, and the whole Western Classical musical tradition would have sunk to the level of movie music. Nevertheless, at the beginning of the 21st century, as this danger of excessive pictorialism has been overcome, it is not necessary any more for composers to distance themselves entirely from attempting to tie the semantic meaning of the music with that of the text. It is worthwhile to probe the meaning of the text and to attempt to link it with the structural and semantic possibilities of the composer's musical language in order to create a qualified musical composition, which achieves a balance between abstract form and representation of a literary text or a programmatic idea. As Theodor Adorno writes:

Music is more than intentionality, but the opposite is no less true: there is no music which is wholly devoid of expressive elements. In music even non-expressiveness becomes expressive... Every musical phenomenon points to something beyond itself by reminding us of something, contrasting itself with something or arousing our expectations. The summation of such a transcendence of particulars constitutes the 'content'; it is what happens in music... Music becomes meaningful the more perfectly it defines itself in this sense – and not because its particular elements express something symbolically. It is by distancing itself from language that its resemblance to language finds its fulfillment.¹⁸

A viable approach to expression in the music of the early 21st century in the context of finding new artistic and aesthetic trends is one which successfully combines a sound, complex form, following purely musical laws, and new forms of expression that avoids the danger of literal representation: a more distanced manner, following the maxims of Kandinsky in his call for "new expression in art." In the case of text setting in vocal music, it is an approach that avoids literal depiction of the text, but still attempts to express the meaning of the text, albeit in a more indirect manner; this may lead to a more profound understanding of the artistic message of a literary text and of a more adequate representation in the music. Experiments in emphasizing a text's phonetic possibilities as a medium of sound, as well as developments in combining voice and electronic music have contributed to a balance between the opposing approaches. As Schoenberg writes in his article "Heart and Brain in Music":

It is not the heart alone which creates all that is beautiful, emotional, pathetic, affectionate and charming; nor is it the brain alone which is able to produce the well-constructed, the soundly organized, the logical and the complicated. First, everything of supreme value in art must show heart as well as brain. Second, the real creative genius has no difficulty in controlling his feelings mentally; nor must the brain produce only the dry and unappealing while concentrating on correctness and logic.¹⁹

Busoni elucidates the aims of finding a new aesthetic in music and the arts by demonstrating the capabilities of music for expressing the most cosmic and sublime entities of our universe as infinite. He presents the artistic objective to transcend our limited modes of expression and achieve hitherto unreached artistic heights by finding new aesthetic forms in music and the other arts:

If Nirvana be the realm "beyond the Good and the Bad," one way leading thither is here pointed out. A way to the very portal. To the bars that divide Man from Eternity – or that open to admit that which was temporal. Beyond that portal sounds music. Not the strains of "musical art." – It may be, that we must leave Earth to find that music. But only to the pilgrim who has succeeded on the way in freeing himself from earthly shackles, shall the bars open²⁰.

Notes

¹ Ferruccio Busoni, *Sketch of a New Aesthetic in Music*, translated by Dr. Th. Baker; in *Three Classics in the Aesthetic of Music*, Dover Publications, Inc., New York, 1962, p. 76.

² *Ibid.*, p. 79.

³ *Ibid.*, p. 79.

⁴ *Ibid.*, pp. 80–81.

⁵ *Ibid.*, p. 81.

⁶ *Ibid.*, p. 82.

⁷ *Ibid.*, p. 88.

- ⁸ Arnold Schoenberg, "The Relationship to the Text" (from *Style and Idea: Selected Writings of Arnold Schoenberg*, Leonard Stein, ed., New York: Academic Press, 1975), p. 144.
- ⁹ Wassily Kandinsky, "On Stage Composition" (pp. 190–206, from *The Blauer Reiter Almanac, The Documents of 20th Century Art*, edited by Wassily Kandinsky and Franz Marc, New Documentary Edition, edited and with an introduction by Klaus Lankheit, New York: The Viking Press, 1974), pp. 192–201.
- ¹⁰ Ibid., pp. 162–163.
- ¹¹ Ferruccio Busoni, *Sketch of a New Aesthetic in Music*, translated by Dr. Th. Baker; in *Three Classics in the Aesthetic of Music*, Dover Publications, Inc., New York, 1962, p. 98.
- ¹² Ibid., p. 98.
- ¹³ Ibid., pp. 99–100.
- ¹⁴ Ibid., pp. 90–91.
- ¹⁵ Arnold Schoenberg, "The Relationship to the Text" (from *Style and Idea: Selected Writings of Arnold Schoenberg*, Leonard Stein, ed. New York: Academic Press, 1975), p. 141.
- ¹⁶ Ferruccio Busoni, *Sketch of a New Aesthetic in Music*, translated by Dr. Th. Baker; in *Three Classics in the Aesthetic of Music*, Dover Publications, Inc., New York, 1962, p. 97.
- ¹⁷ Igor Stravinsky, *Poetics of Music* (translated by Arthur Knodel and Ingolf Dahl, Cambridge, Massachusetts and London, England: Harvard University Press, 1975), pp. 80–81.
- ¹⁸ Theodor W. Adorno, "Music and Language: A Fragment" (1956) (p. 1–6 from *Quasi una Fantasia, Essays on Modern Music*, Translated by Rodney Livingstone, London and New York: V. Verso, 1992), p. 6.
- ¹⁹ Arnold Schoenberg, "Heart and Brain in Music" (from *Style and Idea: Selected Writings of Arnold Schoenberg*, Leonard Stein, ed. New York: Academic Press, 1975), p. 85.
- ²⁰ Ferruccio Busoni, *Sketch of a New Aesthetic in Music*, translated by Dr. Th. Baker; in *Three Classics in the Aesthetic of Music*, Dover Publications, Inc., New York, 1962, p. 97.

Santrauka

A. Schönbergas, F. Busoni ir V. Kandinskis: naujas požiūris į teksto ir muzikos išraišką

Pranešime nagrinėjamas trijų žymių XX a. pradžios estetų – kompozitorių A. Schönbergo ir F. Busoni bei tapytojo V. Kandinskio – epistolinis palikimas. Nagrinėjamos ir lyginamos visų trijų menininkų estetinės nuostatos, išryškėjusios jų darbuose: Schönbergo straipsnyje „Apie požiūrį į tekstą“, Busoni apžvalgoje „Nauja estetika muzikoje“ ir Kandinskio straipsnyje „Apie dvasingumą mene“ bei kituose jo rašiniuose, išspausdintuose 1912 m. Berlyne jo leistame ekspresionizmo menui skirtame almanache „Blauer Reiter“.

Savo straipsnyje Schönbergas išreiškė nuomonę, kad vokalinė muzika neturėtų pernelyg tiesmukiškai iliustruoti literatūrinio teksto, pagal kurį ji buvo sukurta. Busoni savo žymiojoje apžvalgoje skatino ieškoti naujos muzikinės išraiškos, nesuvaržytos nei tradicinių muzikos formų, nei programinio literatūrinių įvykių perteikimo – krypties, kuriai pradžią davė R. Wagneris. Kandinskis siekė naujo, modernaus, XX amžiui tinkamo meno, kuris, skirtingai nuo tradicinio XIX a. meno, tiesiogiai vaizdavo regimojo pasaulio objektus, galėjo atsisakyti pažodinio įprastų objektų ar įvykių perteikimo ir nors šiek tiek pasukti link abstraktumo, išreiškusio vidinį, dvasinį tikrovės aspektą.

Pranešime daromos tam tikros išvados, kurios patvirtina šių idėjų įgyvendinamumą XX a. pabaigos–XXI a. pradžios mene.

Some Thoughts about Musical Text, Manuscript and Čiurlionis' Music

The textological analysis of music compositions, which includes analysis of the text and the manuscript itself, seems to be one of the most fruitful methods developed in the last decades for rediscovering chronology of a compositional process and for a better understanding of a composer himself. This method is usual and successfully applied for literary works, and a lot is done also to apply this method for music, too. First of all, it depends on the critical editing and printing of music.

The role of text as a primary source that encompasses everything and provides the foundation for further research became stronger already in the beginning of the 20th century. Although text analyses were limited for a long time only to analysis of texts of literary works, this method and concept passed into other systems of human artistic expression that have language characteristics – such as music, painting, dance, and even scents. Today text (pronounced or written) is the foundation and a primary given thing of all humanities and liberal – philological thinking. According to Bachtin, "Where there is no text, there is no research and contemplation object. Whatever the research objectives are, only text may be the foundation" (Bachtin 1979: 281–282).

One of the most well-known researchers of the old Russian writings Dmitrij Lihachov defines text as a result of deliberate human activity (Lihachov 1983: 128). According to him, text is only a linguistic expression of a creator's idea, so everything that is not language is not text either (for example, text errors). Lihachov considers that when a textologist analyses a manuscript, first of all he has to identify what belongs to the text, and what belongs to the manuscript (Lihachov 1964: 9). We can find an analogous remark in the texts of Raymond Monelle where he says that "text is defined by what is not-text" (Monelle 2000: 151). In this way we define the limits of our analysis that are quite exact but also quite narrow.

As one can see in the newest musical publications, editors are more and more interested in that which is not text. Namely, editors find new meanings of the text itself and new possibilities for interpretation when they analyse not text. Of course, these are peripheral things and marginalia, but interest for them has increased in the contemporary society. And here already another, a wider point of view prevails that defines text as a coherent complex of signs and sees it everywhere where meaning exists (Daujotytė 1998).

According to one of contemporary russian editor Vaidman all topics of music textology may be generally divided into two spheres: analysis of text history and preparation of various texts for publication (Vaidman 1987: 125–126). Historical analysis of text in each level of formation when the manuscript is still being written by the author, when it is re-written by the copyist and edited by the editor and in all other cases where text is only corrected and changed belong to the first sphere. Preparation of scientific editions of musical works belong to the second sphere (type of publication, publication structure and arrangement of works, dating, identification of the main text, writing of commentaries, notographical and orthographical processing). For this reason musicologists shifted their attention from composers' clean copies to intensive and comprehensive analysis of drafts already in the beginning of the 20th century.

The method of *Genetic critics* formulated by Pierre-Marc de Biasi and described in the book "Introduction aux Méthodes Critiques pour l'analyse littéraire" (Biasi 1990) looks especially effective here. Although de Biasi talks about and analyses literary works, his method seems really universal and can be successfully applied to music. According to de Biasi, two sorts of genetic analysis exist: genetics of scenarios or "not yet text" and manuscript (written) analysis or analysis of text. The first one is suitable for analysis of all autographic documents that influenced the work's conception and preparation (context), and the second one is for written variants of manuscripts (text). Also genetic textology and genetic criticism are distinguished.

Genetic textology deciphers and analyses a work's manuscripts. Genetic criticism interprets the results of deciphering. Genetic textology and criticism have one aim which is to re-create the history of "text birth" and to uncover the mysteries of its creation. The aim of this method is to

highlight and to help understand the originality of the work's text by grounding oneself on the peculiarities of the process that produced this text.

Genetic textology spans all "material traces" of the work, everything that is directly or indirectly connected with the analysed work – primary manuscripts used in the work, drafts, variants of developing certain places and author's notes related with the work indirectly, the gathered material. The starting point of genetic criticism is the stating that the final text of the work is the result of a certain process. Genetic criticism analyses the time dimension of a text that is being born and is based on the presumption that even a relatively finished work is only the result of its genesis. When a work is analysed with the help of this method four phases of genesis are seen: preparation, writing, publishing, and after-publishing phases. Each of them also has several stages and functions that are characteristic of certain types of manuscripts. For example, two more levels may be found in the preparation phase: the survey or "before primary" level and the decision level. The writing phase is the phase of implementing the conception. Here is where the core of genesis – drafts – lies. That is auxiliary writing sources, the "writing file" (drafts used in the future work, variants of developing certain places), final clean copies and transcripts by the author. When the becoming of the manuscript itself and not the final result which is a manuscript finished by the author that was corrected most is chosen as a primary point, a constantly changing world where nothing is finally defined and where writing and composing is disturbed every second by the possibility of choice appears.

Coming back to the musical text we should remember its main characteristic that was noticed already by Jean-Jacques Nattiez. It is the dual acoustic and graphic nature of a musical sign (Nattiez 1973). The author's thought in the written score breaks into a new light spectre as if in a prism – we see only separate details of an unbroken creative process in it, so it is almost impossible to reconstruct the whole entire creative process only by the score. The score never matches the composer's primary concept because the creative impulse most often forms as a sound structure. So a conclusion arises, as Raymond Monelle notices, that when a score (music as text) is analysed, the existing possibility of deforming the meaning should not be forgotten (Monelle 2000).

But "Text is always open to infinity," Roland Barthes writes (Bart 1989: 425). "Music, apparently, is always speech, never writing," Monelle agrees (Monelle 2000: 168). And Charles Rosen adds: "Nevertheless, composers always seek to control and influence the performing of their works, so they are inclined to write their works down, although they understand that notation is not perfect" (Rosen 2001).

How is everything that we talked about reflected in a particular work of a musicologist? Here I would like to present a few of my personal insights and conclusions that were formed when analysing music manuscripts of Čiurlionis.

Mikalojus Konstantinas Čiurlionis is one of the most well-known Lithuanian composers and painters, the contemporary of Schoenberg, Mahler, Rachmaninov, and Richard Strauss. He is one of the most original and most interesting artists of the end of the 19th century – beginning of the 20th century. He left over 200 works of painting, approximately 600 drawings and drafts, and almost 400 musical compositions. The composer's path lasted only 14 years and experienced some great changes; and today we divide Čiurlionis' work into the early period from 1896 till 1903 that has all characteristics of romantic music, and the mature period (1904–1910), where he sought for new work composition formation principles, there was a clear turn toward atonality, and even rudiments of graphic music may be found in his work.

The first and foremost task of a textologist starting a detailed analysis of manuscripts of Čiurlionis and other composers is registration and evaluation of the manuscripts themselves. The success of all further work depends on how fully the archive (or at least copies of good quality on a desktop) is completed. In Čiurlionis' case we see that his creative inheritance had to withstand all cataclysms and political peripeteias of the 20th century. For this reason a big part of manuscripts were destroyed or lost. Today a few signs show that they existed. Firstly, it is the information that we find in the Čiurlionis' archive: hints in letters, fragments of music with meant dedications, title pages of orchestrated works that exist, etc. Another factor that tells us about the manuscripts that existed once is the consistency of the creative process. Traditionally all composers follow a certain sequence of putting a work into text: in the beginning a sketch of the work is made, then a full

draft of the work is written down, and at last the work is re-written into a clean copy with minor corrections.

It is interesting to note that Čiurlionis followed such sequence only in the beginning of his creative path. Around 1903–1906 he started leaving almost everything in drafts and unfinished sketches because he did not believe anymore that his work would be published or performed someday, and during 1908–1909 he left no primary work sketches – the work matured fully in his thoughts, and he wrote down the fully complete work text on paper. In this case we can make correspondent conclusions what to look for and what not to expect to find. These conclusions were recently confirmed by a batch of unknown music autographs of Čiurlionis found last spring in the archive of his sister Jadvyga Čiurlionytė that was kept in the library of Vilnius University. Nobody ever doubted that Čiurlionis, having studied composition only for two years, was not capable of creating a sonata or variations for piano without initial drafts, but we did not have them in the archive. And among the found manuscripts we found the initial manuscripts from which the same works were re-written into a clean copy later.

Another quite difficult problem that everyone who opens Čiurlionis' music autographs has is the capability of not to get lost and to find one's way through many sketches, fragments, details, episodes that make up two thirds of the whole archive. The reason is that very often one may find fragments of various works written down at different times and in different places on one page of a manuscript. And vice versa – sketches of the same work were written down on pages of several manuscripts. As a rule such fragments were not dated, they were inserted into each other, written down most often with the same pencil, sometimes they were struck through but corrected later. Such nature of manuscripts poses problems for editors of publications as well as for museum employees who have to register the collected archive. We can find registration mistakes already in the initial book of manuscript inventory. For example, for a long time two autographs that differ substantially were held by one name and together – choir *a cappella* "Sanctus" created in 1902 in Leipzig and Overture for a Symphony Orchestra. This Overture is a part of clavier and the title page of orchestrated score that did not survive. So in 1990 when the archive was reviewed even three new manuscript positions were formed.

Nevertheless we can identify limits of many fragments and sketches by several characteristic features: clefs – treble (G) and bass (F), key signs, and time. Čiurlionis always put a new creative idea or thought into text by starting the writing with these naturally necessary signs. This is an exclusive quality of Čiurlionis' manuscripts because if a work is written down not from the beginning (some middle part of a work is put down) or if it is continued on another page or another manuscript – as a rule, no such signs exist. Some editors of Čiurlionis' publications made mistakes and, as it was found out later, published work fragments as one composition because they did not give adequate attention to this characteristic.

It must be remembered that professor Vytautas Landsbergis worked very hard and accomplished a lot analysing Čiurlionis' manuscripts. In more than 40 years he edited almost all Čiurlionis' music. But we have to admit that Landsbergis did not include a big part of music written by Čiurlionis in the catalogue compiled and published by him in 1986. So the author of this paper started a palaeographic research of the archive already in 1990 and analysed the written material (basis and inscriptions), nature of the writing (font), the writing (manner), and the positioning of writings on a page. Analysis of the written material allowed to identify a lot of fragments and sketches that were "overlooked" by scientists who had worked on them earlier. Each manuscript or a piece of paper of a notebook has its own characteristic qualities: records of the publishing house, way of binding, a certain number of staves, and differences between staves. Such analysis provided a possibility to form quite a clear image of what paper was used by Čiurlionis and when. This, of course, allowed to correct the chronology and location (place of creation) of music writings on the pages.

Another very important factor was the writing tool itself (the pen). All Čiurlionis' music manuscripts were written with only two pens – pencils of various colour or ink. The most important thing is that it was possible to identify the dates of several fragments by the writing tool – in the first place, written with a violet or, to be more precise, chemical pencil. It was possible because Čiurlionis wrote notes with it as well as worked with sketches of future paintings. We know the dates of the paintings. So it is not difficult to identify in reverse order the time and sometimes the place of writing down of some musical fragments.

Eventually the palaeographic analysis allowed to compile a catalogue of Čiurlionis' music autographs that did not survive of almost the same size as the one of known existing manuscripts. This analysis showed that, first of all, Čiurlionis cared for the fixation of the musical ideal, putting it into text.

Instrumental dependency was not the main factor. Usually it is difficult to identify what instrument the composition is meant for or should be performed by. The examples of such instrumental indeterminacy pose another intriguing question – maybe these examples are interconnected in some way? Because after carefully review of all Čiurlionis' creative work it may be clearly seen that the whole creative path of the artist had one idea, one big opus that existed in the smallest details like the deity in the painting "Rex", but also it was the core of the whole existence. In the same way as Alexander Scriabin sought to create his "Mystery", Čiurlionis tried to implement his *idée fixe*, i.e. the idea of the creation of a peculiar, "strange", "fantastic", as he writes in his letters, world, and this idea was partly realised in painting and in music – Čiurlionis named a series of paintings and a composed symphonic poem created in 1907 by this name of "The Creation of the World".

Nevertheless the existing manuscripts show that the creation of this fantastic, artistic world was going on until the last moments of his life – in the latest music manuscripts, dated February 1910, Čiurlionis wrote two big sketches for an orchestra with a pencil – a symphonic poem "Dies irae", and a second symphony, called "Pastoral, Lithuanian" ("Pastoralinė, lietuviška") (parts 1–2). It is important that Čiurlionis inserted fragments of pieces for piano in both these works (Fugue *c-moll* (VL 219), "Our Lord" ("Tėve mūsų") (VL 260), Prelude *d-moll* (VL 325), Fugue *b-moll* (VL 345), variations for piano "Bėkit, bareliai" (VL 279), and "Oi giria, giria" (VL 276)). That means that Čiurlionis clearly treated all his piano pieces as sketches of one big orchestral work, a work that was being created during all his life and that was started to be realised only in the last minutes of his life.

So the artist's "The Creation of the World" ("Pasaulio sutvėrimas") is not only a series of paintings or a symphonic poem, it is more of a reflection of an eternal process of universe creation, and the artist disgorge into it only for a moment and can leave only a slight trace.

Čiurlionis probably felt that, as Algirdas Julius Greimas wrote, "the history of a man, nations, the humanity [...] has some deeper meaning, that a person's behaviours obey some metarational principle" (Greimas 1991: 18). So the surrounding world to Čiurlionis was, as Vytautas Landsbergis noticed, "not chaos, but an entirety of connections, besides, connections of the ground and the sky; so the subsistence of a human being is a part of something, and his creation may express itself as a sign of the great master works" (Landsbergis 1997: 9).

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Santrauka

Keletas M. K. Čiurlionio muzikinio teksto ypatybių

M. K. Čiurlionio muzika greta tipiškų muzikos komponavimo priemonių pasižymi keletu tik jai būdingų teksto bruožų, kurie tarsi nėra patys reikšmingiausi, bet atskleidžia giluminius teksto formavimosi principus ne tik Čiurlionio, bet ir kitų menininkų kūrybiniame procese. Tai meninės muzikinės minties struktūrinė išraiška, užsimezgantys teksto struktūriniai ryšiai tarp atskirų kompozicijų ir net tarp skirtingų meno šakų (Čiurlionio muzikos, dailės ir literatūrinės kūrybos), muzikinio teksto simetrija, grafinis (vizualinis) muzikinio teksto rezultatas, unikalus multimeninės raiškos žodynas ir su juo susijusi garsų simbolika, galiausiai paties teksto neužbaigtumas (*non finito* principas) bei nematerializuoti (neužrašyti) muzikos tekstai. Šie bruožai, pranešimo autoriaus nuomone, yra išskirtiniai, atskleidžiantys unikalias Čiurlionio muzikinių tekstų savybes, kurios savo ruožtu leidžia geriau suprasti muzikinio teksto formavimosi dėsningumus.

M. K. Čiurlionis' Last Unrecognized Musical Cycle

Introduction

The present work is a continuation of the author's article published in the previous issue of the publications (Janeliauskas: 2004). It stated that the composer inspired by a creative outburst lasting several days (October 12–17..., 1908) created not only version I of three pieces ("wrote three pieces" – from the letter to S. Kymantaitė, October 15, 1908), but also "sketched" version II of the mentioned cycle (UC: October 1908, Petersburg). The following conditional titles, namely Prologue, Fugue, Finale were employed for the signification of the functional similarity between the movements of each version (for more see: schemes 2 and 3 of the mentioned article, where the chronology, functional and key similarities of the movements of the "outburst" works are marked, p. 34–35). The aim of the present article is to analyse and establish whether the works included in version II also make up a musical cycle. Thus, the object of investigation comprises Čiurlionis' three last works for piano written out nearly by the composer in November 1909 (VL 325, 345, 328).

With the aim of establishing a spontaneous cycle independent methods (prognostic, structural, identification), alike in the previous article, were exploited. A successive order of each of the methods (the sections of the article appropriately arranged) forms a certain sequence of procedures, making possible to more explicitly delimitate the object of investigation and confirm or reject the composer's spontaneous musical cycle as a real fact of work (here called Unrecognized Cycle). Generally speaking, one can say that the whole of the investigation procedures coincides with the so-called structural-systematic method. Here the results of textological analysis of Čiurlionis' music have been also made use of (Kučinskas, 2002). For the elucidation of the investigation level of the theme in question it could be enough to point out the facts marked in the previous work about the reflections of unrecognized cycles and the cyclic nature in theoretical literature (Janeliauskas, *ibid.*, p. 29–30). Besides, musicologists' observations about some works from version II, particularly the famous Fugue in B flat minor, are greatly topical for this investigation. The structure of this Fugue, as we shall see later, contains quite a few features significant for the entire cycle. "The emergence of this work is somewhat enigmatic", writes V. Landsbergis (Landsbergis, 1986, p. 103). "The work was born not in one breath like some of his preludes; Čiurlionis used to return to it, perfect and finally dated the copy in Petersburg, November 1909. Whereas the composer's primary manuscript has one more, later abandoned trace of thought: to augment a harmonic prelude-form of the triad from A³-F³-C³ sharp bright flickering, descending to the counter-octave depths, where the tonic clears up – the fugue's subject will be born" (*ibid.*).

V. Landsbergis notices in the fugue seven sections, motivating their separation as follows: "the exposition of ideas (15,5 m.); the aims of new keys, countersubjects, shapes of subjects (phases II–III, 15 m.); the mildest, clearest (IV); the most conflicting (V–VI) and conclusions with the summing up of the primary key coda (15 measures in all)" (*ibid.*, p. 15). The presented scheme of the compositional fugue (*ibid.*, p. 106) witnesses that the musicologist estimates the volume of the exposition as 15,5 measures within which sounds the subject and its answers (B flat-E-B flat-E) as well as an inverse shape of the subject (C). In reality, however, it occupies not 15,5, as shown in the scheme, but 22,5 measures. Besides, the musicologist, attributing "the lyrical culmination not to the medial but the basic movement of "conclusions" (IV–VII)" (*ibid.*, p. 107), seems to be mistaken interpreting the beginning of the fugue's recapitulation. In his scheme (*ibid.*, p. 106), the beginning of the recapitulation is marked by a minor presentation (c) following the "lyrical culmination" (C). The mentioned and similar circumstances give rise to the ambiguity of the notion of the fugue.

A. Venckus investigated Čiurlionis' Fugue in B minor more thoroughly than other musicologists. Due to the fact that the fugue's subject contains in a primary shape quite a few structural features of the entire Fugue (Venckus, 2000, p. 178), the musicologist goes deeper into the subject. He analyses its rhythm, meter, compositional structure, melodic line, the presentation of keys, modal peculiarities, the clarity of keys and intervalics. The musicologist notices that the first half of the subject is "marked by various and the second, on the contrary, – uniform rhythmic durations"

(*ibid.*, p. 178). He supposes that the rhythmic-metric structure of the subject is principally based on a iambic foot. "The compositional structure of the subject is of a three part-form (*ibid.*, p. 182), and the melodic line is "wave – shaped" (*ibid.*, p. 184). "The construction of the subject's keys, oriented after the fifth system, undergoes alteration – from flattened primary digress to further keys of sharpened direction (B flat-C-A-E) (*ibid.*, p. 187). He also points out that the subject in respect of the "clarity of keys has some reflexive features – the initial and final keys are the most pronounced" (*ibid.*, p. 189). It makes possible to notice "a logical arch of the structure <...> between the final key of E and the accentuated sound E in the beginning" (*ibid.*, p. 200). Guided by the law on the priority of the most common model, the musicologist confirms the reflexiveness of the subject's key modes. Each of the fifth sound systems in the initial key of B flat and the final of E have six members (*ibid.*, p. 206). In its turn, the key of A – ten members, and of C – nine. Having measured a general volume of all the rising intervals of the subject in semitones and compared an arithmetical mean of this volume with the mean of all the falling intervals, the musicologist discovers an amazing balance (the difference even does not equal a full semitone – a weighty argument in a doubtful favour of the subject's sound B₁ under re-editing!).

Later on the musicologist analyses the presentation of sound material in time and notices a proportional dynamics of the fugue's parts. Each of its parts is expressed in percentage in terms of duration, making possible to notice an inverse proportion of the volume of derivatives: an initial presentation – 42,45%; benomial I of development – 19,81%; benomial II of development – 15,09%; benomial III of development – 13,21% and the recapitulation of duration – 9,44% (*ibid.*, p. 230). On the basis of this proportion, the musicologist consistently differentiates the fugue-form parts.

Eventually, the proportional dynamics of movements enables the musicologist to base a systematic transfer of the fugue's culminations to the front. In comparison with the subject, they move away in a percentage respect: the subject (64,25% of the whole duration), the initial presentation (77,48%), and the development (85,71%, 75% and 94,64%). The fugue's major culmination (benomial II – 75%) most of all draws close to the proportions of the subject's culmination. Making use of interval indexes of the distance between voices, the musicologist estimates a stopping and dynamics – based role of the texture. He bases the closure of the fugue's exposition according to the further distance of voices from each other. In addition, this fact is also confirmed by the analysis of a rhythmic pattern – "the initial presentation in respect of rhythm is closed, since in the end one can see a return to initial forms of rhythm" (*ibid.*, p. 246). Venckus' valuable observations and discoveries thoroughly analysing the Fugue were however not crowned with real success. The musicologist failed to evidently prove a programming relationship between the whole of the subject and fugue. His idea of the Fugue's dynamic parts, motivating it by the Fugue's key plan and a proportional presentation of sequences seems to be particularly vulnerable.

The Fugue in B flat minor was also investigated by a young musicologist D. Kučinskas. In his opinion "the initial idea of the Fugue should be associated with the opera "Jūratė", because all the improvised, composed, written or unwritten down music at that time was permeated with an opera idea" (Kučinskas, 2002, p. 114). The musicologist discovers some traces of such improvisations in the unpublished 13-measure fragment G minor (ČM 55, p. 21–22, September 1908). Thus, he holds that the composer wrote this Fugue with short intervals from September 1908, until at last he markedly adjusted it and made a fair copy (November 1909).

In the musicologist's opinion, the second manuscript (the fair copy) of the Fugue in B flat minor "the most exactly reflects the composer's idea" (*ibid.*, p. 117). Taking into consideration the Fugue's measure 4 edited by Landsbergis and D. Eberlein, where on the basis of the primary manuscript (the rough copy) the sound B₁ is changed for C, Kučinskas writes: "Although in the Fugue's Urtext C (doh) is left, a doubt remains whether Čiurlionis, having markedly changed the Fugue could have also changed this sound, bringing out the fourth (pure, augmented, diminished) interval typical of the fugue" (*ibid.*, p. 117). Besides, he states: ... "if we recognize that the subject should contain C (doh), then mathematical calculations of sound relationships by Venckus would be wrong and the conclusions – mistaken" (*ibid.*, p. 118).

Although quite a number of investigation were devoted to the analysis of Čiurlionis' Fugue in B flat minor, one cannot help wondering why musicologists do not come to agreement. The Fugue's key plan, proportions, rhythmic structures cause problems. They also disagree concerning the beginning of the recapitulation, the sounds contained in the theme itself. These and similar

disagreements seem to be conditioned by the approach that the composer's Fugue in B flat minor is as if an individual self-contained work.

On the contrary. Here an attempt will be made to show that the Fugue is only one of the cycle's movements, therefore, it can be principally disclosed on the basis of the analysis of the whole cycle.

Differently from the Fugue, other works of the cycle, presenting to us interest (VL 325, 328), are included in different groups and cycles made up by the editors. Let us compare:

JČKF: Four Preludes Op. 31

Number:	1	2	3	4
VL	325	327	328	322
Keys:	D	C	C	Dm

VLKF: Sea Preludes (I–XIV)

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV
VL	318	319	320	328	250	322	324	325	326	327	329	331	330	333
DK	261	262	263	279	259	266	268	269	277	278	280	282	281	284
Keys:	Cm	Dm	Dm	C	D flat	Dm	Cm	Dm	Bm	C	Bm	Cm	C	Bm

It seems that a free outlook on the chronological succession of works is characteristic of both editors – Čiurlionytė and Landsbergis (comp. VL and DK chronologies). One can notice certain partial attempts to include works in cycles, mainly on the basis of a key plan. For example, Čiurlionytė, selecting preludes, places them forming a key arch (D and Dm), whereas Landsbergis orients himself to the surrounding of keys at a second (C-D-B). Therefore, the works under investigation (VL 325, 328), included in different systems of cycles (groups), potentially acquire different compositional functions (those of an arch, surrounding, etc.). In point of fact, these evident ambiguities would not crop out knowing a natural cyclic character of the works. Its possibility among the mentioned works will be analysed in the next sections of the article.

Prognostics of the Cycle

As we have noticed, the cycle's idea concerning version II of the works directly emerges after the writing of "three pieces" (12–15 October, 1908). The reason for it seems to be the composer's dissatisfaction with the cycle's version I (Janeliauskas, *ibid.*, p. 34). Then, true enough, the composer spontaneously crossed out the first two "pieces" (VL 322, 323) and made a fair copy only of the third. Besides, he dated it (VL 324: 08...14). Prior to the abatement of the outburst, the composer wrote a new version of the first "piece" (here called Prologue), more exactly its 22 measures (VL 325: October 16, 1908), and the next day he "sketched" the beginning of the third work (Finale) (VL 328). Having in mind that there is an incomplete copy of Jonas Čiurlionis (Čm, p. 4), one can guess that only the first nine measures out of 33 were written at that time. The composer finished the whole composition much later. The mentioned work, therefore, is non-monosemantically dated (VL 328: October 17, 1908 – February 12, 1909).

It is expedient to point out here the order of succession writing the Fugue in B flat minor, having in mind that a creative outburst lasted only a few days (October 12–17, 1908, Petersburg). Kučinskas noticed that the beginning of the Prelude C major (VL 328) in the same copybook (Čm 52) before the Fugue is dated October 17, 1908, therefore, he supposes that part of the Fugue up to measure 23 was written between October 17, 1908 and November 28 (Kučinskas, 2000, p. 114). Measures 23–39 were written later. The identity of writing materials (a violet pencil) enables the musicologist to judge about individual periods of the writing down the mentioned measures – February, March and May, 1908 (*ibid.*, p. 115). Besides, "in March the composer began to write a new fugue notated in a violet pencil (VL 337)" (*ibid.*). After the completion of the rough copy (May 1909), the Fugue, markedly adjusted (August 1909), was copied into the manuscript (November 1909) (*ibid.*, p. 116).

An exact chronology of works, making possible to establish probable movements of the cycle, is of paramount importance for the composer writing music in outbursts. The presented excursus of the chronology of works seems to leave no chances to clarify, at least to some extent, the probability of the cycle, since they do not follow a successive chronological order. The composing is

long-drawn-out or in stages. No matter that the composer at last copied all the three works into a fair copy, it also contains no absolutely exact dating.

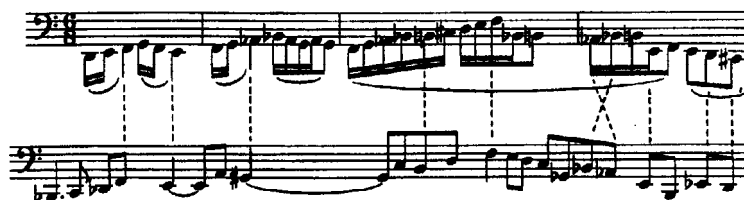
Stating the probability of the cycle, in spite of the intricate chronology of the works, the prime task is to attentively evaluate the peculiarities of creative outbursts. The structure of the outburst witnesses as if two stages. The first is associated with the writing of three "pieces" (October 12–15, 1908). Worthy of mention is that Čiurlionis articulates this period in his known letter to S. Kymantaitė. In the second stage the composer starts a new version of the three "pieces" and fixes 9 measures of the first and third works. In this stage, a chronological (cyclic) sequence of works seems to be not very important to him. He already has a prototype of the cycle, i. e. version I. Due to a clear introduction order of the works into a cycle, the composer seems to be more concerned about an artistic merit of the works. Taking into account the comparison of the quality of the works, it can most likely throw some light on the chronology of works.

As mentioned before, part of the Fugue up to measure 23 was written in the period between October 17, 1908 and November 28. However, the comparison of the Prelude D minor written a day before (VL 325) with a 5-measure prelude prior the Fugue in B flat minor (primary manuscript, Landsbergis 1986, p. 103) discloses a pronounced qualitative inadequacy. It should be mentioned however that both preludes are drawn closer by the harmony of an augmented triad and the same function of harmony (the sound A in the bass, respectively m. 22 and m. 5). One can guess that they witness two variants of the Prologue. The Fugue's prelude is a rather elementary improvisation ("preluding" with an augmented triad). Whereas the Prelude D minor written a "day before" is marked by a pronounced compositional structural character, namely ostinato phrases in the bass and melody, a rich harmony (here are employed all the three possible transpositions of an augmented triad and other chords). Besides, the varied melodic motifs (m. 3, 5, 9, 11–13) seem to prepare the Fugue's theme.

These pronounced qualitative differences lead to the presumption that the Fugue's prelude (and the Fugue proper at least up to measure 23) was most likely written prior to the mentioned creative outburst (apparently before the composer's second leaving for Petersburg, September–October, 1908). It might have been the reason why after the completion of a new version of the prologue the composer started writing the Finale without delay. It stands to reason that the Fugue's initial "sketch" existed, but the composer finished the Finale much later (December 12, 1909, Petersburg). Nevertheless, the composer writes down nine initial measures, but the Fugue was prolonged much later. The circumstances of the Fugue's continuation are also interesting, since the composer seems to try its one more version (VL 337). The comparison of the subjects of both fugues discloses principle coincidences of melodic lines and in part of supporting sounds (Example 1). Of interest is also "incompleteness" of a new attempt. The final intonation of this fugue (sound D sharp) introduces into the sound E of the Finale. Thus, the new Fugue might have been a new attempt. The chosen an attractive modal and harmonic contrast of the prelude and the fugue (augmented and diminished mode and harmony) speak in favour of the mentioned supposition. But after all, his attempt before long turned out to be unacceptable – he continued the Fugue in B flat minor, incidentally, in the same chemical pencil. Hence, it is reasonable to suppose that the composer started to continue the Fugue not earlier than in March (most probably after his return to Druskininkai).

Example 1

VL 337, 345



VL 337, m. 25–27 and VL 328, m. 1



The Fugue's new version seems to have been matched up to the new Prologue. It may be not by chance that the dominant "A" (m. 22) of the Prologue's end "forces" its way into the primary tonic "D" of the experimented Fugue. On the other hand, one can say that it was again by no chance that copying the prologue into the fair copy, the composer "added" two final measures. The latter more successfully prepare the beginning of the Fugue in B flat minor (than the former A in the bass) even due to the final major measure of the Prologue, where the continuing chord in the key of D major (m. 24) prepares the fugue to sound in B flat by way of a modal contrast.

In respect of quality, the new attempt to write the fugue is more consistent due to the potential of an artistic and compositional idea in comparison with the exposition of the Fugue in B flat minor (m. 23). It is self-evident therefore that the composer left the unfinished new fugue and went on composing the "old" one patiently and for a long time. One cannot help wondering why the composer did not give up an old 5-measure introduction (a harmonic prelude making) – the Prelude up to its copying into the fair copy remained in the primary manuscript (the rough copy): he could have wondered about a successful completion of the whole fugue and mating it up to other movements of the cycle. The composer perfected the Fugue up to its copying into the fair copy (*ibid.*, p. 115). Whereas other movements of the cycle are shorter. Can it be the reason why they were copied prior to the Fugue? We suppose that due to works in the copybook Čm 52 are presented in the following order: p. 14–15, VL 325; p. 16–19, VL 328; p. 20–28, VL 345. This order does not completely coincide with the cycle of the works based on version II. Taking into consideration version I, they should be presented as follows:

	Prologue	Fugue	Finale
VL	325	345	328
DK	291	293	292
	1909 November	November	November

Chronological data on the works stimulate one to ask whether we indeed come across a spontaneous cycle. A spontaneous cycle is usually witnessed by several pronounced symptoms, such as a creative outburst, the anonymity of works and a seeming incompleteness. In respect of the works in question these symptoms are not particularly evident. In addition, the works are composed in stages in an intricate chronological order. They are indicated by the mark "Jūratė" and even have specific titles and referencies (fugue, prologue). But after all, the composer, as it seldom happens, copied all the three works into a fair copy, thus, formally finishes them. The inefficiency of symptoms can be explained through the structure of the creative outburst. Within the initial flow (stage) Čiurlionis composes a spontaneous cycle of three "pieces". It conforms to all the mentioned here criteria of spontaneity – the chronology is successive marked by an outburst; the works are untitled and partly unfinished (the first two works are crossed through and only the third was copied into the fair copy). Therefore, it is but natural to ask whether the new version of "three pieces" was created spontaneously (although in stages, thinking about an opera, polishing details). The answer is probably YES. Such is the structure of the stage of the second outburst.

How does the spontaneity of the mentioned stage manifest itself? It can be to a certain extent explained by a peculiar psychological state, as the philosopher A. Šliogeris puts it, "by a flash flooding the consciousness" (Šliogeris, 1996, p. 149). Such a flash "remains in the consciousness for ever <...>. But that memory is particular <...>. It breaks the walls of our conscious memory and plunges into the depth of the soul (subconsciousness – *R. J.*). It affects our thinking and action indirectly as if a mysterious light, travelling from behind the scenes and imperceptibly flooding the scene of a conscious life" (*ibid.*, p. 154–155). Being deep in thought and recollecting the flash, we as if live in the "eternal present", adds the philosopher (*ibid.*).

It is possible to similarly imagine how the first half of the creative outburst (flash) "directs" its second half and the further stages of composing. Of great interest (even stunning) are coincidences of keys. It has been mentioned that the works included in version I and version II have a single-named key structure (version I: Dm-B flat-Cm and II: D-B flat m-C; see: LM V, p. 35, scheme No 3). These is another imposing circumstance witnessing spontaneity. The Fugue from version I (more exactly a canon, VL 323), by the way, no lesser than its subject as if balances between two keys (B flat and Dm). It can be perceived as almost a "prophecy" in the composer's hesitations

trying out the new Fugue in D minor beside B flat minor, which was begun earlier. The light of outburst accompanies the composer further on, directing the anonymity of the cycle. The "stopped time" in the flash does not commit the composer to formally legalize the sequence of the cycle's movements and finish it in this respect.

Thus, regardless of the non-distinctiveness of spontaneity symptomatics, the ambivalent structure of the outburst makes possible to judge about it. It is the second versions of the three works that bring out a probability of a spontaneous cycle.

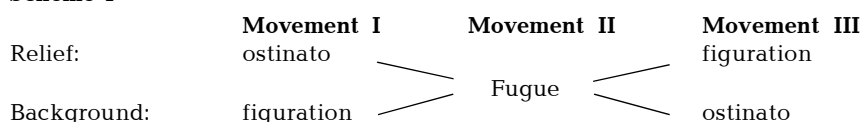
Structural Character of the Cycle

The composer's manner of composing distinguishes itself by a certain syncretic form uniting both binary (archetypes) and tonal (of New times) composing principles into an spontaneous integrity¹. Unfortunately, this kind of composing syncretism has to be artificially decomposed and the structural character of the cycle conditioned by every principle must be analysed individually.

Binary Cosmos

A binary approach makes possible to start from the things which are typical of this cycle and reflect Čiurlionis' spontaneous archetypal way of musical thinking. Alike in "three pieces", version II of the works is also marked by the cycle – structuring ostinato derivatives. Therefore, analogically can be employed ostinatos and figurations (everything what is not ostinato) as well as the model of relief and background classification, moreover that the latter enables one to notice ostinato expression as the cycle – uniting principle². True enough, now the middle movement is not a Canon as in version I, but a Fugue (Scheme 1):

Scheme 1



The mentioned change has no principle importance on condition if each presentation of the subject³ in a fugue can be recognized and evaluated as if an ostinato in the system of the cycle. Therefore, the chosen model makes possible to single out and mark the ostinatos of each movement (Scheme 2):

Scheme 2

Movement I (VL 325)	Movement II (VL 345)	Movement III (VL 328)
Ostinato I, m. 1–4	Ostinato I, m. 1 (b)	Ostinato I, m. 1
	Ostinato II, m. 4 (e)	Ostinato II, m. 2
Ostinato II, m. 5–8	Ostinato III, m. 8 (b)	Ostinato III, m. 3
	Ostinato IV, m. 13 (e)	Ostinato IV, m. 4
		Ostinato V, m. 5
		Ostinato VI, m. 6
		Ostinato VII, m. 7
		Ostinato VIII, m. 8
Ostinato III, m. 9–12	Ostinato V, m. 18 (c, inv)	Ostinato IX, m. 9
	Ostinato VI, m. 23 (d)	Ostinato X, m. 10
		Ostinato XI, m. 11
		Ostinato XII, m. 12
Ostinato IV, m. 13–16	Ostinato VII, m. 27 (e)	Ostinato XIII, m. 13
	Ostinato VIII, m. 30 (b, dim)	Ostinato XIV, m. 14
		Ostinato XV, m. 15
		Ostinato XVI, m. 16
Ostinato V, m. 17–20	Ostinato IX, m. 34 (cis)	Ostinato XVII, m. 17
	Ostinato X, m. 37 (as, dim)	Ostinato XVIII, m. 18
		Ostinato XIX, m. 19
		Ostinato XX, m. 20
Ostinato VI, m. 21–24	Ostinato XI, m. 39 (C, dim)	Ostinato XXI, m. 21
	Ostinato XII, m. 42 (C)	Ostinato XXII, m. 22
		Ostinato XXIII, m. 23
		Ostinato XXIV, m. 24

(VII ?)	Ostinato XIII, m. 46 (f)	Ostinato XXV, m. 25
	Ostinato XIV, m. 46 (f, dim)	Ostinato XXVI, m. 26
		Ostinato XXVII, m. 27
		Ostinato XXVIII, m. 28
(VIII ?)	Ostinato XV, m. 48 (a, di.)	Ostinato XXIX, m. 29
		Ostinato XXX, m. 30
	Ostinato XVI, m. 49 (b)	Ostinato XXXI, m. 31
		Ostinato XXXII, m. 32

Alike in version I, the number of ostinatos almost doubles with every new movement. But the 1st movement has mere 6 ostinatos instead of 8 meeting the proportion (8-2=6).

The following expressions specify the proportions of ostinatos:

Movement I	Movement II	Movement III
8-2 ostinatos	16 ostinatos	32 ostinatos

The simplified expressions would be: 1:2:4. It is very close to a proportional prototype of ostinatos of the version I (3:6:12=1:2:4). By the look, the ostinato of each movement is greatly individual (their primary motives can be seen in Example 2).

Example 2


Movement I, ostinato	Scheme I	Reduction I
		
Movement II, ostinato	Scheme II	Reduction II
		
Movement III, ostinato	Scheme III	Reduction III
		

Among them, however, one can see some general structural equivalents, making possible to state an integral idea of the cycle. It is brought out by a comparable scheme (ibid.). Binary elements can be seen in the ostinato of each movement. One comes across the oustings of thirds at a second, archetypical of Lithuanian ethnomusic⁴. The blocks of thirds here, as usual, vary with the multitude of thirds (1 or 2 thirds) and chromatic variants of the sounds at thirds. Besides, these thirds are contrasted both by a major and minor second.

Besides, binary oustings of blocks at a third (+/- or -/+) are peculiar to all ostinatos. In its turn, upon the reduction of the blocks to the minimum (up to one third), a general intonational code of all the ostinatos, to be more exact, a binary nucleus, becomes clear (Example 3). Here the variants of chromatic sounds are of no particular importance, because they cause no changes in the effect of the binary ousting. Having in mind certain peculiarities of the cycle's key plan, which are going to be soon analysed, it is polar thirds (B flat-D and C-E) that should be considered to be the primacy of such nucleus as the origin of the work.

Example 3

Reduction I+II+III



The relationship of the binary nucleus of ostinatos with the cycle's key plan is evident. The Fugue's parts are signified in a similar way (Scheme 3):

Scheme 3

Cycle:	Movement I	Movement II	Movement III	
Keys:	D –	B flat m /	C	
Fugue:	Exposition	Development	Recurrence	
Keys:	B flat –	Dm /	Cm	
Measures:	1	23	39	53

Perceiving the keys as the blocks on a macroscale, one can state binary oustings. In that case, the key (C) of the 3rd movement ousts the keys (D and B flat m) of the 1st and 2nd movements at a third, and an analogical key (C, m. 39) in the Fugue's finale ousts those of exposition and development (B flat m and Dm, m. 1, 23).

The ousting direction of the keys is inverse to the ousting of the binary nucleus in the Finale (Example 2: Reduction III E., see: – / +).

This kind of inversion of binary harmonies and keys is a logical feature of a cyclic character that reminds of the models peculiar to the classical micro- and macro-levels of tonal-harmonic and functional relationships of the cycle (take T-D-S and T-S-D, etc.).

The binary regularity of keys partly structures the Fugue's exposition. Here the pitches of subjects (the first melodic pitch of the subject sound is kept in mind) are ousted: B flat (m. 1), B flat (m. 8) and C (18). The last subject in the exposition manifests itself through the inversion of the theme, and in its turn even more reinforces the binary polarity of the subjects' blocks. It is worthwhile to glance at the mentioned inversion of the subject more attentively (Example 4). It is obvious that the inversion is not presented in a strict form (cf. the original O with inversion I and its 1st variant). Mere few sounds (1–3, 6–7) are strictly preserved. The comparison of the shapes and subjects in the second half (s. 14–15) discloses two intervals of the tritone (C-F sharp and A sharp-E), which, as we shall see later, base the ostinato of the final movement.

Example 4

The relationships between the binary nucleus and the cycle's keys and melodic pitches are peculiar to the whole Fugue. Worthy of mention are the structures of the presented pitches (Scheme 4):

Scheme 4




Parts:	Exposition (2+ / 3-)				Development (3+ / 2-)				Conclusion (3+ / 3-)							
Pitch of presentations (+):	B flat	B flat			D	B flat	C sharp			F	F	B flat				
Pitch of presentations (-):		E	E	C	E			A flat	C	C		A				
Measures:	1	4	8	13	18	23	27	30	34	37	39	42	46	46	48	49



The scheme shows that part of the presented pitches resounds the polar blocks of the binary nucleus (+ and -). It follows that the presentation plan of the Fugue's subjects (and answers) is composed on the basis of a binary principle, where one of the subject's pitches composes a positive block of presentations [B-B-D-(C sharp)-F], and others – negative [A flat (-A)-C-C-E]. These pitches correspond to the thirds and their variants of the binary nucleus (cf. Ex. 2: Red. I, II, III).

The binary plan of presentations is marked by an exact balance. Each of the blocks manifests itself by eight presentations of the subject. Besides, the Fugue's expository presentations (2 + /3) are balanced by development (3+ / 2-). In the conclusion the number of presentations of each block is equal (+3 / +3).

There are also other motives stimulating to recognize the binarics of the subject's presentations, particularly doubting about the boundaries of the Fugue's parts (the adjustment of parts might lead to the distruction of proportions). Above all, it is important to mark diminutions (diminished presentations) which sometimes emerge in the presentation plan (Scheme 5):

Scheme 5

Parts:	Exposition ()	Development ()	Conclusion ()
Presentations:	<u>B flat</u> E <u>B flat</u> E C	<u>D</u> E <u>B flat</u> <u>C sharp</u> A flat	C C F → <u>F</u> A B flat

In the diminution scheme they are marked by encircled pitches, e.g. B flat, A flat (C), etc. The presentations of traditional (normative) volume with a diminished macro- scale seem to remind of trochee figures typical of the subject (). And *vice versa*. After the diminished, the normative are as if close to the iambic (). Whereas macrotrochee of the Fugue's development part (D-E-B flat and C sharp-A flat) are seemingly balanced by the macroiambbs of the conclusion (C-C and F-A-B flat, but the latter overlap each other by way of stretto). The exposition contains only normative presentations which can accept macroictuses marked by a balanced character.

It is also expedient to bring out a complementary character of presentations and macrorhythms (Scheme 6):

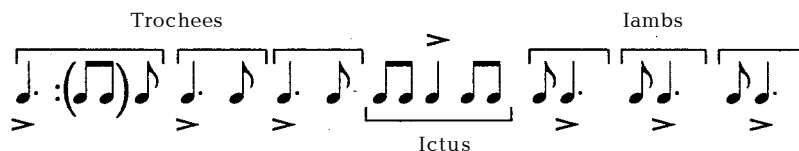
Scheme 6

Parts:	Exposition	Development	Conclusion
Presentation proportions:	2+ /3-	3+ /2-	3+ /3+
Presentations microrhythms:	Ictuses 	Trochees 	Iambbs 

Thus, balanced are ictuses at the beginning of the Fugue, whereas balanced multitude of presentations – in the end. They form a complementary aspect of pitches and rhythms on the macroscale, which clearly enough expresses the Fugue's biggest parts.

It should be added that the noticed plan of presentations is reflected on the rhythm-scale of the Fugue's theme. But the order was changed by combinatorial means (Example 5).

Example 5



The binary nucleus also "directs" the cycle's key and melodic pitches lateral movements. Worthy of mention are the melodic pitches of the first theme presentation of the Finale falling through a tritone. The subject opens with the sound E (m. 1), latter sounds from B flat (m. 7), recapitulated from B flat and E (m. 15 and 24). The alteration of these pitches in an inverted way imitates the subject's subordinate presentations of the Fugue's exposition (B flat-E-B flat-C).

By the way, the Prologue starts a melodic figuration with the sound B flat, and the Finale theme, as we have noticed, with E. These primary melodic pitches of the lateral movements seemingly express the arch of a tritone relationship. Of interest is also the influence of the binary nucleus on the cycle. Let us compare the dominant key relationships of the Finale's divisions (Scheme 7):

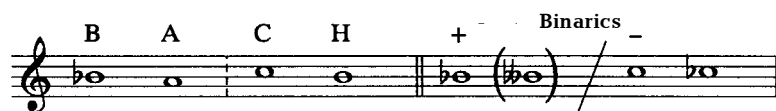
Scheme 7

Divisions:	A	A ₁	A ₂
Keys:	C	(C) D	(C) C
Measures:	1	(15) 17	(22) 24

Here clears up the binarics of keys of the relationship at a second (C-D), distinctly resounding the inversion of the nucleus (Ex. 2: red. III). Incidentally, each of these keys possesses a satellite of their tritone relationship, e. g. C and F sharp (m. 1, 5), D and G sharp (m. 17, 19). Besides, an inner binary polarity seems to be peculiar to the division of the Final.

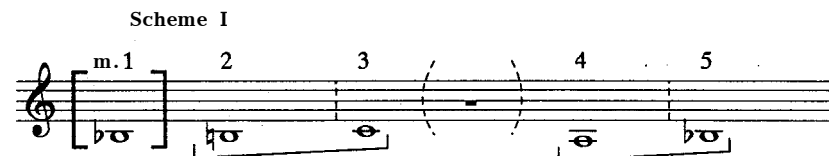
The binary nucleus, as we noticed, is marked by chromatic variants of third sounds. They are numerous at all the levels of the cycle. Therefore, it stands to reason that this cosmos of chromatic variants is regulated. Hypothetically, one can say that it is associated with the employment of the cryptogram BACH. Čiurlionis used this cryptogram in one of his cycles (NC: "Lakštingala")⁶. Both in the earlier and this cycle, the composer segments the cryptogram into two pairs of sound letters, opening the possibility for a chromatic binary variation (Example 6). Here both pairs of letters symbolize chromatically varied polar (ousting one another) functions (+ / -).

Example 6



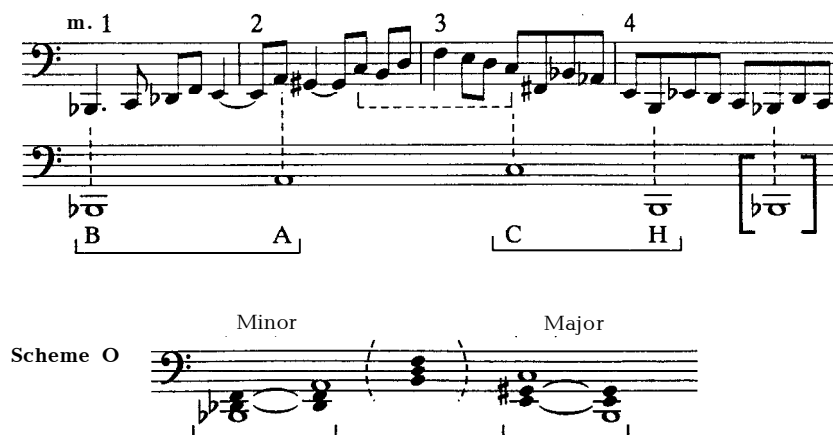
Such pairing of letters can be seen in the first measures of the Prologue (Example 7: Scheme I). Here melodic phrases, marked by the pairs of the mentioned sounds, are separated by a halve rest.

Example 7



Similarly in the Fugue's theme, the segments of the cryptogram letters, chromatically varying minor and major modal blocks, are separated by the harmony of a diminished tritone (Example 8: Scheme O). Here one can see that chromatically varying modal blocks also emerge augmented triads in their structure beside minor and major harmonies.

Example 8



Eventually, the segments of the cryptogram can be noticed in the major divisions of the Finale. In this case, the cryptogram sounds through a major bottom third and resounds the expansion of the binary nucleus through a bottom (not reduced) third (Example 9: Scheme O⁻⁴). It is reasonable to say that it is the second halves of the movements A and A₁, since here show themselves the mentioned key satellites of a tritone relationship (namely F sharp, in others G sharp), that realize a chromatic variance of these tones. It is worthwhile to mention that F sharp not only moves to F, but chromatically prolongs a slide up to the basic tone C (m. 10–15). However, it is expedient to evaluate such a prolongation of a chromatic slide as a purely quantitative phenomenon. Whereas quality would be the destruction of their direction, alike in the cryptogram.

Example 9

Worthy of mention is the end of the Finale, where the summary of all the manipulations of the cryptograms is presented in a concise way (Example 10, Scheme S). Here different forms and their transpositions (III: 0–4) of the cryptogram's primary segments of the first movements (I:J, II:0) are reflected within several measures. The relationship of binary segments can be in a wider sense linked with the aspects of time (alteration of cryptogram forms) and space (employment of transpositions). The binarics of the cryptogram, embracing various levels of harmony and form, is realized particularly consistently in the Fugue. As mentioned before, the composer functionally separates the segments of the cryptogram but draws the sounds together inside the segment. It was seen in the structure of the Fugue's subject, where the members of individual segments united different harmonies (minor – augmented and augmented – major) into an integral block, however, pairs of sounds were separated and polarized. Since the Fugue contains a single inverted presentation of the subject, here an inverse shape of the cryptogram should be searched, although transposed. However, due to a free intoning of the subject, the second segment of inversion changes beyond recognition, whereas the first can be noticed among the primary tones of inversion (Ex. 4: G. 1 and 6, i. e. C-D flat or C sharp).

Example 10

The cryptogram functions not only on the subject scale but also on that of the exposition, employing a retrograde (R) shape. The best proof of it is the comparison of the climaxes (the highest and lowest) tones of the exposition (h^2 , c^3 , A_1 , b^2 , m. 15, 18, 21, 22). The first two climaxes link two polar divisions of the exposition, i. e. the first two subjects with the third one through a distance by way of a secret attraction of semitones ($h^2 \rightarrow c^3$). Another two associate the range borders (A_1 $b^2 \downarrow \uparrow$). Here is implied a leading thematic and an accompanying contrapuntal layer of the texture. In this way, different initial pairs bind binarically distanced derivatives, i. e. divisions (aspect of time) and layers (aspect of space). The cryptogram expresses itself at the level of the whole Fugue in a similar way. Since both retrograde and inverse shapes of the cryptogram's sounds are identical (in both cases H-C, A-B), therefore, on the scale of the whole Fugue the composer employs a modified, in a register's respect, shape of the cryptogram, which can be more logically called inversion (I). This inversion begins in the last measure (m. 38) of the development

movement, halfway unfinished by the composer. And it stands to reason. Here we can see the sound H in the bass. Thus, the inversion of the cryptogram begins from the bottom (differently from the top in h^2 exposition). In another measure (m. 39) follows the bass c and begins the Fugue's recapitulation (m. 39). In its turn, another segmental pair of sounds, at a distinct distance from the first, functionally links contrapuntal rhythmic (here the diminished initial sound a of the subject, m. 48) with the relief of the subject (the subject from B_1 , m. 49). Alike the exposition retrograde (R), the first two letters of inversion (I) are associated with a symbolic (functional) transition of different parts (of development and recapitulation), whereas other two with the phonic and relief lines of the Fugue's voices. Hence the functions of inversion (I) segments remain the same as in the exposition (R) and only get inverted through the register's respect.

If the pairs of the sounds of segments functionally (symbolically) link the Fugue's different movements, as explained before, then it is expedient to establish the essence of the reciprocal movement of the segments of the cryptogram. The segments of the cryptogram retrograde and inversions get functionally separated since they serve different spheres of the Fugue's derivatives. The initial segment of the retrograde is associated with the beginning of the final division of the exposition (m. 18), and the second – the codette of the exposition (m. 22–23) (Venckus calls these measures "an addition to primary presentation"; Venckus, 2000, p. 240). It is proper to call these measures codette since they are signified by the last sound *b* (in the text b^2) of the retrograde.

The inversion of the cryptogram is similarly connected with the beginning of the Fugue's recapitulation (m. 39) through the initial segment, and the second – with the Fugue's coda (m. 49). The latter is signified by the final sound *b* (in the text B_1) of inversion. Thus, in both cases by *b* (codette and coda). This final sound *b* was most likely the reason why the composer needed some derivative shapes (R and I) of the cryptogram (Example 11).

Example 11

sound 1 6 14 19 m. 15 18 21 22 m. 38 39 48 49

(O) B-A C-H (R) (I)

Besides the Fugue's subject and the signification of the derivatives of form, the cryptogram also "directs" the structures of harmony and modes. It is worthwhile to draw attention to the modal variance of the Fugue's initial answers. It is easy to notice that the initial minor presentations of the subject (subject B flat and answer E, m. 1, 4–5) are opposed by further placed ones imbued with a major chording (E flat, A, m. 8, 13). Having indicated the basic tones of these harmonies and keys, we discover a 4-sound sequence, the rotation of which by one sound leads to the recognition of the summary shape (S) of the cryptogram. The transposition of this shape (from F sharp) was seen at the end of the Finale (Example 12). Of interest is the fact that the harmonies varied in semitones compose a system of general sounds, akin to further major-minor presentations of the subject seen in the development and recapitulation episodes (Example 13: D flat-C sharp m., C-C m., m. 34, 42–43).

Example 12

II, m1 4-5 8 13 S rotation S S (III, m. 21-31)

(4 1 2 3) (1 2 3 4)

Example 13

m. 1 13 34 -- 4-5 8 42 43

b A Des cis e Es, C c

Exposition Development Exposition Recapitulation

The "direction" of harmony through the cryptogram makes possible to notice a transition between the colouring of the mode and a tritone relationships of the subject – answer. A tritone relationship, as can be seen, is full of sense in the case when homogeneous modes are confronted with each other, i. e. only minor or only major. And *vice versa*, after the polarization of contrasting modes the tritone relationship disappears, becomes traditional, i. e. at a fifth or fourth. Let us compare the following presentations of the Fugue's subject (Example 14: D flat and A flat m, m. 34 and 39 or C and F m, m. 42 and 46). This dependency dears up the functional meanings of sound 19 of the Fugue's theme (musicologists argue whether it should be the sound B₁ or C₁).

Example 14



Indeed, this sound has no uniform harmonic function due to the variance of chromatic sounds programed in the cryptogram. When the sound B₁ is legalized in the subject, then the major block of the subject (because of an interval at a fourth, E, B) clears up the harmony centre E. The latter correlates with the primary minor block (B flat) through a tritone. The subject composed in this way codes a tritone relationships of the subject-answer. It is characteristic of the Fugue's exposition (B flat and E, m. 1, 4). And *vice versa* – the relationship at a fifth and a fourth between the presentations of the subject witnesses potential changes in the subject. Then, it is logical to suppose that C₁ becomes the 19th sound of the theme, causing the necessity of attraction (reinforced by the leading tone of the major third E-C) to F, i. e. the basis of harmony distanced at a fourth. It can be evidently seen in the final presentation (m. 52) of the Fugue's subject, which in a kind of summary expresses the presentations (C-F-B flat, m. 42–46–49) at the fifth-fourth relationship met in the recapitulation. Having in mind, that the Fugue's subject codes the structure of the whole fugue, it is important to distinguish its primary shape from subsequent ones, since the latter can be modified. It is due to it, that differently from expositional presentations of the subject, where an interval at a fourth-fifth can be usually heard in their ends (B-E, m. 4; D flat-A flat, m. 7; G-C, m. 11; D flat-A flat, m. 16), in postexpositional development and recapitulation presentations come to dominate major thirds (A flat-E, m. 26; B flat-G flat, m. 30; A flat-E, m. 36; A-F, m. 45; D-B flat, m. 49). A similar variance, as noticed before, emerges from the interactions of the modal major and minor as well as a tritone programmed by the series of cryptogram segments. Besides, the intonation of the end of the Fugue's subject associated with its 19th sound (i. e. E-B-D sharp), seems to articulate a wider scale. It sounds at the end of the exposition (G-D-F sharp, m. 21 and further), as well as at the end of the Fugue (a-e-as, m. 52). On the other hand, variants of the mentioned intonation at a third can be seen at the beginning of the cycle's lateral movements (I: D-B flat-F sharp, m. 3 and III: E-C-E, m. 2, etc.) (Example 15):

Example 15



The influence of the variance of the cryptogram sounds manifests itself also by more general chromatic and diatonic shapes. Usually an interval at a tritone is considered a clear indication of chromatics and that at a fifth and fourth, *vice versa*, – diatonics. Let us recollect the kinship of keys – close diatonic or distant chromatic an the like.

At the end of the Fugue's exposition, after culmination (m. 15) and particularly at the outset of the inverse presentations of the subject (m. 18) and further (m. 22–23), we can systematically hear verticals charged with tritones, i. e. diminished and altered triads and septachords (the verticals of each measure contain 4 or even 7 tritones). This phonism of verticals is undoubtedly a logical continuation of the tritone relationship that earlier displayed itself among the presentations of the subject. It is the verticals charged with tritones that particularly concentrate a chromatic sensation of the mode.

In its turns a contrastingly sounding diatonic culmination of the Fugue at the beginning of the recapitulation (m. 39–41) potentially focuses the meanings of the fifth-fourth relationships. These relationships are shortly after realized among the presentations of the subject. Therefore, we can state that the Fugue contains two polar modal spheres or centres (chromatic and diatonic) which although indirectly but intentionally reflect a further radius of the cryptogram's influence.

The carried out analysis of binarics makes possible to draw nearer to the principle structural plane of the Fugue and the whole cycle – the Fugue's recapitulation (musicologists hold a different opinion on the latter).

The singularity of Čiurlionis' Fugue in B flat is connected with its polarity in respect of exposition. Incidentally, this polarity is composed in a greatly innovatory way (for that period) and touches on the very essence of the structural character of the cycle. Here we can see inverse transformations, diverse derivatives and their qualities, registers, proportions, etc. It begins right away after the unfinished measure (m. 38) sounding in major diatonics through a diminished presentation of the subject from the sound C. Practically it is an exposition with reverse meanings. Moreover that the last expositional presentation begins with the sound C, but by way of an inverse manner in a chromatic mode and a high register. A further presentation of the recapitulation transforms a known expositional presentation of the subject (B flat – E – B flat – E). Instead of them we can see diatonically-oriented relationships of presentations (C – F – F(A) – B flat). The parallel is worth remembering, having in mind the ambiguity of a tritone relationship – whereas an interval at a tritone is between a fifth and a fourth!

Thus for the sake of evidence extrapolation is possible in the chain of fifths:

Exposition	Recapitulation
B flat-F-B flat-E flat	C-F-F-B flat

The last answer of the exposition in a high position (E) of recapitulation quite the reverse – the first of them is low (C, m. 42). Stretto is in the recapitulation (m. 46–49). Stretto was not seen in the exposition. Here however are simultaneously joined not the durations of different presentations (normative and diminished), but contrasting modes (major and minor). In the second division of the subject – answer of the exposition we can see the reharmonization of the subject in B flat minor by way of E flat major harmony, and the presentation of E minor is coloured by A major (m. 8, 13). This is just a balance of spontaneity for stretto.

The coda also becomes clear. The second diminished presentation of stretto seems to be meant for the preservation of the sounds of the cryptogram's second segment (presentation A, m. 46). Shortly after appears B flat (m. 48). It signifies the coda, moreover that it is analogical to the codette of the exposition (m. 22). The latter, as we remember, was expressed by an appropriate segment of the cryptogram R. The polarity of the coda and the codette shows itself by way of a register inversion of the same initial sounds. In the codette the range is expressed by the low A₁ and high B¹ flat and in the coda, on the contrary – the high A and the low B¹ flat. The cryptogram's segment, alike in the exposition, functionally joins distanced layers of the subject relief and counterpoint. It gives grounds to suppose about the affinity of a diminished presentation to the counterpoint rhythmic (cf. m. 48–49 with bass m. 21–23). It means that the coda principally signifies itself due to analogous segments of the cryptogram, preserving the feature of a reverse subject – answer sequence of the exposition. It should be also mentioned that similarly like to the exposition the very fact of the theme is also important to its representation followed by the unfolding of the theme's potentials, manifesting itself by key relationships of presentations, also in the coda, only in a reverse manner. Now the relationships of the presentations of recapitulation are condensed into a small scale (subject). (The last presentation of the Fugue's subject, particularly its end, as mentioned before, signifies the relationships of the presentation of the recapitulation.)

The polarity of the Fugue's exposition and recapitulation bases the cycle's macroproportions (Scheme 8):

Scheme 8

Movements:	Prologue	Fugue	Finale	
Divisions:	Exposition	Development	Recapitulation	
Volumes of measures:	24	(≈) 15	15	33
Concentr. prop.:	47		15	48
Golden prop.:	62 (+ 6?)		48	
	(62 + 48) = 110 · 0,618 = 68			
Concentr. prop.:	Theme 7 ♪	3 ♪	6 ♪	
Golden prop.:	10 ♪		6 ♪	
	16 · 0,618 ≈ 10			

The reflected proportions in the scheme help to guess the riddle of the Fugue's "unfinished" measure (m. 38). The composer seems to have faced an unworkable collision (at least mathematically), which came to surface making an attempt to connect the proportion of the golden section with the cycle's central proportion. He gave priority to the latter. Here proportions are particularly strict (volumes of measures between the cycle's movements and divisions correlate 47–15–48). The division of the Fugue's development finds itself in the cycle's centre (m. 15). The proportions of theme's derivatives, expressed by quarter-tone values (7:3:6) are presented on an analogically small scale. Whereas the Fugue's unfinished measure before the recapitulation (m. 38) seems to adjoin the cycle's golden section, although with a slight six-measure error (total m. $110 \cdot 0,618 = 68$, when till the recapitulation mere 62 m). This error could become smaller with the filling in of the "famous semibar" and the adding of more measures. But it would, unfortunately, lead to the ruin of the concentric symmetry. It should be mentioned that in comparison with the climaxes B² of the exposition, where the cryptogram begins similarly like in the recapitulation, there sound three more measures, when at last C² appears.

This following the analogy of the exposition, it is logical to suppose that the unfinished measure was potentially hiding a longer, up to several measures, continuation. Despite of it, when the composer reached the middle of the measure, he stopped writing as if finding himself at a crossroad or just thinking about another proportion, moreover that the cycle's lateral movements were composed and their volumes were known.

The analysis of the cycle through the glance of binarics disclosed quite a number of structural regularities of the cycle, namely an ostinato progression between the cycle's movements, the influence of the binary nucleus on the key plan of the cycle and the Fugue, the form and harmony of the meaning of the cryptogram's shapes O, R, I, S, the polarity of the Fugue's recapitulation and a concentric symmetry of the cycle's proportions.

Due to the fact that the composer's method of writing music is not purified either in respect of binarics and tonality but rather balances between cardinally different principles of composing, therefore, with a view of establishing a more thorough idea of the cycle's relationships needs a glance of tonality; moreover that a binary insight is mostly concentrated on polarities and the disclosure of their parities. The analysis of tonality is principally oriented to the idea of the synthesis of the opposites and the establishment of the uniform composing source.

The highlighted thematic relationships make possible to notice the framework of alternatives, usually characteristic of the structures of sonatas (exposition, cycle). It is easy to notice that the thematic differences in lateral movements rather remind of the points often seen in a sonata-form exposition, comparing melodic profiles of principal and subordinate themes. Therefore, it is natural to notice here a reflection of sonata-form parts and their thematic functions on the scale of the cycle's movements. And so, the principle expositional theme of the sonata in an unrecognized cycle manifests itself as an individual movement – a Prologue. The Finale accumulates thematic features of subordinate theme. What is then the Fugue in the system of the cycle? It would be mostly similar to an independent episode of the development. The mentioned episode is too weighty and important to be called a passage bridge of lateral movements (a similar interpretation would call to memory a transition between the most important themes of the sonata exposition). The Fugue apparently legalizes itself as a certain centre in the whole system of the cycle, occupying a place analogical to the first movements of complete sonatas (these movements traditionally are of a sonata form). Indeed, from the point of view of a sonata-form method it is of paramount importance that in the Fugue's exposition distinguish themselves the divisions of subject and its inversion of presentations. A transition (after the cadence F m, m. 16–17) emerges between the mentioned divisions. Here one can perceive an idea of the sonata-form development – between thematic alternatives a transition or a consolidating bridge is created. Worthy of estimation are earlier sounding minor presentations of subjects coloured by the basic key (B flat m/E flat and E m/A, m. 8, 13). Perceiving that the inversion of the subject structurally expresses the transformation of the representation key (from minor to major), then it is natural to think that the second subject – answer as if mediates and prepares an alternative (inverse) emergence of the subject. Moreover, that we also have modulation to a dominant key (key F, m. 16; which bears the same name as the key F of the subject inversion).

Besides, of importance is a codette, intonationally returning to a primary sphere (B flat m) of the Fugue's key and soon modulating to the Fugue's middle part (D m). A detail of interest. A top voice intones a mixed derivative – between subject and its inversion (B flat-C-A..., m. 22). It reminds of synthesis.

This kind of the analysis of the Fugue's exposition makes possible to perceive that it is marked by all obligatory attributes of the sonata's exposition: the theme and its inversion, the alternative character of tonal and dominant keys, derivatives of the transition and synthesis.

Worth of remembering are the proportions of this small exposition (Scheme 9):

Scheme 9


	Subject I (Theme)	Subject II (Transition)	Subject III (Inversion)
Volume of measures:	7	10	5,5
	- - - - -		
	(7+5,5) 12,5 : 10 (I+III : II)		

It is easy to notice that the proportions of the Fugue's exposition are close to the relationships of the cycle's movements (Scheme 10):

Scheme 10

	I	II	III
Cycle's movements:	Thesis	(Synthesis)	Antithesis
Thematic framework:	24	53	33
Proportions of measures:	- - - - -		
	(24+33) 57 : 53 [(I+III) : II]		

No less intriguing is the Fugue's development. Here between the exposition and a polar to it recapitulation, it is as if an intermediant, transitional part. Let us point out some features typical of this mediacy.

At the beginning of the part we can notice a tritone relationship between the representation of the subjects (E-B flat, m. 27, 30) and at the end – a fifth (D flat-A flat, m. 34, 37). As it is known, the first is characteristic of the exposition and the second of the recapitulation. Besides, the lateral presentations of the development, correlating at a tritone (D and A flat, m. 22, 37), as if compose a tritone arc. This relationship, as we shall see later, will dominate in the middle movement of the Finale (m. 17–19). The primary presentation of the tritone arc is of a normal duration and the last – diminished. How does this transition take place? At the beginning of the part there sounds presentation (D) followed by counterpoint based on the intonation of the end of the Fugue's theme (here D-A-C sharp). It means that at least at a primary instance simultaneously seem to sound the beginning and end of the subject. In the following presentation (E, m. 27) of the subject, the contrapuntal figures are intensified and relief – oriented by means of doubling a third. After the highlighted counterpoint begins a representation of the diminished subject (B flat, m. 30). Here metamorphosis takes place. The counterpoint from the background as if turns into a relief in the shape of a diminished subject. Thus, the diminution of the subject prolongs the rhythm of the former counterpoint (). In its turn, the function of the background is taken over by the motion of the eighths, which sounded in the presentations of a normative duration. The interchange of the relief and background is accompanied by the modulation from a minor to a parallel major (B flat m→D flat), whereas the latter is consolidated through an expanded cadence (m. 32–33). (Incidentally, a motion towards the inversion of the subject in the exposition was taking place by way of a related modulation, only in a reverse direction) (A→F m, m. 12–16). And here begins the most interesting transition segment. A new representation of the subject (D flat, m. 34) is identified with the end of the protracted cadence (tonic D flat), after which the subject is continued in a single-named minor (m. 34–36). This interchange model of the keys (after the primary tonic follows a new tonic) is reverse to the previous, where representation (key B flat m) was finished in a new tonic (D flat). In the exposition – a reverse connection of modes (A and F m). The transition is over. Nevertheless, before the recapitulation a new diminished presentation was still heard only in minor (A flat, m. 37). This is how it was consistently passed over to diminished (relief – background metamorphosis) and major (reversal of modulation) presentations of the subject in the Fugue's development.

The discussed consistency once more clears up the details of the recapitulation of the Fugue.

The recapitulation begins in a diminished major presentation. It means that the subject assimilated the peripeteia of the counterpoint as it is diminished. On the other hand, being major, it unambiguously directs to the inversion of the exposition's subject. It is logical, since the inversion of the minor-melodic subject is its major presentation, moreover that there were no major – melodic presentations of the subject up to the recapitulation. The next presentation of the recapitulation is marked by a single-named modulation (C-c, m. 42–45) and expresses itself as a transition between inverse (major) and original (minor) shapes of the subject. The stretto derivative, particularly its second, diminished presentation (A, m. 46) evidently legalizes itself as a counterpoint, because at the same time also sounds a relief subject of a normative duration (F m, m. 46–49). At last, the coda returns to the juncture of the exposition and development, since here as there, simultaneously is joined the beginning (relief) and the end (background) of the subject. Prominent is the juncture of the Fugue's development and recapitulation. Here worthy of attention is the relationship of keys of the diminished presentation at a major third (A flat m and and C). The keys seem to be juxtaposed in an elliptic manner (distant affinity of keys). The "unfinished measure" (m. 38) logically does service to a sudden juxtaposition of the keys. Incidentally, the relationship of a major third, only of opposite direction, expresses the last answer of the exposition and the inversion of the subject (E and C, m. 13, 18)⁸. The Fugue's intermediate transitional derivatives are in part reflected in its theme. Here is even programed the basic tone of the recapitulation of major presentation, as well as that of the exposition's inversion (i. e. sound 14: C). From this sound begins the theme's polar major block of the mode, falling in iambi. Whereas the primary minor block based on trochees rises up to the same pitch (s. 8: C). The interjacent things between these sounds (s. 9–13) become in a tonal respect the analysis of transitions and sonata-form synthesis⁹. In this way, an intermediate derivative (5 mentioned sounds) of the Fugue's subject makes up a connective tissue from the microexposition of this theme to microreprise. In the intermediate derivative of the theme there can be easily perceived the presentation relationship at a third,

noticed in the junctures of expositional and postexpositional parts (G sharp-C, s. 7–8 and E-C, s. 12–14). The function of the theme's intermediate derivative – a turn between the rise and fall of the opposite melodic directions. The essence of this turn is a wave – the theme rises "seizing" the entire climax zone (turn) and then descends. The character of this wave is best of all reflected by the proportions of durations, i. e. up to s. 14 and after it ($10 : 6 = 1,7$). It is an important relationship. It regularly influences all the movements of the Fugue: exposition (14,5 m. : 8,5 m. = 1,7) embraces climax. Development (9,5 m. : 5,5 m. = 1,7) coincides with the beginning (m. 32) of cadence (D flat). On the basis of the discovered relationship it is possible to operatively establish all the turning points of the cyclic form presenting to us interest, for example:

- Fugue's – 53 m.:1,7= 31,2 m. (again the same cadence D flat);
- Fugue's recapitulation – 15 m.:1,7=9,5 m. (presentation A related to the cryptogram and the maximum dissonancing of harmony related to the latter, m. 48). Turning points of the cycle's other movements will be also shown;
- Cycle's – 110 m.:1,7=70 m. (begins in the Fugue's stretto, m. 46);
- Prologue's – 24 m.:1,7= 14,1 (climax point);
- Finale's – 33 m.:1,7= 19,1 (beginning of the cryptogram's second segment) and the only rotation of original sounds of cryptogram (C-H-B-A);
- Movements I + III – 24 + 33 = 57 m.:1,7 = 34 (the composer's first sketch of the Finale's end).

Worthy of attention is the last proportion of this kind. It is related to the major diminished presentation of the Fugue's recapitulation. As mentioned before, it is reasonable to equal this presentation to the inversion of the exposition's subject due to a major mode. However, some problems can arise concerning a melodic direction of the presentation upwards to climax (G^3). Whereas the inversion of the subject begins to move from the climax sphere and turns downwards. The answer rests in the proportions of the wave. The major subject of the recapitulation quickly ascends and slower descends. In other words, realizes a reverse configuration of the wave of the Fugue's theme. It means a kind of retrograde of proportions. For the sake of evidence it is worthwhile to compare the following proportional relations of the theme's, melodic waves:

- Subject of the Fugue's recapitulation in C : 5/9
- Theme of the Fugue's exposition in B m : 10/6

Hence, the major presentation of the recapitulation represents not only a modified inversion of the exposition's subject but also its retrograde. In a word, retroinversion.

The Fugue's consistent development, starting with a theme and rising to the levels of exposition and wholeness on a spiral principle, confirms the principles of sonata-form dramaturgy, although it would be more exact to say about the form – a sonata "dressed in a fugue's attire".

The Fugue expresses itself not only by the inner characteristics of the sonata-form – fugal structural aspect but also by its axial position in the cycle's concentric whole. Besides, it makes possible to perceive the presentation consistency of the cycle's lateral movements.

It is the Prologue where the relationship of the cryptogram with the thematic is most evidently brought out (in the Fugue the cryptogram "directed" harmony and form. The composer seems to initiate the following types of thematic motifs and the cryptogram's sounds and the interrelations of its segments:

1. The pairs of segmental sounds are separated by contrasting motifs, in other cases it is reached by way of changing one motif in a variant manner. The initial sounds of a fanfare (repetition of the sound) and melodic motif are signified by the first and later the second cryptogram's inversion (I) sounds of segments (Example 20). It is of interest that a motif from C reminds of the

Example 20



subject's reintroversive presentation of the Fugue's recapitulation (at least by its contour model, not to speak of a primary sound common to both of them). Another motif from B flat seems to initiate the intonations of the wave the Fugue's theme, besides, it presents the sounds of the cycle's and the Fugue's key plans. The meaning of this intonation for the whole cycle is partly reflected by Example 21.

Example 21

The image shows three staves of musical notation. The top staff is labeled 'Keys' and contains a sequence of notes with accidentals, grouped into three sections labeled 'I - II - III', 'II', and 'III'. The middle staff shows a key signature change from B-flat to B-natural. The bottom staff is labeled 'Ostinatos' and shows a sequence of notes with accidentals, grouped into two sections labeled 'I' and 'III'. Vertical dashed lines connect the notes in the top staff to the notes in the bottom staff.

The sounds of the cryptogram's segments are similarly expressed, employing only fanfare motifs (Example 22). The cryptogram's second sound (C) shows itself by a substitute at a third (E flat). It also partly happens to B flat, where D flat is clearer displayed (the possibility of substitutes at a third is partly disclosed by the Fugue's climax episode, where the minor of the presentation of the subject is substituted for a parallel major, i. e. changes B flat to D flat, m. 30–33). The example shows diminished and of normative duration fanfare motifs (m. 6–8), which in a rhythmic aspect remind of an analogical presentations of the Fugue's subject.

Example 22

The image shows three measures of musical notation in a single staff. Measure 6 (m. 6) features a fanfare motif with a diminished interval. Measure 7 (m. 7) shows a sequence of notes. Measure 8 (m. 8) features another fanfare motif with a diminished interval. The notation includes various accidentals and rhythmic values.

2. The following interrelation type shows itself by way of weaving the sounds of cryptogram into the subject's inner space or *vice versa* – links the spaces of different motifs (Example 23). Here we can see how the composer employs the rotation of the cryptogram (J rot^b, transposed in semitone lower, Example 24) in the climax of melody, and the other rotation (J rot^a transposed at a 4th upwards) serves for the two sequential motifs (the latter case clearly associates with the employment of the cryptogram's segments in order to link different parts and divisions of the Fugue form, and the first – a contrapuntal background with the subject's relief). The cryptogram's rotation correlates through a tritone (A flat-D) and such a correlation expresses the arch of keys of the Fugue's development. The first melody of this example resembles the Fugue's theme without the intonation of the turning and the second seems to correlate as the theme's inversion with retroinversion (I with RI). Thus, the intonations of a contrapuntal themes are presented in a reverse order than in the first part of the Prologue (there RI-O turn., here O without a turn. – I).

Example 23

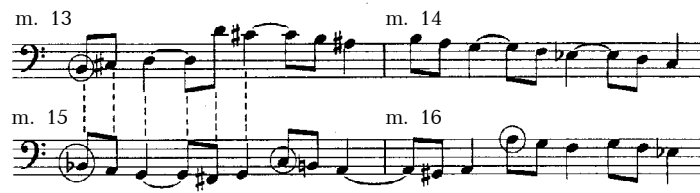
The image shows two staves of musical notation. The top staff is labeled 'm. 9' and contains a sequence of notes with accidentals, with some notes circled. The bottom staff is labeled 'm. 11' and contains a sequence of notes with accidentals, also with some notes circled. The notation includes various accidentals and rhythmic values.

Example 24

The image shows a single staff of musical notation with five distinct segments. The segments are labeled from left to right as: 'I', 'I perm.', 'I rot.^b', 'I rot.^a', and 'O rot.^c'. Each segment contains a sequence of notes with accidentals, and some notes are circled. The notation includes various accidentals and rhythmic values.

3. The last interaction as if finishes the line of the theme's intrigue. Now the motives of alternatives synchronize with the sound features of the cryptogram's polar segments or *vice versa*, "seal up" the mentioned polarities (Example 25) by analogous recurrences of the motifs. Here we can see that the beginnings of alternative (correlating by inversion) melodic motifs are signified by the sounds (B and B flat) from the cryptograms polar segments. The rest two voices (C and A) correlate in the same way, but here it is necessary to have in mind the shortening of the first melody (m. 13–14). Now only the end of the mentioned melody (descend of A-G, etc.) is associated with the last sound (A). It is both mentioning that here the composer forms the cryptogram's shape, where the primary (segmental) "pairing" of the sounds seems to be deleted. Now pairs are composed choosing a sound from both polary-oriented segments. This permutation of the cryptogram (perm. 1) functionally "turns over" primary functions of segments, trusting them to the transformations of motive-based derivatives.

Example 25



Besides the enumerated interactions, the Prologue clearly initiates the future inversion of the Fugue's recapitulation, because here in the second part besides the inversion of the sequence of thematic motifs, and the functional "turning over" of the segments we can also mention a registry inversion of derivatives (hand parts are inverted, the ostinato – with accompanying thematic derivatives).

If in the Prologue the cryptogram were woven into the structure of melodics, then in the Finale melodics itself is composed of the cryptogram's sounds, and the formed intonations were freely varied. Cryptogramic intonational cells were mostly composed of a chromatic rotation of the original (O rot^c: C-B-B flat-A). It appears in the Finale only once at the juncture of 19–20 measures (exactly there, where a regular proportion of the cycle points (33 m. : 1,7 = 19,1 m.). The direction of a cryptogramic cell downwards and the rhythm (♩ ♪) clearly remind of the inversion of the Fugue's theme in a diminished shape. It consolidates previous observations about the Finale as a quasi-subordinate theme (part) in the cycle.

Developing the model of cryptogramic thematics, Čiurlionis performs several important actions:

1. The dominant intonation of rotation (O rot³) (transposed through all its four tones) in the high register and the sequence of transpositions imitate the original of the cryptogram (Example 26):

Example 26



2. Each transposed cell is echoed reminiscenced at a tritone, whereas the sequence of the latter respectively repeats the original of the cryptogram's series (Ex. 26: E-E flat-F sharp-F, here the order of measures is important: m. 12, 13, 20, 23, which responds the measures of every transposed member: m. 8, 11, 19, 22). Of interest is the fact that the echoes of the transposed four-note intonations manifest themselves diversely: b-cell is recurred at a tritone (E), orienting oneself to the first (even a long note at the end) or the last sound (m. 12, 14); a-cell is resounded by the imitation E flat without the last sound (C); c-cell is imitated in a reverse order (F sharp); and a recurrence ambiguity is adapted to h-cell, orienting oneself to the middle sound of intonation (F). It reminds of the concentration of lateral sounds (there E) of the previous intonation in the centre (a reverse combination to the present with a medial centre).

3. The composer employs reciprocal transition of cells with a common sound. This is how the cells are linked:

C-B-B flat-A-A flat-G-F sharp-G-A flat-A, m. 19-21.

4. Cryptogramic cells and their units are varied by way of intonation without observing the sequence of original sounds. Such variation is based on:

a) the recurrence of a rhythmic and melodic contour. Preserving a strict rhythmic and melodic contour, the cell A flat-G-F sharp-F is varied at the end of the Finale. Here besides a chromatic original variant we can see diminished variants of a perfect and augmented fourth (Example 27). Making use of ostinatic rhythm, variant cells can follow each other without common sounds. However, linking a cryptogram's cell with the variant one (here of whole tones), a common tone is tolerated (m. 20-22);

Example 27

b) in other cases, in thematic melodic derivatives a cryptogramic cell can be implied, making use of the analogy of ambits at a third (Example 28). Here the most probable reductions of the cryptogram's implied cells – instead of E-E flat-D-C sharp remain only E-D-C sharp. Different from the ambit at a minor third (E-C sharp), the filling of the major third is not full (B flat is omitted), besides, is in harmony with the variance of the tones (instead of the implied G sharp, here G).

Example 28

Similar diminished derivatives in the range of thirds can be reciprocally linked (Example 29). Here we can observe linked diatonic and perfect tone cells of common sounds at thirds.

Example 29

Guessing the subtext of the cryptogram's line, it is possible to adjust a model of the analogy of interval to other intervals – a fourth, a third, a fifth. Incidentally, in the Finale one can notice unfilled employment of such intervals in melodics (A¹-(E)-D²-A², with an ambiguous grace-note E, m. 10–11, similarly C(G)f-C, m. 19 and G-(D)C sharp-G, m. 14).

The disclosed units of cells in melodics clear up the meaning of the slide of a harmonic bass, for example, the cryptogram's two cells linked by a common sound be deciphered in measures 9–15:

F sharp-F-E-E flat-D-C sharp-C

The conducted study shows that in the cycle's lateral movements the composer treats the relationships between a thematic melody and the cryptogram cardinally contrarily. In the Prologue the cryptogram's elements are included in thematic derivatives, and in the Finale, vice versa, the subjects are excluded from the cryptogram's cell. One can say that this inversion on a conceptual level confirms a sonata-form alternative character of the cycle's movements (3rd movement alternative to the 1st).

The analysis of the thematic cryptogram of the Finale partly adds to some binary observations. First of all we mean reminiscencies of a tritone resounding the cryptogram's all four cells (imitation at a third, as we know, is peculiar to the exposition of the Fugue). The articulation of intonation employing a tritone enables the composer to polarize the rotation of chromatic sounds which usually is not favourable to the articulation of the segments of sounds. For example, the "fanfare" harmony (m. 3, 9) at a third differentiates the mentioned rotation into two polar two-sound segments C-B and F sharp-F (Example 30):

Example 30



Intentionality of the Cycle

The reason for the emergence of this section was the fact that Čiurlionis used to "mark" only notes. References to tempos, dynamics and other parameters are very rare" (Landsbergis, 2004, p. 409). Čiurlionis does not seem to be indifferent to similar indications. Moreover, having in mind what attention Čiurlionis' favourite composers (Schumann, Chopin, R. Strauss) and his other contemporaries devoted to the most subtle musical nuances and used to notate them. In this respect, the composer's unfinished musical texts is quite a big puzzle for investigators.

The unfinished character of the composer's musical works seems to be closely associated with exclusive characteristics of his creative process and composition. Due to the vigorousness of creative flight, the composer used to notate his works not quite in the same manner as it was practiced at that time, i. e. to write down everything, sometimes to the most pedantic technicalities. Čiurlionis was concerned about the wholeness, conception and basic principles. It does not, however, mean that Čiurlionis ignored a detail or unconsciously "slightly destroyed" eternal fundamentals of art.

Most likely that a minimal notation satisfied the composer in order to perceive the whole of the work. The composer's text from a pedant's point of view is unfinished. But for a composer – a certain ciphergram. It is a kind of symbol witnessing the whole. It is the wholeness that inspires such a notation of music. Its sensation is so strong and clear that it breaks a pedant's stereotype and not because of the same pedant, but because it is a natural existence of things. Take the ciphergram of the composers "unfinished text" which should be more properly called a minimal structural notation of music. It is a sphere of musical script, spontaneously adapted for the composer's individual creative needs. It is possibly rather intricate and unexpected in this "script invention" is the fact that he does not make an attempt to create new signifiers but only to limit them. This peculiarity greatly differs, say, from another prominent Lithuanian composer V. Bacevičius, who in his late period of creative work employed his own graphic way of notation.

Čiurlionis' minimal structural marking of works witnessed the wholeness of a musical work potentially better (perhaps symbolically) than a traditional signification of a musical text. (It is worth mentioning a somewhat commonplace case when sometimes it is difficult to read through a scale full of various notation symbols. It was, unfortunately, very characteristic of Čiurlionis' contemporaries!)

The minimalism of musical signifiers requires an appropriate theory and methods of reading them over. Here the conception of the cycle's intentionality is used for that purpose.

The unfinished measure (m. 38) of the Fugue in B flat minor serves as an explanation for the phenomenon of intentionality. Here evidently clears up that the unfinished measure is also a musical signifier, which, incidentally, "face to face" comes across the tradition of musical script. This "face to face" state is amazing. It opens a depth of the composer's thought, structure and conception. At last it reveals that it is impossible to finish a measure on the whole. It is a natural fact of things. The incompleteness here legalizes itself as such. It is a signifier. A more logical also seems the circumstance that the composer, as rarely happens, after long corrections, eventually copies the Fugue into a fair copy with this unfinished measure.

Thus, the composer's authentic text most likely contains all the motivation of circumstances of a musical work. It would be a blunder, if under the first formal impression of the incompleteness of the work, we would make an attempt (similarly like the composer) to create a seemingly lacking "piece", to fill up measures, probably to make some shortening or change, and to perfect the genius' footprint. Nothing serious would come of it.

This assertion can be illustrated by the change of the sound B of the theme in the Fugue in B minor into C (V. Landsbergis' attempt). At first sight such a slight perfection is unworthy of attention since it hardly changes anything. However, this kind of thinking makes one easily "make up one's mind". Nevertheless, it would be more rational to think that it is impossible either to "take out" or "add" to the composer's musical text. And it is only the primary authenticity of the text that makes possible to guess the whole of the cycle.

The unmarked but necessary things for the perception of the wholeness of the cycle seem to have been self-evident. This self-evident unmarking is the very object of intentionality and the mentioned perception is meant for it.

The perception of intentionality is particularly significant, when we come across the composer's untitled cycles. It is one thing when an attempt is made to guess unmarked parameters of the self-contained work and another, when it is investigated as if a certain movement of the cycle. Possible differences in the results are conditioned by the marked structural conception of the wholeness of the work. For example, analysing the Fugue in B minor as an independent work (analysed earlier by the author)¹⁰, it was impossible to establish the culmination of the correct proportions of middle movements. Whereas in the system of the cycle, the proportionality of the Fugue, connected with other movements of the cycle, signifies itself in a somewhat different way. Climaxes accents get adjusted. The meanings of unmarked spontaneous musical nuances (tempo, dynamics and the like) also are problematic. Hence, the necessity of the perception of intentionality arises after a thorough structural analysis of the cycle. Defining the perception "intentionality" we first of all mean binding or motivation (Lat. *intentio* – intention, idea, goal, motif of activity, etc.), which embraces both marked and unmarked structural aspects of spontaneous music. In this sense, the analysis of intentionality as if finishes the investigation of the cycle's structural character. This, the present section is a continuation and completion of the complex of problems analysed in the previous one.

With a view of solving the issue of the cycle's intentionality and guessing the unmarked musical meanings, we have to choose the basic structural regularity active between marked parameters. As we have seen from the analysis of the Unrecognized Cycle, it is the noticed proportion (1,7), manifesting itself at various levels of the cycles, beginning with the theme, divisions of forms and finishing with the movements of the cycle that is the deepest structural regularity of the cycle, uniting all its aspects. This proportion would also show itself on the scale of the whole cycle. It is, however, difficult to decide due to unmarked tempos of the works. Having in mind that the cycle's concentric symmetry is structured at two levels, therefore, establishing the duration relationship of the cycle's both symmetry sides, one should take into consideration different tempo relationships and their component (intermovement) derivatives. At first it is expedient to recollect how the editors interpreted the tempos of the cycle's works (Scheme 11):

Scheme 11

Cycle	Prologue	Fugue	Finale
Works:	VL 325	VL 345	VL 328
JČKF:	<i>Maestoso</i>	<i>Sostenuto</i>	<i>Allegro agitato</i>
		MM ♩=72	
VLKF:	<i>Maestoso</i>	<i>Sostenuto</i>	<i>Allegro agitato</i>

The tempos marked by the editors are meant for self-contained works. Here their intentional binding was not kept in mind. The principle of binary tonality orients one to ostinato proportions which, as we know, bring out proportions of doubleness. It is therefore also possible to signify the tempos of movements in a similar way (Scheme 12):

Scheme 12

	Prologue	Fugue	Finale
Relationships of ostinatos:	1 (≈8-2)	2 (8×2)	4 (8×4)
Proportions of tempos:	1 (♩=40)	2 (♩=40)	4 (♩=40)

Having signified the tempos of movements from the slowest possible to the fastest, following the proportion of doubleness, we lack a structural proportion of the durations of the cycle's movements and their complex derivatives. Here a natural relationship (1,7) is violated. Therefore, the tempos of the cycle's lateral parts have to be adjusted so that this proportion could emerge. Orienting oneself to the Fugue's tempo as an axis (80) of the symmetry of concentric tempos, slightly speeding up a particularly slow Prologue and slowing down a too fast Finale according to an appropriate proportion, we can discover an expected proportion (Scheme 13):

Scheme 13

	Prologue	Fugue	Finale
Tempos:	<i>Largo</i>	<i>Commodo</i>	<i>Allegro</i>
MM:	♩=46	♩=80	♩=132
Dynamics:	<i>p</i>	<i>mf</i>	<i>f</i>

How the mentioned proportion is reflected in the calculations of tempos is illustrated by the following scheme (Scheme 14):

Scheme 14

Prologue + Fugue's exposition	Fugue's development	Fugue's recapitulation + Finale
144 (24 × 6) + 92 (23 × 4)	60 (15 × 4)	60 (15 × 4) + 132 (33 × 4)
MM ♩	MM ♩	MM ♩
144 : 46 = 3,1 92 : 80 = 1,1	60 : 80 = 0,75	60 : 80 = 0,75 132 : 132 = 1
-----		-----
4,2 (3,1 + 1,1)		2,5 (0,75 + 0,75 + 1)

Proportion of the cycle's durations: 4,2 : 2,5 = 1,7

Here the volume of the cycle's symmetry axis (Fugue's development) is reflected by the values at a fourth (60, i. e. 15 measures, 4 in each bar). This volume in the relationship with tempo becomes the duration value (60:80=0,75). The durations of the lateral divisions of symmetry are calculated in a similar manner: Prologue + Fugue's exposition = 4,2, and the Fugue's recapitulation + the Final with the Fugue's development = 2,5. It is here that a structural proportion of the cycle's durations clears up (4,2 : 2,5 = 1,7).

As we have noticed, the principle of balance was observed establishing tempos. With the speeding – up of the Prologue in one time, the Finale is slowed down in about four time (Scheme 15):

Scheme 15

Movements:	I	II	III
MM ♩:	40	80	160
	+ 6		- 28

	46	×	132

Thus the relationship I (+6) : 4 (-28) is characteristic of the approximation of the tempos of lateral movements, striving for the proportion of durations. It should be kept in mind that an analogous proportion of the Fugue's theme (10 : 6 = 1,7) becomes distinct after its axis, i. e. the intonation of the wave, and that of the cycle's durations, *vice versa*, before it, i. e. the Fugue's development. Such an inversion of proportions (1,7) on a small and large scale is a natural feature of a cyclic character. (Particularly wider known, as mentioned, is a harmonic inversion of the cycle's sequence of functions and keys.)

The derived cycle's proportion of tempos makes possible to judge at least on the most general scale about the intensity character of the cycle's each movement. Here is a logical progression of generalized levels of dynamics between the cycle's movements. The sign generalizing the intensity level of each movement intentionally signifies the doubleness of loudness of the previous level (p, mf, f).

The next step in the direction of unmarked intentional meanings, undoubtedly, would be the establishment of the cycle's culminating spheres.

Here we call culminating spheres as climaxes, which yield to structural proportion of the Unrecognized Cycle. Such culmination, as we have partly noticed, not necessarily coincide with that what is traditionally thought about similar things, for example, a pitch culminates in melody or harmony and the intensity of texture together with the high register and the like. Structural culminations are more individualized and signify really significant turning points of the cycle. Their wholeness forms a certain reducing relief of the cycle's whole organization. Here are structural culminations that showed themselves in the cycle (Scheme 16):

Scheme 16

Fugue's theme	10 ♩ : 6 ♩
Fugue's exposition	14,5 m. : 8,5 m. (see end of m.)
Fugue's development	9,5 m. : 5,5 m. (beginning of m.)
Fugue's recapitulation	9,5 m. : 5,5 m. (end of m.)
Fugue	31 m. : 22 m. (end of m.)
Prologue	14 m. : 10 m. (beginning of m.)
Finale	19 m. : 14 m. (end of m.)

The culmination (1) of the Fugue's theme coincides with the end of the turning point (s. 9–13). Here the highest melodic tones and intensity are reached.

Expositions (2) coincide with the high register together with the intensity of harmony and texture (m. 15, a structural culmination is established counting measures from their end, abbr. – end of the measure).

Developments (3) coincide with the beginning of the expanded cadence (m. 32, counting measures according to their beginning, abbr. – beginning of the measure). A high continuing note (A² flat) and a sudden clearing (D flat major) of a modal colouring are its characteristic features. Worthy of mention is the fact that this structural waves coincides with the scale of the whole Fugue (5, end of the measure).

A structural culmination (4) of the Fugue's recapitulation falls on the worth-remembering measure of the cryptogram (m. 45). From here begins the expression of intensive dissonant (diminished) harmony, which lasts to the very end of the Fugue. A proportional reference to this culmination should be particularly kept in mind, because the Fugue's end (especially from m. 51) is usually accentuated by editors and forced by interpreters. Most likely it can be justified, interpreting the Fugue as a self-contained work (the Fugue reaches its apotheosis), however, on the scale of the cycle, it cannot be the best solution. The shift of culminating accents (from m. 48 to m. 51)

closes a "door" to the exposition of the Finale. It would be more suitable to perform the Fugue's last presentation in moderate dynamics (mf) and without slowing down the tempo.

The structural turning points of the Prologue and the Final are polar. Having signified the Prologue's general intensivity with the sign *piano* (p), its culmination will be *forte* (m. 14, established according to beginning of the measure). This culminating uplift coincides with the last (most of all unrecognized) rotation of the cryptogram. And *vice versa*. The thunderous Finale (f) signifies its turning silently (i. e. p, m. 20 according to the end of the measure). Now starts sounding the cryptogram's rotation of original (most of all recognizable) sounds.

All noticed here structural culminations are intentionally correlated and based on earlier seen double proportions of ostinatos, tempos and dynamics, which first of all represent a binary principle of the formation of the cycle. Therefore, in structural turning points one should not look for a general culmination of the cycle, because intentionally it is not motivated. Another thing is when the structure of all the cycle is treated from the point of view of tonality. Then it would be logical to mark the Fugue's lateral movements; particular the last one (m. 24–33), as possessing potential of general culmination.

Identification of the Cycle

With a view of identifying a spontaneous cycle it is worth recollecting in what respect it differs from ordinary Romantic cycles. It is common knowledge that Čiurlionis' favourite composers Schumann and Chopin would often associate their piano miniatures according to a genre feature (preludes, etudes, plays). Such series of miniatures are usually treated as collections "an accumulation of works not forming <...> an integral work"¹¹). Sometimes similar units of works are referred to as suite cycles – "instrumental works composed of many independent movements"¹². It is supposed that the principal guidelines of the formation of the cycle was a contrast between themes, tempos, rhythmic, keys and the like of the movements¹³. The most note-worthy seem to be the following peculiarities of Romantic cycles: the genres of works are usually indicated and sometimes they have program titles. As a rule, a quantitative volume of the works is also marked and their sequence is numbered. Besides, a formal completion is typical of such works. The spontaneous cycle in question lacks all the mentioned characteristics. Thus, the spontaneous cycle is marked by its exclusive peculiarities. These are: a) the anonymity of the cycle (of genre, structure, title and in part the composer proper); b) a minimal structural marking of the cycle and connected with it priority of a conceptual idea over detail or polish.

It is reasonable to suppose that the peculiarities of spontaneous cycles indicate a certain original type of the cycle or even genre, which is closely related to the specificity of the composer's creative activities and the uniqueness of the composing vein. Hence, how is it proper to call this genre or type of the cycle?

An intuitive avoidance of entitling his works induces one to think that Čiurlionis foreknew in part that he was creating "something more" than a single piece. Nevertheless, spontaneity and a syncretic character of his works seem to have been so deep and a subconscious process that it limited and foreshadowed a possible reflection. Besides, in view of the fact that similar cycles are sometimes made up in a traditional sense from unfinished musical fragments, moreover, in the absence of any metatexts witnessing the cycle (confessions, commentaries speaking of the composer's intentions), these cycles could not have been noticed either by his contemporaries or later investigators of his works.

Thus, both Čiurlionis and his milieu did not conduct (and they could not have done) any deeper reflection of his spontaneous cycles. It was a cultural subject in the medium which was not yet able to reflect itself. It was possible to realize it by another cultural subject and another medium markedly remote in the sense of time distance. Due to these reasons Čiurlionis' anonymous cycles can be reasonably called unrecognized cycles. The latter conception – unrecognized cycle – as if presupposes two cultural subjects separated by time distance, when spontaneity for one of them coincides with its manner of existence and for the other it is only a mere stimulus for reflection. A previous spontaneity for the latter is irreversibly lost. In this slide of cultural subjects, an unrecognized cycle once marks the absence of reflexion (Čiurlionis), in the other – the loss of spontaneity (investigators of Čiurlionis' work).

Therefore, the concept unrecognized cycle concentrates the complementariness of incompatible meanings (in the opinion of N. Bohr "incompatibilities do not negate but complement each other"¹⁴). A short definition is also acceptable: an unrecognized cycle – a reflexive spontaneous cycle. The proposed term can be also nuanced. Unrecognized also means implied, unidentified, unmarked, unknown, untitled. Nevertheless, "unrecognized" is the most exact. First of all because it concentrates in itself other mentioned nuances.

It is expedient to bring out genre peculiarities of the Unrecognized Cycle presenting interest to us. All the three works under analysis are practically unknown as the composer's piano cycle. First of all, because the composer did not indicate it, and his milieu even did not suppose that it could be a cycle. After the composer's death, a cyclic character of his "pieces" remained unsolved for a long time. And even succeeding in structural basing and entitling this cycle, it is quite probable that in order to perceive its spontaneity one will lack arguments. It is just the thing that we propose to be called an unrecognized cycle.

The title of the unrecognized cycle is also worthy of comment. Despite the fact that the composer creating "pieces" also thought about an opera, he instinctively avoided to specifically entitle his works. In his letters to S. Kymantaitė he mentioned a prologue and a fugue of an opera. Incidentally, the composer called many of his works as fugues. Comparing both versions of the pieces, it is easy to notice a close character of each movement and their structural similarities. Thus, the cycle's movements, basing oneself in part on the hints in his letters, can be respectively called Prologue, Fugue and Finale. These possible titles are more functional, because they are convenient for the comparison of both version of the works. A rational title of the cycle is also possible, namely version II of three "pieces": Prologue–Fugue–Finale. On the other hand, these practically pragmatic titles of the cycle's movements should not stimulate a thought that it might be the cycle "Jūratė". It would be very artificial and would contradict the spontaneity of the cycle's origin. Whereas here the cycle's origin (first of all it is meant an artistic vision) can be associated not only with the intended to write opera "Jūratė and Kastytis" but also with "The Creation of the World" (it is partially witnessed by the kinship of thematic motifs)¹⁵, other cosmos ideas, which never abandoned the composer and subconsciously governed a wealth of his artistic intentions. The entitling of the spontaneous genre cycle as Unrecognized presupposes its further structural (formal) identification. It is logical to think that exclusive spontaneous genre characteristics communicate themselves to the cycle's structure on an appropriate scale. Furthermore. Genre and form here are practically inseparable and one can suppose that they make up a continuous syncretic unity.

Designating the structure of the Unrecognized Cycle, it is worthwhile to have in mind particularly significant aspects of its birth as they are not only psychological but also basic and antological. The latter aspect makes possible to clearer perceive in what respect the composer's activities differ from other artists. As mentioned before¹⁶, a routine making of music together with "birth passions" are not characteristic of Čiurlionis. He does not busy himself either with mimetics or citation. It is a "descend of an object from the sky" (Meletinskij) in the myth "The Creation of the World"¹⁷ that is close to Čiurlionis. This gift – a state of creative elation, when an artist feels as if he were a clear-sighted or a visionary. This kind of state guarantees an intensive sensation of the wholeness of the work. This natural (ontological) peculiarity is a sensation of the whole or vision, emerging as if from the "sky" without planing in advance, without laying out, imitating, and it is the principle condition of the emergence of a spontaneous cycle. It would be, therefore, reasonable to state that between a creative process and a spontaneous cycle exists a certain close link isomorphically manifesting itself in each other. It would mean that the structure of a creative elevation originally reflects that what is structured by a spontaneous cycle.

An evident footprint of this isomorphism is a "formal incompleteness of works", clashing with the tradition of musical notation. Whereas, essentially, in an ontological sense, an Unrecognized cycle is always conceptually finished. And the very details of musical notation is only an individual medium for the indication of such conception. Take the "unfinished measure" of the Fugue in B flat minor. In a conceptual respect, this measure should be never finished. Eventually, even in a kind of an exceptional case, when all the works belonging to the Unrecognized Cycle are copied into the fair copy and seem to be formally finished, they can not necessarily coincide with a conceptual cycle. Different from others "seemingly unfinished" cycles, the cycle under identification

reveals a kind of inverse version. The Unrecognized Cycle is rather marked by its "seeming completion". It manifests itself in the fact that formally as if finished works (with slight reservations) are not functionally presented in the sequence of the cycle's movements. It can be explained by a basic "directing" light of outburst – a "stopped time" or "eternal experience of the present", which seems not to commit itself to processually present the cycle's movements. Thus, the sequence structure of the cycle's movements is principally characterized by a structural code of the works, i. e. by that what the composer creates and authentically writes down.

The structure of the cycle is unfolded with the perception of the composer's principle of composing, which, as noticed before, is marked by the syncretism of binarics and tonality. It would be also expedient to refer to the latter, namely the principle of binary tonality is typical of the composer. Binary tonality is a spontaneous principle of composing, the primate of which should be considered to be a binary polarization of structures in the medium of a tonal system.

Hence, the structure of Čiurlionis' unrecognized cycle should be identified first of all taking into account spontaneous peculiarities dictated by the principle of composing. As the made analysis showed characteristic features of the cycle are as follows: a binary sonata-form articulation by individual movements and a correlation of ostinatic progression of these movements. Structural differences of the Unrecognized Cycle from usual Romantic cycles are particularly clearly pronounced, analysing the meanings and functions of concentric symmetry. Different from the Unrecognized Cycle, Romantics (Schumann, Chopin) structuring their cycles concentrically, by way of a "mirror" symmetry, usually draw the cycle's expositional plays functionally together in the recapitulation. Therefore, the principle part in a recapitulation often shows itself as a transformed shape of a subordinate theme, which takes over intonational features of the principle theme. This kind of inversion of concentric alternative thematic elements (principle and subordinate) at the borders of a concentric cycle draws them together. Thus, the recapitulation manifests itself as a synthesis of a sonata-form process.

The concentric structure of Čiurlionis' Unrecognized Cycle is distinctive for a polar parity of its lateral movements. Here the cycle signifies the dimensions of space more prominently in comparison with processional ones. The spatial and binary character of symmetry displays itself both at the levels of the Fugue and the cycle. Exposition and recapitulation are presented in the Fugue concentrically. This polarity is further reinforced by the distancing of the lateral movements of the cycle (Prologue and Finale). Here no synthesis can be seen but binary parities are evident. The axis of a concentric symmetry – the development of the Fugue – becomes the zone of ambiguity. On the one hand, it is a separation of polarities, on the other – a continuity of a dynamic (sonata-form) process.

Due to the mentioned spontaneous peculiarities, the structure of the Unfinished Cycle should be identified – a binary-ostinatically articulated a three-movement tonal cycle. A shorter version of this identification – a binary tonal cycle. Characterizing the Unrecognized Cycle in various respects, an object of art, unknown up to the present days, has been parallelly identified.

These are exclusive noticed features of the spontaneous cycle:

- a) anonymity and implied incompleteness of the works,
- b) isomorphism of the cycle and a creative process,
- c) syncretism of the principle of composing, and
- d) spontaneity of the structure,

which in no way belittle their artistic value. An aesthetic "charge" of the Unrecognized Cycle is first of all determined by its conceptuality. Therefore, spontaneous musical objects, chosen for analysis, are as splendid and valuable as some known artworks or musical cycles. This statement is not contradicted by the polychronics of the composer's activities, disclosing itself through different branches of art (art, word, music), significant due to its uniform ideas of art. Estimating the composer's highly artistic and in comparison numerous cycles of pictures, we should turn our glances to his spontaneous musical cycles with the same intentions.

Conclusions

The analysis of Čiurlionis' three works (VL 325, 345, 328) leads to the following conclusions.

The composer's last three works for piano (November 1909) are not self-contained musical works, as it is usually supposed (take the analysis of the Fugue in B flat minor made by A. Venckus, V. Landsbergis and D. Kučinskas), but make up an authentic musical cycle.

This conclusion is based on prognostic, structural and identification arguments attained due to appropriate methods of analysis.

1. A prognostic method make possible to establish that a possible musical cycle is spontaneous, since the composer did not entitle it. The spontaneity of the cycle is witnessed by the structure of a creative outburst (October 12–17, 1908, Petersburg), the second stage of which consistently, irrespective of a complex chronology of works, materializes version II of the three works with the purposeful manifestation of the intention of the prototype of the cycle's version I.

2. A structural method offered a possibility to establish a syncretic ambivalence of the cycle's organization. Its spontaneous aspect is made up of a concentric, marked by polarity, structured by a binary principle of a composing form of the cycle united by double ostinato proportions. The rational aspect of the cycle's organization is realized by the derivatives of tonality and sonata-form synthesis, enabling to continually combine various movements and divisions between themselves.

The analysis of the cycle's syncretic structure revealed quite a number of the composer's authentic secrets of art:

- a consistent and unknown in European music up to now interpretation of the cryptogram BACH through all the movements of the cycle, including thematics, harmony, the key plan and forms of the movements, employing various transformations of a cryptogram series for binary and tonal structuring needs;

- all the derivatives and levels of the cycle, starting from the Fugue's theme, are linked by the composer through a uniform proportion (coefficient of a proportional relationship 1,7). These proportions bring out the development contour of the whole cycle;

- the interrelation of the cycle's elements are all-embracing and all-piercing. There are no insignificant things (take the Fugue's supposedly unfinished measure and the sound of its theme B₁);

- worthy of attention is a virtuoso dressing of the sonata-form in the Fugue's attire, syncretically manifesting itself a polar projection of the cycle's divisions and their lateral movements;

3. The intentionality method facilitated to guess the rest meanings of the structure minimally marked by the composer. They logically yield to the regularity of the major proportion of the cycle (1,7). On the basis of the latter, the tempos of the cycle's movements (*Largo-Commodo-Allegro*) and generalized meanings (p-mf-f) of dynamic intensivity have been intentionally established. A proportional relationship unfolded structural culmination of the cycle, bringing out a binary plan of the cycle's organization. The plan is spontaneously complemented by a general sonata-form climax in the finale. These intentional significations of the composer's unmarked parameters finish the analysis of the cycles' structural character and open up a method for an artistic interpretation of the cycle.

4. The identification method helped to differentiate and define various spontaneity aspects of the cycle:

- the work is identified as a certain genre type of the cycle and is entitled *Unrecognized Cycle*, indicating the principal differences from a traditional cycle of Romantic music (the anonymity of the title, the link with the character of creative activities – an outburst, a seeming incompleteness of the works);

- it is logical to associate the identification of the title of the work with the "flash" of the outburst and call it "version II of three works", besides, functionally entitling the cycle's movements: Prologue–Fugue–Finale;

- the incompleteness of the cycle (the absence of the order of the sequence of movements, a lack of references to tempo, dynamics and others, an unfinished measure) should be identified as the result of a creative outburst and the cycle's isomorphic reflection;

- it is proper to call the syncretic principles of composing as binary tonality, accentuating a spontaneous perception-expressing aspect. The composer's spontaneous method of writing music is unique and unknown in European musical practice of the period;

- identifying the cycle's structure according to its spontaneous characteristics, the following definition has been established: a binarically ostinately articulated tonal cycle in three movements. In short – a binary-tonal cycle. This kind of the cycle's structure principally differs from synthesized Romantic cycles due to its polar parities of components;

- last but not least, the Unrecognized Cycle is identified as an original object of art and aesthetics of European music, not thoroughly enough investigated and unfolded up to now. In this respect, Čiurlionis' spontaneous cycles are somewhat unexpected, belated, however, a fruitful contribution to the process of European art of music.

Abbreviations

- JČKF – Čiurlionis M. K., 1957. *Kūriniai fortepijonui* (ed. by J. Čiurlionytė). Vilnius: Vaga.
- VL – List of M. K. Čiurlionis' musical works compiled by Vytautas Landsbergis. (Landsbergis, 1986, p. 223–296).
- VLKF – Čiurlionis M. K. 2004. *Kūriniai fortepijonui*. Visuma.
- DK – List of M. K. Čiurlionis' piano works compiled by Darius Kučinskas. Kučinskas D., 2002. *M. K. Čiurlionio fortepijoninės muzikos tekstas (genezės aspektas)*. Thesis for a doctor's degree. Vilnius: LMA.
- ČDM, Čm – New ciphers of Čiurlionis' manuscripts introduced in M. K. Čiurlionis Museum of Art since 1990 m.
- NC – Unrecognized Cycle.
- LM – Lithuanian Musicology (periodical review publication).
- TŽŽ – Dictionary of International Words. Vilnius, 1985.

Notes

¹ About binary and tonal (wider-monary) principles see the author's publications:

Janeliauskas R. 2001. Binarika, kaip komponavimo bendrybė. *Lietuvos muzikologija*, II. Vilnius.

Janeliauskas R. 2002. Monarika, kaip komponavimo bendrybė. *Lietuvos muzikologija*, III. Vilnius.

² The ostinato and figuration conceptions are wider discussed: Janeliauskas, 2004. LM, V., p. 35.

³ Presentations of the Fugue's theme – the system of subjects and answers (see Venckus A., 2000, p. 220).

⁴ For more about ethnomusic archetype see: Janeliauskas R. 2002a. Binary Cyclic Form of Mikalojus Konstantinas Čiurlionis' Music. *Composing Principles: Continuity and Innovation in Contemporary Music*, III. Vilnius: LMA, p. 61–78.

Janeliauskas R. 2002b. Common Means of Composition in Archaic and Antique Music. *Ethnic Relations and Musical Folklore*. Ed. by Rimantas Astrauskas. Vilnius, p. 141–154.

⁵ Different from the monogram's term ("an artistic weaving of initial letters of names and surnames", TŽŽ, p. 328), an unfolded, hidden employment of musical signifiers is characteristic of the cryptogram (gr. *kryptos* + *gramma* – inscription, TŽŽ, p. 273).

⁶ See: Janeliauskas R. The Boundaries of M. K. Čiurlionis' Works of Music. *Musical Work: Boundaries and Interpretations*, Vilnius, 2006.

⁷ As the theme of the 1st movement is contrapuntal to an ostinatic melody, it is logical to call the latter a subsubject. In addition see Scheme 1.

⁸ Melodic and key pitches not always coincide in their meaning and markings.

⁹ The mentioned insertion of the Fugue's theme through the glance of binarics (g. 9–13) does not form any independent block. It is the most simple separation of polar modal blocks using an insertion of sounds. A pause (Prologue's cryptogram) can also serve for a similar separation of blocks. Accentuating priorities of binary blocks through similar functions, one should also have to name the parts and divisions of the Fugue's development and exposition transitions.

¹⁰ For more see: *Composing Principles*, III, p. 61–78.

¹¹ See: Ambrazas A. ir kt. 1977. *Muzikos kūrinių analizės pagrindai*. Vilnius: Vaga, p. 438.

¹² *Ibid.*, 435.

¹³ *Ibid.*, 421.

¹⁴ See: Бор Н. 1977. *Избранные научные труды*, т. 11. Москва, с. 204.

¹⁵ For more see: *Lietuvos muzikologija*, V, p. 33.

¹⁶ *Ibid.*, p. 32–33.

¹⁷ *Ibid.*, p. 31; for more see: Мелетинский М. 1993.

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Santrauka

Paskutinis M. K. Čiurlionio Neatpažintas muzikos ciklas

Straipsnis skirtas genialaus lietuvių dailininko ir kompozitoriaus paskutiniųjų trijų kūrinių fortepijonui (VL 325, 345, 328) ištyrimui. Vėlyvajam Čiurlioniui nebūdingas šių kūrinių perrašymas į švarraštį paskatino spėti, kad tai gali būti kompozitoriaus neįvardytas ciklas. Panašius neįvardytus ciklus Čiurlionis kūrė ištisą dešimtmetį (1899–1909). Ne visi jie yra ištirti ir tinkamai įvertinti. Bene labiausiai įsidėmėtina panašių ciklų savybė – jų savaimingumas, pasireiškiantis pavadinimo nebuvimu, sąsaja su spontaniško kūrybinio protrūkio metu atsiradusių kūrinių chronologija, formaliu kompozicijos neužbaigtumu. Analizuojami kūriniai ypatingi tuo, kad jų susidėstymas į ciklą yra netiesioginis, o inspiruotas pirmųjų trijų kūrybinio protrūkio kūrinių, sukurtų pirmosiomis jo dienomis (1908 10 12–15, Peterburgas). Nepatenkintas pirmąją trijų „gabalų“ versija (tai rodo pirmųjų dviejų perbraukimas pieštuku), kompozitorius ėmėsi kurti antrą versiją. Kūriniai pradėti rašyti etapais, nepaisant chronologinio nuoseklumo. Savaimingumo požymiu galima laikyti tam tikrą pirmos versijos provaizdžio įtaką.

Galutinis kūrinių perrašymas į švarraštį, nepažymint dalių sekos, neužbaigiant Fugos takto (t. 38), stokojant kitų nuorodų (išskyrus natas) leidžia spręsti tik apie tariamą ciklo užbaigtumą. Tad savaimingumas ir čia neišnyksta.

Tik viena ciklo dalis turi pavadinimą (Fuga). Tai iš dalies leidžia sieti ciklą su kompozitoriaus ketinimais parašyti operą „Jūratė ir Kastytis“. Tačiau ciklas neįvardytas, ir tai galima laikyti logiška savaimingų kūrybinių intencijų tąsa.

Ciklo savaimingumą galima išvelgti ir jo struktūroje. Čia kompozitorius netikėtai atsiskleidė kaip toli pralenkęs savąjį laikmetį – jis atkūrė etninei muzikai būdingą archajinį binarinį komponavimo būdą, kuris itin ryškus lietuvių monodijoje ir sutartinėse. Tai matyti komponavimo principo lygmenyje – idėjoje, kuri Europoje nepalyginamai vėliau vainikavo I. Stravinskio, B. Bartoko ir kt. kūrybą. Binarinis ciklo savaimingumas pasireiškia binarine intonacine ląstele arba branduoliu, kuris užtikrina kiekvienos ciklo dalies ostinatų vienovę. Beje, ostinatos, panašiai kaip lietuvių sutartinėse, kyta dvigubumo proporcija. Ši ląstelė reguliuoja aukštesnius ciklo lygmenis – poliarius tonacinius planus bei koncentrinės formos padalas.

Čiurlionio komponavimo principo autentiškumas glūdi jo savaimingoje binarinio ir tonalinio principų sinkrezėje. Trumpai tokį komponavimo būdą galima vadinti binariniu tonalumu (skirtingai nuo Ivesui būdingos tonalinės binarikos). Kompozitorius sonatinę formą interpretuoja fugos metodais, kartu išlaikydamas visas binariškumo projekcijas. Tonaliniu požiūriu ciklo struktūrą galima suvokti kaip sonatą (Fuga) sonatinėje ekspozicijoje, nes jos padalos realizuojamos atskiromis ciklo dalimis. Tonalinis principas, kitaip nei binarinis, lemia visų ciklo darinių tolydumą, jungtis ir sintezę. Ciklo struktūrą, turint omenyje jos savaimingąsias savybes, būtų logiška identifikuoti kaip binarinę-sonatinę.

Archajinių ir tonalinių ciklo sluoksnių sinkrezėje kompozitorių lydi genialūs atradimai, kuriuos dera pristatyti Europos muzikos elitui.

Čiurlionis, nepriklausomai nuo išpuoselėtų serijinės muzikos pavyzdžių, atvėrė nepranokstamus kriptograminės technikos horizontus (binarinis ir tonalinis BACH garsų serijos traktavimas įvairialypėmis ciklo plotmėmis – tematikos, harmonijos, formos, pritaikant įvairialypes serijos transformacijas, inkrustacijas bei imitacijas).

Ciklo struktūrai artikuliuoti kompozitorius atranda struktūrinės kulminacijos tipą, kuris visuose be išimties formos lygmenyse pagrindžiamas bendra santykio reikšme (1,7). Be to, visa ciklo struktūra kompozitorius įrodo „aukso pjūvio“ ir koncentrinės simetrijos nesuderinamumą (Fugos t. 38).

Kompozitorius iš principo naujai traktuoja intervalikos supratimą (daug giliau nei romantikai, tačiau pranašingai ateities muzikai). Netgi mikroskopinė intervalo mutacija transformuoja ištisas ciklo padalas, ji gali „sužlugdyti“ net patį ciklą (vargu ar priimtinas V. Landsbergio inicijuotas dirbtinis Fugos temos garso H_1 pakeitimas į C).

Kompozitoriaus novatoriškumas pasireiškė ir užrašant savo kūrinius. Dėl itin motyvuotos intencionalaus ciklo elementų sąsajos kompozitorius užrašydavo vien tik natas. Šis minimalus struktūrinis kūrinių fiksavimas yra įsidėmėtinas kaip naujų muzikos užrašymo būdų provaizdis, leidžiantis kompozitoriui kuo sparčiau materializuoti jį užplūdusias mintis (prisiminkime V. Bacevičiaus grafines partitūras ir kt.).

Savaiminis kompozitoriaus ciklas pasireiškia kaip unikalus žanrinis muzikos tipas, kurį logiška vadinti Neatpažintu ciklu. Šioje sąvokoje įprasminamas savaimingumo ir pažintinumo papildomumas.

Įvardijamas žanras nėra žinomas Europoje. Ir tai, regis, sąlygota ypatingo kompozitoriaus mąstymo, genetiškai susijusio su lietuvių etninės kultūros pajauta.

Neatpažintas ciklas (NC 1909 11, Peterburgas), beje, kaip ir daugelis kitų per paskutinį kompozitoriaus gyvenimo dešimtmetį sukurtų panašių ciklų, yra iškilus indėlis tiek į lietuvių, tiek į visos Europos muzikos istoriją. Tai unikalus estetinis meno objektas, įsiliejęs (nors ir pavėluotai) į dabarties muzikos procesą.

***Mantroch* – an Orchestral Voice for Pipers and an Instructional Tool for Young Composers**

Abstract

With 'pipers increasingly joining the western art mainstream, a new compositional tool, *mantroch*, has been developed to bring something new and original to the concert hall. This is a musical form based upon repetition of a theme (ground) in several layers in different durations which combines and recontextualises several existing compositional techniques from different ages and traditions.

Areas to be discussed include a basic description of the technique – ground structure (from *pibroch*), layers, event matrix, multi-themed works, discussion of 'musical relativity' (re-opening the age old debate about 'time' in music, discussion of method of variation in *pibroch*), application in different soundscapes (extended instrumental techniques, quasi-tonal/modal environments etc.).

The technique has been applied to several large-scale pieces; an opera, a symphony, a chamber symphony as well as numerous smaller works. The simplicity of the idea lends itself to great flexibility in application and has scope for further development.

Introduction

Mantroch is a set of compositional tools used within a specific philosophical approach.

The research was primarily driven by a desire to apply traditional piping compositional methods to the classical tradition and thus create a new medium that could potentially facilitate greater exchange between these two cultural groups. A secondary objective was to broaden the technical range of bagpipe usage and context. A third by-product of this research is the creation of a model which can be adapted to synthesise other traditional compositional styles and the western art orchestral tradition.

***Pibroch* Form and its Extension**

Scottish bagpipe music is divided into three groups – *ceol beag*, *ceol meanach* and *ceol mor*. *Ceol mor* is regarded as the highest art form of bagpipe music and is often called *pibroch*, from the Gaelic word *piobaireachd* meaning 'bagpipe playing'.

A *pibroch* is a theme¹ and variations for highland bagpipes in which the variations systematically reduce the theme to its essential harmonic structure and embellish this with increasingly complex groupings of gracenotes. Traditionally, *pibroch* themes have a limited number of structures using phrases of different lengths; an approach currently being expanded. Of significant concern during the development of *Mantroch* technique was the use and adaptation of traditional phrase structure of *pibroch* grounds.

Ceol mor uses a different system of notation to other forms of Scottish bagpipe music. This is called *canntaireachd*, meaning 'sung music' in Gaelic. *Canntaireachd* is a system of words used to represent notes and embellishments in pipe music with the rhythm derived from the words themselves.

It should also be noted that debate exists about historical performance practice and understanding of *piobaireachd* form and structure.

In essence it is possible to represent *pibroch* themes as being *canntaireachd* poems/songs based on metrical verse structures, just like other poems. Using this definition, we can generate new forms from varying the existing models, and also from reference to other traditions. 'The Poets Manual and Rhyming Dictionary', by Frances Stillman (Thames and Hudson, London 1966, ISBN 0-500-27030-9) gives not only good arguments and illustrations of spatiality and temporality in artistic expression but provides numerous models and illustrations of how to create new forms in *pibroch*.

In *pibroch*, it can be observed that each phrase contains an implied amount of tension through the progression of intervals in the melody and against the drones (which are never turned off in Scottish bagpipe tradition). Appraisal of tension is achieved by combining both the intervals

assembled vertically (i.e. sounded simultaneously) and the accumulation of relative tension between each interval. The duration of the phrase in time and in terms of number of notes becomes essentially irrelevant, not forgetting of course that one hears in real time. Thus the creation and release of tension is experienced in small local units (preceding, current and proceeding note), between phrases and on a more global level simultaneously.

A graphic illustration of the creative and listening experience for *pibroch* may be a sphere; the creator (composer/performer) is inside the sphere, whilst the listener experiences the sphere from outside. The sphere is a symbol for the 'general musical concept' being portrayed in sound. The creator is free to explore the sphere from any position inside, and can so move around (in sound this will be different variations, timbral effects, melodic fragments and so on), whilst the listener, completely separate to this, can view the sphere from any position, switching listening attention to any element present.

This image has been extracted from *pibroch* to form a philosophical bridge to the western art tradition and has been called 'musical relativity'.

'Musical Relativity'

Different historical periods and social/artistic contexts vary the way in which a listener experiences a piece of music and the role played by linearity in this.

The composer in the above illustration of 'musical relativity' can compose many different pieces using the same basic material. Thus there are as many layers and levels of understanding of a piece written with this philosophy as there are notes and combinations of notes.

In musical relativity the abstract concept is presented by the performer from a continually changing perspective, but the concept itself can never be viewed in its entirety, just as a person can never see the entire surface of a globe at the same time. This creates a style which is not based on musical discourse but on juxtaposition of diverse elements and aspects of a central static abstract concept.

This proposed understanding of 'musical relativity' shares with *piobaireachd* the need for the theme/ground to contain the essential musical message.

The experiential context of musical relativity has been chosen for *mantroch* to form a bridge between these the western art and *pibroch* traditions.

The concepts of time, of linearity in music, of argument and experiential perspective are and have been areas of constant debate throughout history, especially recent history: composers are in a way obliged to generate a new paradigm for each and every piece they write.

This particular description of 'musical relativity', intended as a bridge between western art music and *pibroch* should not be taken as an attempt at a final commentary on 'time in music'!

Basic Description of the Technique

Definition of terms to be used:

Ground – the initial theme which is subjected to note duration augmentation in even number multiples.

Variations – each recurrence of the ground in original durations.

Event matrix – the complete material gained from multiplying the note durations in the ground by 2, 4 and 8 and presenting the resulting lines simultaneously in separate voices.

Tenor – the longest multiple of the ground, typically 8 times the duration of the ground.

Realisation – the final stage in composing when material is picked from the available event matrix and orchestrated.

Thinking poetically, a three-line ground is freely conceived by the composer which is to contain the essential musical concept to be realised throughout the piece. To be effective, the entire intended evolution of tension of the piece should ideally be contained within the ground. The global argument should be both reflected in the formation of the ground and the realisation of the event matrix. Ideally the moments of maximum tension are reflected in the tenor which will lie in a tonal area at maximum dissonance from the underlying modality. For example, if a ground suggests a modal tonality, a point of maximum tension from there may be a tritone from the final and be surrounded by notes that lie exclusively outside of the underlying mode.

The rhythmical duration of the ground is then multiplied by two, four and eight, with each resultant voice being given a new stave and presented simultaneously with the original. To complete the event matrix, the ground in its various durations is repeated as required (eight, four and two times) to have each line sounding to the end of the tenor. Variations are the ground in its initial duration and thus there are 8 variations available for each piece. It therefore follows that there are eight major cadencing points in the event matrix with smaller cadences in between. The tenor will set the dominant tonal area between these main cadences. Additionally certain pitches will be duplicated between voices and therefore should be highlighted in the realisation as being essential aspects of the inherent musical concept. All of these issues need to be controlled by effective construction of the ground.

For more complex musical forms it proved to be necessary to introduce other grounds and a bass line to thicken a texture and provide additional material. This gives further control over the resultant event matrix but also introduces considerable additional complexity. The harmonic and motivic content of the bass is set in contrast to the ground and serves on another level as a drone, giving additional clarity and definition to the level of tension in a phrase by setting a second point of reference.

Whilst the bass line should be subservient to the ground it clarifies, it can have a considerable level of independence for 'comment' upon and imitation of the primary material. A bass line can be given its own structure and can further be designed to support and highlight the desired global characteristics of the piece.

In multi-themed movements one common bass line can be motivically derived from all grounds but serve each ground independently. This provides extra coherence and gives a greater organic sense to the entire movement. The use of an enhanced bass line² in cyclical works assists in reconciling diverse elements from several movements into one complex summary movement.

The final stage of composition with *Mantoch* form is 'realisation'. The event matrix establishes when events start and how long they may be active. However, there is no need to restrict events to specific voices and it is this intermingling of voices and events that produces variety with *Mantoch* technique. Some movements may use all events and freely arrange them between all the instruments whilst other realisations may use only a small fraction of the available events. Choosing what to bring to the fore and how to combine events is the key to successful application of *Mantoch* technique.

The potential scale and scope of each piece is varied in several ways:

- length of ground,
- addition of contrasting grounds forming further subject groups,
- complexity and motivic integration of ground with bass,
- interpolation of other events matrices or of free compositional sections.

The event matrix in a two themed piece with bass line may be graphically represented thus:

A	A	A	A	A	A	A	A
B	B	B	B	B	B	B	B
F	F	F	F	F	F	F	F
2A		2A		2A		2A	
2B		2B		2B		2B	
2F		2F		2F		2F	
4A				4A			
4B				4B			
4F				4F			
8A (Tenor A)							
8B (Tenor B)							
8F							

where A is first subject group/ground, B is second subject group/ground and F is bass line common to both subject groups/grounds.

Application In Different Soundscapes**(Extended Instrumental Techniques, Quasi-Tonal/Modal Environments etc.)**

Once an event matrix has been generated, it is possible to realise it in many different ways. However, this is not to say that any matrix can or should be realised in any way. The challenge of generating strong grounds is to match the structure of the ground to the intended realisation.

Computers are a tremendous aid in allowing a composer to experiment and alter individual sections of a ground to try and achieve specific results over an entire matrix.

Potential Future Usage

To repeat, *Mantroch* is a set of compositional tools used within a specific philosophical approach. We may think of it as a building created as a place where totally unrelated traditions can meet and be synthesised to create a new artistic expression, deeply rooted in its constituent elements.

Pibroch is a strong living tradition but any other musical practice, current or historic, can be searched to find new strategies for structuring grounds and new harmonic environments.

As with serialism, musical elements such as rhythmic patterns, dynamics, timbre and so on can be used to create new event matrices, which can then be superimposed. These elements can also be organised and composed in stanzas of varying length.

Multi-themed works can have each theme fragmented and dispersed throughout a piece, dramatic pieces can have characters personified through individual matrices thus creating possibilities to synthesise leitmotiv with *mantroch*.

Further, distortions of time, spectral modulations, and sonoristic compositional strategies can all be applied to realisation of event matrices.

***Mantroch* as an Instructional Tool**

As an instructional tool, *mantroch* can provide varied tasks for students to undertake; research and generate a new ground structure from previously little examined traditions, realise a matrix for specific instrumental groups using a limited set of techniques, extended or otherwise etc. It can also be used to provoke thought about listening and creative philosophy, challenging students to realise a single ground according to different intended listening experiences.

Mantroch is also a tool that can be used to help young or inexperienced composers find a voice in large-scale pieces, such as symphonies. By providing material from which to choose and allowing the composer to set different tasks for each variation, the student can gain confidence in forming large scale structures. Importantly, the skill of creating an effective ground can be practised and trained in small-scale movements and the positive experience gained can be transferred directly into large-scale thinking. Simultaneously, this can focus a student's attention on forming global arguments in a thematic cell and so contribute to general development of understanding of form and its relationship to a musical message.

The Potential is as Unlimited as the Composer's or Instructor's Imagination

Notes

¹ In 'piping this is referred to as a ground, conforming to the terminology of the period in which *pibroch* is thought to have undergone most development. In recognition of this the term ground will be used hereafter.

² An enhanced bass line can appear to be as active as a ground, but will in fact always be subservient to its governing ground(s) and will have periods of rest either on longer notes or actual silence which would not be included in a ground. Rests are largely redundant in *mantroch* grounds but can be used in the bass line to mark thinning of textures. Rests where they are used serve to create rhythmical variety and to separate motives.

Santrauka***Mantroch*: dūdmaišininkai ateities orkestre**

Dūdmaišininkų menui tampant vis svarbesne dominuojančios vakarietiškos kultūros dalimi, atsirado nauja kompozicinė priemonė – *mantroch*, suteikianti galimybę koncertinėje scenoje parodyti kai ką naujo ir originalaus. Tai muzikos forma, pagrįsta temos (*grando*) kartojimu keliuose sluoksniuose ir įvairiomis trukmėmis, sujungianti ir rekontekstualizuojanti jau egzistuojančias kompozicines technikas, būdingas įvairiems istoriniams laikotarpiams ir skirtingoms tradicijoms.

Pranešime nagrinėjami esminiai šios technikos bruožai – *grando* struktūra (kilusi iš *pibroch* – Škotijos kalniečių dūdmaišio muzikos), sluoksniai, schemas, daugiatemiškumas, muzikos reliatyvumas (vėl prisimenama ilgametė diskusija apie „laiko“ sąvoką muzikoje ir *pibroch* būdingą varijavimo metodą), pritaikomumas skirtinguose garsovaizdžiuose (išplėtotose instrumentinėse technikose, tariamai tonaliuose/modaliniuose kontekstuose ir pan.).

Ši technika jau buvo pritaikyta keliuose stambios formos kūrinuose – operoje, simfonijoje, kamerinėje simfonijoje – bei daugybėje mažesnės apimties veikalų. Pačios idėjos paprastumas leidžia lanksčiai naudoti šią techniką ir atveria galimybes tolesnei jos plėtrai.

GATITO: Gestural Analyser for the Assistance with the Improvisation with the Trumpet

Introduction

Most of melodic instruments provide metaphors to go through the space of the notes with the space of the fingering, like the piano where one goes up to the acute sound while playing more and more to the right. The trumpet does not have this property. The trumpet player improviser will have to carry out an independent analysis on the sequences of fingerings which are often complex to play and memorize. For the beginners, the theory of the music regarding improvisation is a long and heavy work. Many musicians improvisers quit the trumpet because of a lack of a pedagogy linked with important specificities of the instrument.

This is why we created GATITO, an analyser of gesture bound to support the formation of trumpet improvisation. This system offers two characteristics:

- the system calculates a cyclic gesture according to a sequence of notes,
- the system calculates the most repetitive fingerings according to a sequence of notes.

How does the method of the cycles work

The application takes into account 3 parameters:

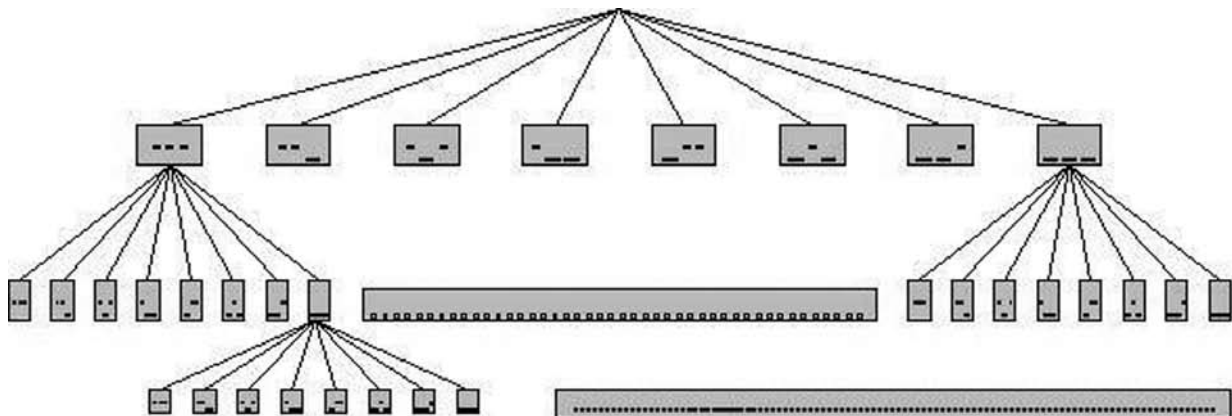
- the length of a cycle, that is to say the number of notes which form a cycle,
- the gap of wrong notes, that is to say the accuracy in semitone,
- the sequence of note.

The algorithm used is the following:

We build a tree which represents all the possible cycles of combinations of pistons. There are 3 pistons, is $2 \times 2 \times 2 = 8$ possible combinations. Each cycle is represented by a tree with a height equals to the length of the cycle. So, the tree counts all the possible cycles for a length given. All we have to do is to go through the tree, and to repeat each cycles as many times as necessary according to the music score given. To finish, the list of valid cycles according to the accuracy is sorted by ascending order.

For example:

- length of a cycle: 3,
- accuracy: $\frac{1}{2}$ tone,
- sequence of notes: Do1, Re1, Mi1, Fa1, Sol1, La1, Si1, Do2.



Associative table between pistons and notes:

TTT	Do 1	Sol 1	Do 2	Mi 2	Sol 2	La 2	Sib 2	Do 3	Ré 3	
TtT	La 0	Mi 1	La 1	Do# 2	La 2	Do# 3				
TtT	Si 0	Fa# 1	Si 1	Mib 2	Fa# 2	Si 2	Do# 3			
TtT	Lab 0	Mib 1	Lab 1	Do 2	Mib 2	Lab 2	Sib 2	Do 3		
TtT	Sib 0	Fa 1	Sib 1	Ré 2	Fa 2	Sib 2	Do 3	Ré 3		
TtT	Sol 0	Si 0	Ré 1	Sol 1	Si 1	Ré 2	Sol 2	La 2	Si 2	Ré 3
TtT	La 0	Mi 1	La 1	Do# 2	Mi 2	La 2	Si 2	Do# 3		
TtT	Fa# 0	Sib 0	Do# 1	Fa# 1	Sib 1	Fa# 2	Lab 2	Sib 2		

Result:

If 0, Re1, Mi1, Fa # 1, Sol1, La1, Si1, Si1, the cycle obtained is:



Wrong notes are created, since here; the musical rule is the shape the fingering takes. However, for the improviser, it allows to play a sequence of notes quickly, to release itself from the music to get pleasure, to capture associated messages, to be inspired, to interact with the other musicians. The improvisation requires some sacrifice from the musicians, and from the audience too. The other side is the capability to create notes the musician didn't forecast. The application can in certain case contribute to the inspiration and imagination, while being based on new rules which are the fingers.

How does the method of the fingering works

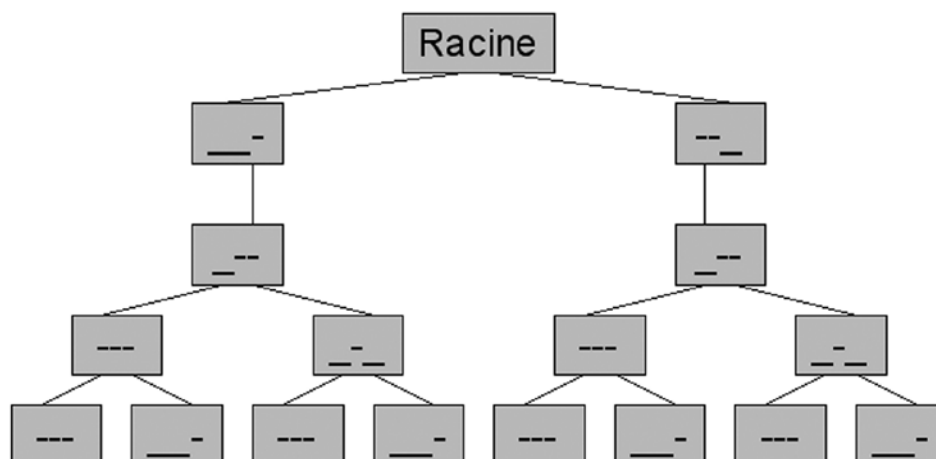
Inversely, this method allows to be free from the wrong notes, and forces to respect the music score from the beginning. From the beginning, the application just takes into account the sequence of notes.

The algorithm used is he following:

We build a tree which represents all the possible fingerings for this sequence of notes. The goal is to return the sequence of fingerings which repeats the better the same fingerings. That is to say we suppose that the more the fingerings are repeated, the easier is to keep in mind and to play the sequence of notes. This algorithm's evaluation function is the 8-dimension Euclidean distance which then enables to sort the possible choices by descending order. The strongest evaluation is the easiest case to play for a trumpet player.

For instance, notes sequence: Mi1, Fa1, Sol 1, Mi 2.

Considering the following tree:



The cycle obtained is:

<i>Position d'un piston</i>	1 er cas	2ème cas	3 ème cas	4 ème cas	5 ème cas	6 ème cas	7 ème cas	8 ème cas
---	2	1	1	0	2	1	1	0
--_	0	0	0	0	1	1	1	1
-	0	0	0	0	0	0	0	0
-__	0	0	0	0	0	0	0	0
__-	1	1	1	1	1	1	1	1
___	0	0	1	1	0	0	1	1
---	1	2	1	2	0	1	0	1
---	0	0	0	0	0	0	0	0

Result:

By calculating the 8-dimension Euclidean distance, we get:

$$1^{\text{st}} \text{ case} : 2^2 + 1^2 + 1^2 = 6$$

$$2^{\text{nd}} \text{ case} : 1^2 + 1^2 + 2^2 = 6$$

$$3^{\text{rd}} \text{ case} : 1^2 + 1^2 + 1^2 + 1^2 = 4$$

$$4^{\text{th}} \text{ case} : 1^2 + 1^2 + 2^2 = 6$$

$$5^{\text{th}} \text{ case} : 2^2 + 1^2 + 1^2 = 6$$

$$6^{\text{th}} \text{ case} : 1^2 + 1^2 + 1^2 + 1^2 = 4$$

$$7^{\text{th}} \text{ case} : 1^2 + 1^2 + 1^2 + 1^2 = 4$$

$$8^{\text{th}} \text{ case} : 1^2 + 1^2 + 1^2 + 1^2 = 4$$

The advantage of this method is that it respects the musical sentence. The musician chooses the sequence he likes the best, knowing that the list is sorted by order of supposed difficulty.

Conclusion

GATITO can be used in several manners: the search of fingerings reduction and the search in improvisation. GATITO want to escape from the traditional musical theory, and to produce new rules which would just be gestural. Thus GATITO can create music thanks to the method of the cycles which offers to the musician musical sentences easy to play, and thus contribute to the research of the inspiration for an artist. The use of the two methods opens the way to search for a new music which would be simple considering a technical way. GATITO would be a search engine for the musician, and opens the way to a field still unknown, and unexplored.

Santrauka

GATITO: slinkčių analizės sistema, skirta mokyti improvizuoti trimitu

Trimitininkai dažnai susiduria su problemomis, kylančiomis dėl šiuo instrumentu išgaunamų garsų skalės. Šios problemos kyla iš garso išgavimo specifikos, kai vienu metu naudojami du garso išgavimo elementai – lūpos (kartu su pūstuku sudarančios vientisą kvėpavimo sistemą, panašiai kaip dainuojant) ir pirštai (trys dešinėsios rankos pirštai trims skirtingiems vožtuvams). Vien tik lūpos naudojamos, kai norima išgauti garsą, nekeičiant vamzdžio ilgio, o pirštai naudojami vamzdžio ilgiui keisti.

Šių dviejų elementų vienalaikis naudojimas, siekiant išgauti reikiamo aukščio garsą, yra toks komplikotas, kad pradedantiesiems dažnai nėra kito pasirinkimo, kaip tik naudoti vien pirštus, neatsižvelgiant į minėtus tarpusavyje susijusius elementus, o tai tolygu siekimui abstrakčią skaitmenų lentelę išmokti mintinai.

Daugumai melodinių instrumentų galime naudoti aiškias nuorodas, siekdami išgauti norimo aukščio garsą arba greitai bent jau apytiksliai ištaisyti garso aukščio klaidas (kai skambinant fortepijonu norima išgauti aukštesnį garsą, sakoma „labiau į dešinę“, o grojant saksofonu – „mažiau pirštų“).

Trimitininkui negali būti jokios panašios nuorodos garso aukščiui keisti, nes galutinis rezultatas visada priklauso tik nuo tuo metu skambančio garso: kartais, kad paaukštintume garsą (C0), turėsime naudoti visus tris vožtuvus, o kartais (C # 0) reikės vieną – centrinių – atleisti, kitus paliekant nuspaustus.

Lūpų vaidmuo, keičiant skambantį garsą, taip pat priklauso nuo konkrečios situacijos: pereiti iš C1 į G1 (grynoji kvinta) reikės visai kitaip nei iš G1 į C2 (grynoji kvarta), nes harmoninis intervalas nėra „taisyklingas“.

Kadangi jokios slinkčių nuorodos negali būti taikomos, belieka remtis vien tik pirštuote, kurią būtina išmokti mintinai.

Paprastai manoma, kad atlikėjui melodiniais instrumentais būtina mokėti daug skirtingų garsaeilių, norint valdyti harmoninius sąskambius, kaip, pavyzdžiui, džiaz muzikoje, kur viename kūrinyje naudojama daugybė garsaeilių, reikalaujančių tam tikros (nevienodos) trimito pirštuotės.

Be to, kaip žinoma bet kuriam džiaz muzikantui, džiazinės kompozicijos harmoninė struktūra keičiasi labai greitai, taigi trimitininkas dažnai nežino, kuri garsaeilį naudoti, nes neretai pasilieka dar ankstesniame ir/arba bijo pereiti į kitą. Neturint pakankamai patirties išgirsti garsą, perimti partnerio iniciatyvą ar valdyti muzikinį audinį, pirštuotės apribojimai trukdo melodiniam plėtojimui ir muzikiniam bendravimui.

Trumpai galima pasakyti, kad, norėdamas susieti muzikos teoriją su improvizavimu, pradedantis trimitininkas turi nuveikti ilgą ir kruopštų darbą. Bet galbūt visai nebūtina manyti, kad mokymasis improvizuoti – tai kelias nuo teorijos link praktikos. O jei koks nors trimitininkas galėtų pasiūlyti keletą neblogų idėjų, kurioms įgyvendinti pakaktų tikslių nuorodų, pagrįstų paprastomis slinktimis, tiesiog tam, kad praktiškai išgirstume, kaip jos tinka, ir išklaustume keletą naudingų pastabų?

Tam ir buvo sukurta GATITO – slinkčių analizės sistema, skirta mokytis improvizuoti trimitu. Jos pirmoji versija dar neturi tikro ryšio galimybės ir teikia tik dvi pagrindines paslaugas:

1) turėdamas paprastą ciklinę slinktį, trimitininkas prašo sistemos atrinkti (panašiai kaip Google™ paieškos sistemoje) pagrindinius džiazinius garsaeilius, apytiksliai atitinkančius tą slinktį, naudojant skirtingus vertinimo parametrus;

2) gavusi originalų džiazinį garsaeilį, sistema grąžina sąrašą paprastų ciklinių slinkčių, galimų naudoti tame džiaziniame garsaeilyje.

Šiuo metu nėra naudojamas joks kompiuterinis mokymas, išskyrus paprastas sąsajas ir asmenines sistemines sąsajas, leidžiančias naudotojui atsirinkti garsaeilius ar slinktis pagal praktinius kriterijus, išgirsti rezultatą ir kombinuoti dalinius sprendimus, šitaip išplėtojant ir savuosius. Ir jau dabar yra nuostabu tai, kad ši sistema yra tokia veiksminga ir kad ji leidžia improvizacijos klausimus apversti aukštyn kojomis!

Things that Are Not: an Ontology of (de)Composition

This paper considers the nature of ideas and their position within a field of power relations by thinking about the discourse that takes place within musical forms in general on a social and institutional level and how music is controlled. It then moves to look at the opposing sides of the discourse in the form of the orthodox/heterodox positions taken by Boulez and Schaeffer with regard to compositional style and process of *musique concrete* by using Nietzsche's dualist metaphor of Apollonian and Dionysian visions as essential but opposing creative forces. Finally some aspects of John Cages thinking on the subject of indeterminism are brought in which, seem to reconcile the two positions in a way Nietzsche and perhaps Schaeffer, but not Boulez may have agreed with.

Discourse is the negotiation between ways of thinking that occurs within or across institutions that defines what is permissible within its social context.¹ These social rules aim to preserve the prevailing *status quo* and to prevent valid participants thinking the 'unthinkable', but do not have power over outsiders whom may challenge the 'received wisdom' of the discourse albeit from an outsiders position within the hierarchy. As de Jager notes:

Sociologists ... stress the ways in which membership of a society or of a particular social group affects the (musical) behavior of people, including that of gifted composers. (de Jager 1972: 253)

As such, the sociology of music is concerned with the relationship between music and the social context within which it takes place and how the behaviour of others, norms and shared values impacts on that of individuals de Jager (1972: 253). Mainstream or traditional forms of composition and notation have always configured the landscape of what is acceptable in terms of process and method. Whether this is due to technical expediency or institutional necessity (or both) is debateable. Both of these will also entail dialectical relations of power in which a number of interests form a discursive field of relations. At its centre, this field has the mainstream 'common sense' conception that reproduces and replicates the 'good' knowledge and reinforces the prevailing *status quo* that is the orthodox format, procedure and methods of composition and notation etc. On its periphery, the discursive field is populated by contesting or heterodox conceptions of format, procedure and methods.

As developments occur through time there are movements with discourse that include interactions between the ideas within the orthodoxy, but also include incursions and on occasion, concessions made by orthodox positions to heterodox ideas, which impact and affect both method and practice. Examples of this are the various graphic formats of score that have been used to attempt to communicate a music notation with more information than conventional methods can provide.²

Within the sociology of music, de Jager (1972) acknowledges that:

The beliefs and convictions which people share with regard to ... sounds and sound structures are sociologically much more relevant than the sounds themselves. Every society or social group has its own ideas of what it considers to be "music" and proper behavior with regard to that music. What is regarded as "music" and proper behavior is a matter of social convention, which varies in time and in geographical space as well as in social space. (de Jager 1972: 253)

In some ways the 'inside/outside' configuration of proper and improper behaviour can be viewed from the perspectives of Nietzsche's Apollonian/Dionysian distinction introduced in 'The Birth of Tragedy' (1872). Apollonian perspectives are those that appear refined, sober and with an emphasis on superficial appearance where man is separated from the immediacy of experience and concerns himself more with meaning. Dionysian perspectives are those that challenge authority, appear 'non-rational' and as such could easily be dismissed as uncultured and/or overly subjective. Within discursive power relations the 'elites' in control of the orthodox conception of meaning can use

pejorative language and/or otherwise negative predicate nouns to bias the discourse in their favour. In this way outsiders are dismissed as unreasonable, unworthy, unprofessional and amateur etc.

As for individual composers, de Jager argues that some may conform to mainstream conceptions and values and others deviate from the prevailing norms.

The urge to innovate, i.e. to break some rules, or the tendency to conform to the rules, are in itself psychological phenomena. Sociology tries to elucidate under which social conditions these psychological phenomena can successfully occur. (de Jager 1972: 254)

de Jager also notes that the expectations of societies and indeed types of societies function to configure and condition the composition and output of music, which can also have an effect on innovation in related processes and this is also impacted on by the influence of a free market economy.

Crosscurrents in historical events and technical developments are forces that shape the way social conditions impact on development and changes in artistic endeavour expressed in music, in the arts in general and within the prevailing discourse over time. Influences such as the First and Second World Wars and the social and economic changes that these brought about in Europe created the stimuli for a wave of expression across the arts, including collaborations between artists and musicians, authors and playwrights. For example, in the early 20th century, prior to World War One, the shift from expressionist forms to abstract expressionism in post war years and again on to post-expressionist forms of cubism in the fine arts and twelve tone composition in music. Lissa (1973: 25) notes that changes in the stabilized means of musical expression – those which have socially constructed underpinnings, have accelerated from taking a century in the Middle Ages, to a generation in the Romantic Period, to a continuous flux of transformation in contemporary times. In the post war years some of these transformations began to challenge existing orthodoxies with so-called new movements across the arts that influenced a dialectic of 'cross pollination' of ideas that also provided a base for later developments and experimentation. However, it was the abstract nature of sound that created the wave with the biggest impact (Webster 2007).³

The development of the quality of magnetic tape and recording processes, discovered in Germany after World War Two created new opportunities for those interested in sound and composing for timbres or using timbres that were outside of the orthodox conception of conventional instrumentation and repertoire. Schaeffer's *musique concrete* was a transformation that did not conform with the rules of the mainstream or draw on historical awareness of past by quoting stylistic characteristics. By embracing new technologies and going against mainstream orthodox conceptions this was at odds with tradition and another example of Nietzsche's 'Western appropriation' of the Apollonian ideal.

The awareness of constant variability as the fundamental principle of history forces the artist to chase new developments, those that do not yet exist and that possibly anticipate the things to come. In the musical avantgarde, everything that has happened at once becomes past, and artistic creation is a constant projection into the future. Breaking with all tradition, even with the one that has not yet become stabilized, has become the only tradition. (Lissa 1973: 25)

Pierre Schaeffer's conception of *musique concrete* began during experiments undertaken during the 1940's at Radiodiffusion Française (ORTF), with the eventual broadcast in 1948 of the now infamous *Etude aux chemins de fer* with later work carried out under the Studio d'Essai, which Schaeffer also established.⁴ By the early 1951 the Groupe de Recherches Musicales Concrete (GRMC)⁵ established in Paris by Schaeffer in 1958 was awarded official status.

Schaeffer began publishing ideas on sound in the late 1930's, which he built on over the intervening war years during which he had a major involvement in the French resistance.⁶ Audio of *Musique Concrete* was first presented in a concert in 1950 with a publication named '*Introduction a la Musique Concrete*' and a book entitled '*A La Recherche d'une Musique Concrete*' following in 1952. Other publications included those on radiophonic techniques and also the audio visual concepts employed in cinema. These culminated in his main work⁷ '*Traité des Objets Musicaux*' (1966) which set out a categorisation of sound objects into a typology as a means for analyzing sound based on perception.

The typology, graphically represented in a number of tables⁸ (see appendix) was 'relatively objective' in that it did not classify sound from the position of absolute scientific objectivity but across relative categories, which appeared to allow a subjectively reflexive positioning of sound within the overall schema. This could allow for timbral differences in sounds as they occur over time. The tables contain a great deal of detail for classification of sound including a diagram for the conception of the 'sound object' through the focus of 'reduced listening' (TARTYP). The most detailed (TARSOM) contains seven criteria of musical perception, which map in grid format across nine classifications including types, classes, genres and a multi columned espèces that contains further subcategories⁹. However the practical use of these at best is a little cumbersome for an analyst and virtually impossible for a novice listener to get to grips with because the notational symbols Schaeffer uses are letters or strings of letters to represent tabular location, and also sought to avoid a 'socially constructed location' of the sound in terms of the concept of 'reduced listening'. Essentially, Schaeffer was interested in identifying 'intentional objects' that were explicable using phenomenological apprehension in the form of 'reduced listening'. This permitted the examination of sound content by focusing on its mediation by human perception – what the sound content inferred *per se* rather than what its sound source implied – and that a more structured form of mediated perception can be used as an objective tool.

Schaeffer's perceptual approach was influenced by Husserl's work on phenomenological theory (Kane 2007)¹⁰. According to Kane, Schaeffer seemed to be combining two concepts of Husserl's foundational critique into a 'hybrid discipline' applying them to the musical domain by considering the:

"... 'realism' of acoustical research and the 'psychologism' of habitual (and conventional) musical practice, Schaeffer proposes an investigation to disclose what is essential to both domains" (Kane 2007: 16).

However, Kane's criticism of Schaeffer's approach, that his ontological reduction of the sound object ignores historical specificity seems well founded. Within critical sociology meaning is always contained within a framework of social forces of time and space: even an inference based on reduced listening would occur within temporal and spatial limits.¹¹

Though *musique concrete* has been said to have been in a decrescendo by the mid 1950's (Desantos 1997), and Schaeffer's work has been considered to have largely been ignored by the established orthodoxy because it stood "at the crossroads of traditional disciplines and interfere[s] with the order in which they are taught" (Palombini 1999), Schaeffer's work continued to influence many composers and music academics in the way they thought about using or discussing sound and music.¹² Schaeffer's conception of *musique concrete* provided the *sound object* that extended the semantics of possibility within the discourse of musical text into the realm of sonic qualities, which by nature of the process can prefigure the musical text in itself.

By the early to mid 1960's, with the advent of Schaeffer's *musique concrete* being a decade earlier,¹³ composers began to write scores for electronics that required additional and graphical components that provided information not available with standard notation.¹⁴ Though these approaches set up a more collaborative relationship between composer and performers where a certain flexibility or freedom of interpretation is possible in the performance there remained a variability in how exacting the guidance of parameters were between composers.¹⁵ With serialist approaches, *music concrete* became seen as unsophisticated and inadequate,¹⁶ and though Schaeffer appeared to share this sentiment in his opinion of serial music, a more precise description would be "that, in principle, but not in practice, Schaeffer would admit serialism into the domain of concrete music" (Palombini 1993). The reasons for this, according to Palombini, are related to the degree of acceptance Schaeffer perceived this liaison would bring *musique concrete* from the orthodox establishment rather than a change of his personal sentiment. Indeed in 1957 Schaeffer proposed the new name of *musique experimentale* in a special 1957 edition of the *Revue Musicale*¹⁷ (in which Boulez also contributed). This forms an example of how Schaeffer's heterodox position was seeking to appear to be validated or indeed co-opted into the mainstream orthodoxy.

One contemporary and now quite important strand of discourse has developed under the name of *spectromorphology*. This aims to describe the sound object as an irreducible interaction and conjunction of sound in two parts: sound spectra in terms of a pitch spectrum and how spectra

change and modified over time. As such, this perspective holds that "the art of music is no longer limited to the sounding models of instruments and voices." (Smalley 1997)¹⁸

From the 1980's developments in electronics and recording technologies used by both musicians and composers along with socio-economic conditions that enabled access to these technologies to the mass market has created a shift towards the perspectives of the early pioneers like Schaeffer, which has both empowered a new generation to think differently about the composing process and the purpose and meaning of what textual notation represents, and indeed if it is at all necessary.

As noted by Thoresen (2002: 2), the orthodox approach of western musicology privileged pitch structures, forms and rhythm over considerations of timbre which were considered "a matter of colorisation of musical structure and was treated in terms of orchestration". Schaeffer's *Musique Concrète* along with other changing societal conditions began to change these conceptions and permitted timbre to be designed and used as a compositional element with as much if not more effect on the final sonic artefact.¹⁹ However, though Schaeffer can be said to have effectively extended the possibilities of discourse for musical text, this can also be considered as a subversion of orthodox conceptions, which could be viewed as the 'Trojan Horse' that populated the mainstream with new alternatives. In other words, the reversal of the composition process that now begins with sound or an analogous emotional aspect has the function of dispensing with a requirement for notational and ideational abstraction.

In terms of the metaphysical element of musical composition and also writing in the pre-digital 1970's Tuksar (1971) argues that the "free play of shapes" characterised by the development of the concrete world of sound material has replaced the metaphysical foundations in the "transcendental sphere of the imagination" with pattern based experiments with the laws of physics.

The concept and the very process of composing are carried through by applying an inductive method. Experimenting with new sound material becomes the pattern, even the essential pre-condition of a creative act, and sometimes, unfortunately, also remains its final achievement. The metaphysics of music has been scorned and empiricism has taken its place. (Tuksar 1971: 85)

Tuksar's language reveals his preference for the traditional of the ideal and metaphysical over the experimental and practical and can be seen as a statement of orthodox resistance to changes taking place in the later half of the 20th century. In a discussion also in the 1970's that considers an historical awareness of music as socially constructed within temporal and geographical limits (which appeals to sociological constructs), Lissa (1973) rejects the contemporary transformation into poly-stylistic musical styles that encompass new non-orthodox forms and bemoans the demise of musical imagination with a reference to the indeterminism of John Cage. In this section, the pejorative tone is quite apparent.

The hypertrophy of the future-oriented historical awareness of music produces an excess of information which, as perceived by the listener, turns into chaos. If we follow John Cage in assuming that everything audible is music, then the result in music-making is that absolute freedom and lack of firm principles, the 'freedom from the known', which leads towards the disintegration of the musical imagination and to the inability on the part of the listener to introduce some order into the information received. (Lissa 1973: 25)

Lissa goes on to suggest historical circumstances for this 'tendency' in western thinking but does not mention the post-enlightenment ethic of capitalism which spurred the acceleration of technological development and the rise of individualism that were arguably a huge influence on the antecedents of modernity and have led to the socio-technical postmodernity and 'transformational flux' that we now experience in the arts.

From a stylistic perspective Schaeffer's approach has linkages to principles and purposes of expressionism; methods such as experimentation, abstraction, emphasis on emotional representation and subjective apprehension are evident. Dack (2002b) notes that Schaeffer actually stated as much in *la Recherche d'une Musique Concrète* (1952: 192).

This musique concrète, which is equivalent to abstract painting, deserves just as much the adjective abstract even more than concrete. (Dack 2002b)

Abstract experimental methods appear similar to the 'non-rational' half of Nietzsche's dualistic conception of expressionism – the emotional artistic subconscious. In 'The Birth of Tragedy' (1872), Nietzsche proposed that creativity involved a necessarily dialectical relationship between two opposing forces or experiences and that the further development of art was bound up with the duality of the Apollonian and the Dionysian (Nietzsche 1886: 1). These were also applied as the visual (plastic arts) Apollonian and the non-visual art of music, the Dionysian. As already mentioned, the Apollonian experience included those perspectives that appear refined, sober and with an emphasis on superficial appearance where man is separated from the immediacy of experience and concerns himself more with meaning, beauty and ideals and the search for absolute truth whilst suppressing emotional input. The contrasting Dionysian experience included the non-rational and variable vision of artistic subjectivity that increased with the level of Dionysian excitement where the subjective would also fade "into complete forgetfulness of the self" (Nietzsche 1886: 1). This is similar to the intuitive response of being lost in play²⁰ with an emphasis on perceptual and emotional reality, and as such could easily be dismissed as uncultured and/or overly subjective.²¹ Play was also a concept that Schaeffer used to describe the process of creating concrete works in the form of *sons-jeu* (sound play), something that may have led Boulez to denounce *musique concrete* as 'bricolage' a kind of do-it-yourself improvisation make it up as you go along approach.

The abstract expressionist artists²² of the 1940's were familiar with Nietzsche's conception and used it to depart from traditional forms such as portraiture and figurative art towards more abstract forms (Jachec 1991: 21). In terms of the creative process, consciousness could be directed beyond the apparent "quantitative thing towards the intangible qualitative thing" which includes the variability of the subjective imagination (Jachec 1991: 23). Jean Paul Sartre called this "imaginative knowledge", which was an intentional activity:

A consciousness which seeks to transcend itself...presents itself as an effort to determine this 'something' as a will to reach the intuitive, as an expectation of images (Sartre 1983 quoted in Jachec 1991: 23).

Jachec also recognised this 'expectant state' as a characterising Nietzsche's Dionysian 'reverie' as the *Eternal and original artistic power that first calls the whole world of phenomena into existence* (Nietzsche 1872: 143).

For Nietzsche, Dionysian music was that which is not restrained by "gentle caution" and as such "turns music generally into emotionally disturbing tonal power, a united stream of melody, and the totally incomparable world of harmony" (Nietzsche 1886: 2). With reference to the aesthetics of his time Nietzsche noted that "subjective" artists were considered bad artists and high artistic achievement demanded "victory over the subjective" in the form of ideal and objective art.

It appears that Schaeffer was more compelled with what was possible and or functional in a *concrete* application or production process rather than the *ideal* of what should be done which gives his approach a Dionysian perspective. This realist distinction is made clear in a published interview with Francois Bayle, one time student of Schaeffer, and later director of the GRM, made in 1997 just before Bayle's retirement after 30 years service. In this excerpt, Bayle discusses the differences between the conceptual approaches of Pierre Boulez and Pierre Schaeffer:

Boulez had an idealistic and abstract vision of composition, and Schaeffer had a concrete concept. For Boulez, technology had to be neutral and transparent in order to realize abstract ideas. In this view, technology follows the lead of an aesthetic concept. This is the viewpoint of an idealist... For Schaeffer, technology was always evolving, and he felt that one must work with its limitations. We do not live in the ideal; we live in the real. Artists must exploit their medium's limitations as well as its capabilities. Eventually, an aesthetic vision emerges from practice, rather than being imposed from an idealistic philosophy. (Desantos 1997: 12)

However, as noted by Kane (2007) schaeffer appears to have borrowed Husserl's conception of an intentional 'object' within his theory of the sound object, perhaps after his encounter with Boulez' criticism of his 'bricolage'. In effect Husserl's position had an emphasis on the ideal which seems to contradict Schaeffer's practical stance. It may have been that Schaeffer was aiming to reconcile the opposition between these early conceptual differences in his later theoretical work.

After Schaeffer's publication of *Musique Concrete* and other texts had discussed the concept he also introduced the term *Musique Experimentale* a wider, more encompassing term which also included electronic music and tape music. John Cage, writing in 1961 seems to bring the two distinctions of the ideal and the real together with intentional elements that appear both Dionysian and Apollonian:

"... where it is realized that sounds occur whether intended or not, one turns in the direction of those he does not intend. The turning is psychological and seems at first to be a giving up of everything that belongs to humanity – for a musician, the giving up of music ... gradually or suddenly, one see that humanity and nature, not separate, are in this world together; that nothing was lost when everything was given away. In fact everything is gained. In musical terms sounds may occur in any combination and in any continuity." (Cage 1968)

Cage's almost metaphysical perspective concerns the indeterminacy of order and (dis)organisation of things, objects, and their structure. One could say his general approach to ontology was to consider the nature of being or the 'is', either for the subject or object as highly variable and unfixable. This allows for a transience of form, structure and timbre to be possible without adhering, or even consciously ignoring musical convention with the result that nothing is lost and where 'everything is gained'. This conceptual perspective appears to resolve both sides of the Schaeffer/Boulez distinction in that for Cage, they are both halves of the same whole; a philosophical balance that Cage, whose Zen Buddhist leanings were common knowledge, may have been content with.

In a statement on composition, with another very clearly buddist perspective, Cage almost gets to the root of the Nietzschean necessity of duality between the Apollonian and the Dionysian:

Composition ... as an activity integrating opposites, the rational and the irrational, bringing about, ideally a freely moving continuity within a strict division of parts, the sounds, their combination and succession being either logically related or arbitrarily chosen. (Cage 1968: 18)

As indeterminate and found sonic objects may be difficult to notate and compose with in the traditional sense of creating a score, the question arises of whether this disenfranchises these musical forms and composing processes in terms of the level and effect they have on the social construction of the discourse. For Cage experimental music was that without *apriori* listening and without necessary purpose, but sound. There was no distinction between the intended and the unintended (Cage 1968: 14).

Orthodox conceptions of musical text consider discursive notational elements as signifiers that communicate structure, form, musical and technical expression and conjunctions of notes in melodic and harmonic relations. These abstract conceptions configure the ontological framework of the subject of composition into the acceptable orthodox requirements and rules of academe: the (classical) composition. This framework also constitutes these elements as positively and negatively 'predicated subjects', which have an affirmed value. In other words, the language used indicates the normative value of the subject, whether it is good or bad, right or wrong, though this can also be much more subtle. Where non-notated elements are left to textual instructions by the composer a variable degree of interpretation by the conductor and/or musicians would exist. However where these deviate into unconventionality they may be considered as being unwelcome in the comfortable space inhabited by the orthodoxy. In terms of the discourse represented by those such as Tuksar and Lissa above, sound in the form of *musique concrete* and other forms of recorded and processed media, has typically fallen into latter category and also from a practical standpoint require much more textual explanation to perform in live circumstances.

The following aphorism attributed to John Cage conveys the meaning I intend in the above paragraph in a cleverly simple way:

[The] notation of music was like Latin, and any divergent use of it was like Protestantism, and you couldn't expect the priests of the church to have any interest in what you were doing, because you were in a sense threatening the position of the whole Greek aspect of music, which is bound up in its notation, which is Greek to the layman. (Sinker 1997: 210)

The idea that music can only be composed and or analysed in traditionally notated form still retains its prime position within acceptable orthodox conceptions, and though developments in experimental music by Stockhausen, Crumb, Cage and others in which compositions were created with graphical scores were perhaps received with as much warmth both by the orthodox music establishment as the initial public reception of the music they represented, one could point to Cage's remarks about the priests and still see its relevance today for so-called new music. Though graphic scores as 'texts for interpretation' still retain methods of constructing a semantic frameworks that require understanding and translation into a performance or for analysis, there are organisations like the International Society of Contemporary Music²³ and the Society for the Promotion of New Music²⁴ that now consider *concrete*, electro-acoustic and other musical works on their sonic merits without accompanying scores alongside traditional works.

Though forms of quotation and collage exist in traditional composition, it is these techniques that are also levelled at the 'technicians' that create montages of sound into so-called music. Another passage from Lissa in a discussion of contemporary poly-stylism indicates her bias against the emerging form of audio and musical manipulation with direct reference to Schaeffer.

*One thing is clear: the collage is a symptom of the new attitude in composing and can under no circumstances be evaluated by the criteria, which are applicable to mono-stylistic music... These manipulations, as well as the specific way in which the collage is received, point to the fact that its ontological structure is of a different nature from that of a stylistically homogeneous world of sound; it puts Mozart and street noises on the same level as 'material' in that process, thus levelling reality and art, which means a devaluation of art. By mixing music with acoustic material in the sense of Pierre Schaeffer's *objets sonores*, the collage, especially the total collage, makes invalid all the criteria that we have so far applied in trying to distinguish music as art form from the noises of everyday life (Lissa 1973: 32).*

It seems in refusing to accept the transformative context of creative change that Lissa, is 'not seeing the wood for the trees', the English idiom which refers to a situation in which one fails to grasp the overall context of something because of over attention to details, so one misses the point and the meaning. In this case what may be considered to be a 'tree' by the orthodoxy may be something rather different. The extent and degree of effect a realm of discourse may have in social and institutional life depends on the level of inclusiveness of its 'received or absolute wisdom'. This is the inside/outside duality configured by rules of behaviour, including semantic construction and deference to established concepts and otherwise 'incontestable' facts, described by Bourdieu as a socialisation process called *habitus* (Bourdieu 1988)²⁵ and also similar to a notion conceived by Jacques Derrida of the 'metaphysical aspect of structure'. This considers 'the thing itself' that is appropriated rather than its meaning *per se* and is interesting as it approximates not finding the 'real' thing or 'misrecognising' it for itself without actually knowing it as it exists.²⁶ In this way the orthodox mainstream conception of things misrecognises them or considers them to be non-things, 'things that are not' as to this mode of thinking and perception one only sees or experiences the highlighted, visible and audible parts of things but not the 'unannounced' parts.

Quoting Schopenhauer (1819: 310), Nietzsche also considered music to be 'the thing in itself':

...music is not, like other art forms images of appearances, but an immediate reflection of the will itself as the metaphysical counterpart to all physical things in the world, the thing in itself as counterpart to all appearances (Nietzsche 1886:16).

Those that control the semantic field of play that names and or (mis)recognises things in a normative, i.e. value laden manner, also decide the nature of the discourse itself, including its parameters. As de Jager notes:

Apart from their own convictions, people often do not like – or do not risk – to adopt innovations which run counter to the values and norms of society and the social groups to which they belong for fear of the sanctions their co-members might inflict upon them. That is exactly the reason why so often innovations are first adopted by marginal individuals or groupings. (de Jager 1972: 257)

However, as with all things creative it is the practitioners, the artists writers and composers that own their art, whether it conforms to what the establishment wants or not. And in doing so,

practitioners seek to further their art in its development and expression, sometimes to the point of embracing new and innovative technologies. As such their responsibility is to continue what they do without regard to what is espoused as the received wisdom of the establishment. As Rudy (2007) states, new sounds create new musical syntax, structures and contexts, which may not be notated. Some of these may demand resolution by the listener and these form new challenges in turn for the analyst.

Rudy notes that compositions using recorded media are capable of operating at numerous levels at once.

"This is what makes recorded media unique: its ability to be direct and referential, or indirect and ambiguous all at the same time and in any combination, because its musical, associative, and psychological function is not restricted to those normally attributed to its direct cause". (Rudy 2007)

These multiple levels may bring together the images of the perceptual imagination to deliver what Nietzsche's quotation of Schopenhauer suggested, "the reflection of the will itself", or to use Sartre's term "imaginative Knowledge". Though there are many arguments against composing using parts of or entire pieces based on recorded media (which may include music itself), they may not stand up when questions of power relations and the nature of the discourse is examined from a sociological position, and one asks why the creative process should be restrained from change in order to retain a sense of Western tradition or social continuity, as art itself does not progress societies, it transforms them.²⁷ As Palombini points out in a paraphrase from the world of fine art:

"It is not with notes, my dear semiotician, that one makes music. It is with sounds." (Palombini 2001)

Schaeffer also had a clear idea of the limitations of conventions forms of composition and instrumentation and their location within a socially constructed paradigm of time and space:

Why twelve notes when electronic music has introduced so many more? Why series of notes when a series of sonic objects is so much more interesting? Why the anachronistic use of an orchestra whose instruments are handled with such obvious anti-naturalness by Webern and his imitators? And above all, why limit the horizon of our research to the means, usages and concepts of a music after all linked to a geography and a history; certainly an admirable music but still no more than the Occidental music of the last few centuries? (Schaeffer ed. 1957: 18)

As Cole and Jakimik observe, it is not enough to identify information within an acoustic signal using only sound in context but it also requires the use of previous knowledge and expectations. That knowledge may include historical awareness of sounds and styles of presentation previously heard. In other words, we may expect and aim to understand and locate a point of reference for what it is we are listening to. Also "... it is not only what we hear that tells us what we know; what we know tells us what we hear."²⁸

Schaeffer's music and that also created by other composers of *music concrete*, the indeterminate music created after it by the likes of Cage and others impacted on what we think we hear in relation to the sounds that are identifiable, or of new sounds within a new context, and it also challenged and continues to challenge what we think we know by providing new knowledge and thus new expectations about what is possible. This overlaps a great deal with what is known as the 'audio-visual contract', how our minds eyes constructs our perception based on what hear and see.²⁹ To accept Cages conceptual approach to 'unintended sounds' and his allusion of their equality to intended sounds, we must begin to accept that sounds created by chance or discovered during the course of the production process or during a performance, sounds that may have previously been rejected by the orthodoxy because of their non-conformity and perhaps by a majority of composers because of their inability to be notated effectively and efficiently will continue to form a discursive field that will be increasingly populated with a 'critical mass' to challenge and reshape orthodox perspectives of how things should be done. What those things can be, the language of description of those things and their impact on the way the discourse forms and changes over time, is up to musicians, composers and musicologists. To echo a quote of Smalley's again "the art of music is no longer limited to the sounding models of instruments and voices".

Appendix 1 (continued). TARTYP (Tableau Récapitulatif de la Typologie)

4. Tableau récapitulatif de la Typologie (TARTYP, fig. 34, p. 459)

	Droits d'usage (cas-objets) pas d'usage temporelle		Droits réservés usage temporelle		Droits réservés (cas-objets) pas d'usage temporelle	
	facture irréversible	facture réversible	usage fixe	usage temporelle	usage fixe	usage temporelle
hauteur maître fixe	(F ₀)	H ₀	N	N'	N''	(A ₀)
hauteur complexe	(F ₁)	H ₁	X	X'	X''	(A ₁)
usage pas variable	(G ₀)	T ₀ T ₁ T ₂ T ₃ T ₄ T ₅ T ₆ T ₇ T ₈ T ₉ T ₁₀ T ₁₁ T ₁₂ T ₁₃ T ₁₄ T ₁₅ T ₁₆ T ₁₇ T ₁₈ T ₁₉ T ₂₀ T ₂₁ T ₂₂ T ₂₃ T ₂₄ T ₂₅ T ₂₆ T ₂₇ T ₂₈ T ₂₉ T ₃₀ T ₃₁ T ₃₂ T ₃₃ T ₃₄ T ₃₅ T ₃₆ T ₃₇ T ₃₈ T ₃₉ T ₄₀ T ₄₁ T ₄₂ T ₄₃ T ₄₄ T ₄₅ T ₄₆ T ₄₇ T ₄₈ T ₄₉ T ₅₀ T ₅₁ T ₅₂ T ₅₃ T ₅₄ T ₅₅ T ₅₆ T ₅₇ T ₅₈ T ₅₉ T ₆₀ T ₆₁ T ₆₂ T ₆₃ T ₆₄ T ₆₅ T ₆₆ T ₆₇ T ₆₈ T ₆₉ T ₇₀ T ₇₁ T ₇₂ T ₇₃ T ₇₄ T ₇₅ T ₇₆ T ₇₇ T ₇₈ T ₇₉ T ₈₀ T ₈₁ T ₈₂ T ₈₃ T ₈₄ T ₈₅ T ₈₆ T ₈₇ T ₈₈ T ₈₉ T ₉₀ T ₉₁ T ₉₂ T ₉₃ T ₉₄ T ₉₅ T ₉₆ T ₉₇ T ₉₈ T ₉₉	Y	Y'	Y''	(A ₀)
cas-objets de masse irréversible	(G ₁)	U	W	W'	W''	(A ₁)

Pour les cases centrales (N, N', N'', X, X', X'', Y, Y', Y'') voir SONS ÉQUILIBRÉS (71).
 Pour les cases intermédiaires (H₀, H₁, T₀-T₅₀, Z₀, Z₁, Z₂) voir SONS REDONDANTS (13) et SONS HOMOGENES (74).
 Pour les cases périphériques, voir SONS EXCENTRIQUES (76) et aussi, pour les cas particuliers :
 E (ÉCHANGILLOM) : 82
 T (TRAME) : 78
 W (GRASSE NOTE) : 77
 Φ (FRAGMENT) : 80
 K (SCILLURE) : 79
 P (PÉDALE) : 81
 A (ACCUMULATION) : 83.
 Pour le principe de classement, voir MASSE/FACILITÉ (68), DURÉE/VARIATION (69) et ÉQUILIBRE/ORIGINALETTE (70).
 Voir également ITÉRATIF (64) et IMPULSION (65).

5. Tableau récapitulatif de l'usage des Objets Musicaux (TARISOM, fig. 41, p. 184-187)

Ce tableau porte en entêtes horizontales, numérotées de 1 à 7, les 7 critères morphologiques (voir CRITÈRE MORPHOLOGIQUE, 8) et en entêtes verticales, les 7 critères numérotés de 1 à 7, les 7 dimensions dimensionnelles correspondant aux différentes étapes du programme de la recherche musicale.
 On se reportera donc, d'une part :
 - pour ce qui concerne les CRITÈRES, AUX ARTICLES MASSE (89), DYNAMIQUE (90), TONNE HARMONIQUE (93), PROFIL MÉLODIQUE (96), PROFIL DE MASSE (100), GRAIN (98), ALLURE (99).
 - et d'autre part, pour ce qui concerne les qualifications et les évaluations auxquelles ils donnent lieu, AUX ARTICLES TYPE (83), CLASSE (84), GENRE (87), ET ESPÈCE (88), ainsi qu'À SYLLABAIRES (81), ET À BEAT (82), POINTS (85), BELIER (84), IMPACT (85), MODULE (86).

Notes

- ¹ Discourse also configures 'what is acceptable' within any particular institutional setting, such as academe, governmental and international organisations.
- ² Eg. such as the graphic score, audio graphic and explanation notes of Stockhausen's Helicopter String Quartet (1992/1993).
- ³ Webster states "It is within the abstract nature of sound that we can trace its effect and indeed its fundamental link with the development of the visual arts at the beginning of the 20th century. Music was the driving force behind most European artists at the fore of the visual and mostly pictorial art scene in the early 1900s. Not only was it an inspirational form for the beginnings of abstract art, it equally imposed its immaterial and temporal weight on Cubism, Futurism, De Stijl, Bauhaus and later on the Fluxus movement." (Webster 2007)
- ⁴ Grove Music Dictionary Online.
- ⁵ Later reformed in 1958 as the Groupe de Recherches Musicales (GRM) which had a more generalised research program that included instrument design (Grove Music Online).
- ⁶ For an overview of Schaeffer's life and works including a full bibliography and discography see Dallet (1997).
- ⁷ Schaeffer also continued to publish many other writings after *The Traite* until shortly before he became ill and died in 1995. His last written work was published in 1996. See Dallet (1997).
- ⁸ See Appendix 1. The BIFINTEC (Bilan final des intentions d'ecoute), TARTYP (Tableau Récapitulatif de la Typologie) and TARSON (Tableau Récapitulatif du Solfège des Objets Musicaux) within Schaeffer (Ed. du Seuil 1966) p. 170–177. Included here as Appendix 1.
- ⁹ *Especies* contains three main categories: amplitude, intensity and duration, each with further sub-categories.
- ¹⁰ Kane (2007) discusses the influence of Husserl's writings on Schaeffer's work. One section covers Schaeffer's hybrid modelling of Husserl's approaches of 'realism' and 'psychologism'. "Between the 'realism' of acoustical research and the 'psychologism' of habitual (and conventional) musical practice, Schaeffer proposes an investigation to disclose what is essential to both domains". These opposing positions also resemble Nietzsche's dualisms.
- ¹¹ For a consideration of meaning in music from a philosophical perspective see Sipus (1973).
- ¹² See Dack (2002a). Also, as Kane (2007: 22) notes, Schaeffer's perspective was that reduced listening denied or removed any socio-historical content from the discovery of the sound object which, in a fundamental way constrains the purpose of individual apprehension of technological processes.
- ¹³ The main proponents being Schaeffer, Pierre Henri, Luc Ferrari and others at the *Groupe de Recherches Musicales* (GRM).
- ¹⁴ Examples of Stockhausen's graphic scores can be seen at http://www.stockhausen.org/heli_pg_1.html
- ¹⁵ However this is not to be understood as laziness in interpretation of scores. Stockhausen's approach exercised a "much more detailed compositional control over what was played and operated ... counterbalanced by that of John Cage and John Tudor who featured greater freedoms and more diverse combinations of sound sources..." (Davies 2001). Indeed John Cage was said to be almost constantly frustrated with musicians that misinterpreted his work and that "frequently the performance instructions in his works or the basic tenets of his aesthetic were appropriated and paraphrased far too freely. Performers could be especially notorious in this regard, in the worst cases mutating the source material beyond all reasonable boundaries, mistaking the artistic privilege afforded in Cage's scores to participate actively and intelligently in a work's realization for the more puerile opportunity to behave fatuously. Undisciplined mis-readings and slapdash performances shadowed Cage throughout his life." (Patterson 2000)
- ¹⁶ Pierre Boulez, a one time student of Schaeffer's, disliked the fact that with *musique concrete* there was little *a priori* composition to the music production process.
- ¹⁷ 'Vers une Musique Experimentale' Numero Special No. 236 de la Revue Musicale (1957), Ed. Richard-Masse, Paris. In Dallet (1997).
- ¹⁸ "Spectromorphology is an approach to sound materials and musical structures, which concentrates on the spectrum of available pitches and their shaping in time. The concepts and terminology of spectromorphology are tools for describing and analysing listening experience. The two parts of the term refer to the interaction between sound spectra (spectro-) and the ways they change and are shaped through time (-morphology). The spectro- cannot exist without the -morphology and vice versa: something has to be shaped, and a shape must have sonic content. Although spectral content and temporal shaping are indissolubly linked, we need to conceptually be able to separate them for discursive purposes – we cannot in the same breath describe what is shaped and the shapes themselves". The Electro Acoustic Research Site, De Montford University, Leicester UK, <http://www.ears.dmu.ac.uk/spip.php?rubrique28>
- ¹⁹ On historical differences between German and French schools see Dack (2002a).
- ²⁰ Hans Georg Gadamer used the conception of being lost in play in order to describe the hermeneutic process. See Ramshaw (2005).
- ²¹ However, Kane (2007: 15) points out that Schaeffer may have been trying to reconcile both positions together in his later written work with regard to his Husserlian phenomenological perspectives – "two themes in Schaeffer's work: (i) that a phenomenological investigation into listening will disclose the original ground of our musical practices; (ii) that the correlate of this investigation is the discovery of an objective, yet ideal, entity – i.e. the sound object".

- ²² Wassily Kandinsky synthesised the art forms of cubism with impressionism to lead the way for abstract expressionism with various paintings from 1900 to 1944.
- ²³ <http://www.iscm.org/>
- ²⁴ <http://www.spmn.org.uk/>
- ²⁵ Bourdieu refers to an institutional conservatism that exists within academe, where the ruling elite have a vested interest in both defending and reproducing the prevailing hierarchical power structure. See Bourdieu (1988)
- ²⁶ But see Sipus (1973) who considers the metaphysical aspects of music and meaning.
- ²⁷ This paraphrases Lissa's (1973) use of F. J. Fetis statement *L'art ne progresse pas, il se transforme, Histoire generale de la musique*, Paris 1869–1876, Vol. I.
- ²⁸ Rudy (2007) quotes this phrase and attributes its use to Cole and Jakimik from Howard and Ballas (1980).
- ²⁹ See Chion (1994).

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Santrauka

Dalykai, kurių nėra: (iš)komponavimo ontologija

Tradicinės muzikos teksto sampratos atskirus notacijos elementus laiko ženklais, perteikiančiais struktūrą, formą, muzikinę ir techninę išraišką bei melodinę ir harmoninę natų sąveiką. Pagal šias teorines sampratas, ontologinė kompozicijos subjekto struktūra konfigūruojama, atsižvelgiant į priimtus tradicinius reikalavimus ir akademinės taisyklės – klasikinių komponavimą. Ši struktūra taip pat įtvirtina minėtus elementus kaip neabejotinai vertingus, visuotinai priimtus dalykus.

P. Schaefferio *musique concrete* koncepcija pateikė garsinių objektų sąvoką, kuri praplėtė muzikos teksto galimybių semantiką, papildydama ją garso rūšių sritimi, kuri, atsižvelgiant į proceso prigimtį, pati gali nulemti muzikos tekstą. Schaefferio koncepcija siejasi su ekspresionizmo principais ir tikslais; joje išryškėja tokie metodai, kaip eksperimentavimas, abstrakcija, emocinio perteikimo ir subjektyvaus suvokimo pabrėžimas. Šie metodai yra artimi Nietzsche's dualistinės ekspresionizmo sampratos „neracionaliajai“ daliai – emocinei meninei sąmonei, o plačiau paėmus – ir (nors nebūtinai) Naujosios Vienos mokyklos atonalumo estetinėms tradicijoms.

Nors Schaefferis efektyviai praplėtė muzikos teksto galimybių sritį, vis dėlto galima laikyti, kad jo kūryba kartu ir griauja tradicinę sampratą. Kitaip tariant, atvirkštinis komponavimo procesas, kai pradedama nuo garso ar kokio kito analogiško emocinio reiškimo, suteikia galimybę apsieiti be reikalavimo turėti notacinę abstrakciją.

Pranešime nagrinėjami *musique concrete* ir garsiniai objektai kaip garsiniai produktai, turintys semantinę prasmę, kurie gali ir simbolizuoti, ir formuoti tekstinę muzikinę išraišką. Remiantis filosofiniu požiūriu į egzistencinį subjektyvumą ir „neigimo ontologijos“ nagrinėjimu, aptariamas Nietzsche's dualumo aktualumas *concrete* formų komponavimui, naudojant Schaefferio garsinių objektų kategorijas.

Similarities of a Musical Text and Computer Program Source Code: New Music Metrics Possibilities

In the current reality of interdisciplinary development in the field of sciences, humanities and the arts, a new possibilities and approaches arise to discover new ideas and research methodologies.

It's always useful to compare experience and perspectives of different fields, which connect to the same basic principles of creativity. At the very beginning I would like to draw some parallels between the process of music creation and the process of computer software development.

On the very abstract level, we might divide the process of music creation to three general phases:

- Idea of composer is set up;
- Idea is "encoded" into musical text;
- Performer interprets musical text.

Idea of a composer is more or less formal. It might be described as a creative inspiration or expressed as a draft of concept. Finally, it is "encoded", set out with the help of an accustomed notation system. This part of the process includes an important amount of creativity itself, however, the final result – a musical score – is a formal and particular expression of initial idea. It becomes a code for a performer to interpret it and make the idea of composer live. Musical text acts as a medium in this sense.

In the process of software development (creation of a computer program), we can also abstract three similar phases:

- Definition of idea of computer program – algorithm;
- Idea is encoded into source code;
- Source code is being interpreted in a computer with operating system.

Algorithm is an abstract description of a task (or set of tasks) of a computer program. It can be easily compared with the initial idea of composer. In general, algorithm is a program itself, however expressed on a very high level of abstraction. The programming process implements the algorithm by realising it with the help of particular computer programming language. When programming is completed, source code needs to be interpreted in an operating system (i. e., Windows, Linux, MacOS etc.). Program becomes functioning, when it's being interpreted in a particular computer with a particular operating system.

When computer program is being created, a problem is analysed and defined in order to create an algorithm. The initial definition of a musical composition also has quite similar element. In example, composer usually starts from selecting instruments he will use in his work. Instruments can be defined by composer himself or projected in the requirements of a commission for a musical piece. In other instances, inspiration of other art form (Liszt's *Preludes*), events observed (Messiaen's *Catalogue d'Oiseaux*) etc. might serve as a problem or general idea of composition. Script or libretto for a stage work would also serve as a good example. Composer might also set up other predefined elements to have a framework for his creation.

Algorithm of a musical composition might be described as a general concept of the piece, predefining structure, form and/or many other possible aspects. In some cases it might be even drafted as a scheme.

Implementation of algorithm in both composing and computer program creation basically resolves abstract concepts into particular language. Creativity is very important for this process, especially in composing. Programming also involves creative elements, however it is more neutral and impersonal, as it basically determines smooth functionality of a computer program. In music composing the process of a formalisation of an idea involves dense usage of creative approaches, such as particular composing techniques, hardly cognisable intellectual manifestations of creative mind etc. It is where music is actually born. However, in both cases the result is a text, where are all thoughts and ideas (from abstract to very specific levels) are laid out.

Process: Software	Process: Music
A problem to be solved, analysis and specifications	Definition of composition (i.e., requirements of a commission)
Algorithm	Pre-definition of structure, form, other elements
Implementation (programming)	Implementation (writing musical text)
Parsing/interpreting	Performing
Testing	Rehearsing with both composer and performer(s)
... etc.	... etc.

It is interesting to note, that in computer program creation different persons or groups of persons usually perform all the different parts of the process, by using a “split and rule” policy. In musical composition usually single person is responsible for at least first three steps. However, we might have examples, where one person generates the concept of a computer program and implements it. We also might actually find many cases in the sphere of creative industries, where different persons are responsible for definition, structuring and implementation of musical composition.

The next steps of the process described are connected with decoding of a text (parsing/interpreting or performing), herewith also with issues of cognition, perception etc. We could also find more interesting parallels there. In example, software functionality testing could be compared to rehearsals of a piece with composer and performer(s) together, when afterwards piece is modified according to the results of the rehearsal. However, I will not focus on these developments, as it is not the main focus of this research currently. The key elements of a text (both source code and musical text) that are important for us in this case are:

- It's a static form of a dynamic idea;
- It's accessible and convenient for analysis;
- It is notated according to the particular, known rules.

To continue this comparison, it is worth noting, that during past 50 years the development of technologies and computers had a strong impact on a process of composition itself. The first steps, role of algorithm and structure definition sometimes are made with the computer assistance. One of the first computer-aided compositions based on this principle was *Illiatic Suite for String Quartet* by Lejaren Hiller composer already in 1957. This work used serialism and counterpoint rule sets, which were programmed with *Illiatic*, University of Illinois supercomputer. Machine-generated material was performed by string quartet afterwards. It was the origin of a so-called algorithmic composition type, which is still developing now. The main techniques of algorithmic composition include:

- Generation of musical material based on various mathematical algorithms;
- Modification of material;
- Selection of material according to the set of rules.

We can easily notice, that such principles are also common for usual process of creation of a musical composition.

It is further necessary to briefly discuss the issue of the level of abstraction, which is very important both for musical composition and for computer programming.

Composing	Programming	Level of abstraction	Composing / programming skills
Structure, form, principle	Algorithm	High	Low
Operating with structural elements	Object-programming	Medium (High)	Medium
Writing of musical text	Lower-level programming	Medium (Low)	High

From the table provided we could clearly see the parallels of abstraction in composing and programming. Structure, form, principle and algorithm are representations of high level of abstraction. However, particular composing or programming skills needed to define them is low. It means, that basically even a person with minor musical knowledge could devise an abstract form of a composition. Operating with particular structural elements in music (it can be also compared to object programming) requires better knowledge and skills. Writing musical text or source code is less abstract and high-level composing or programming skills are needed.

This short comparison of musical text and source code enables us to be certain, that both have conceptual similarities. Therefore musical text can also be interpreted and analysed as a set of logical functions. The same musical text can be expressed with functions of different levels of abstraction, like structure and form (high abstraction), common elements of a musical text – notes, signs, symbols etc. (medium abstraction), performance data (low abstraction) and so on. One of the musical file formats, which are able to express different levels of abstraction by nesting musical concepts in a logical hierarchy, is MusicXML. This format is under development from year 2000 and is often used as a medium-format between popular musical composition and score-writing environments.

Maurice H. Halstead designed one of the main techniques of analysis of source code, based on logical-semantic analysis and developed it into Software Science. On the basis of similarities of musical text and source code, some of these techniques can be adopted to analyse musical texts.

Source code is analysed by grouping it into functions (operators) and variables (operands). 4 basic metrics are concluded:

- η_1 – number of distinct operators;
- η_2 – number of distinct operands;
- N_1 – total number of operators used;
- N_2 – total number of operands used.

After counting these attributes, more complex measures derive, some of which might be also used in analysis of a musical text. In example:

Program (musical text) vocabulary η :
 $\eta = \eta_1 + \eta_2$;
 Program vocabulary = distinct operators + distinct operands;

Program (musical text) length N :
 $N = N_1 + N_2$;
 Program length = total operators + total operands;

Program (musical text) volume V :
 $V = N \log_2 \eta$;
 Program volume = length x \log_2 vocabulary;

Program (musical text) difficulty D :
 $D = (\eta_1 / 2) \times (N_2 / \eta_2)$;
Difficulty = (distinct operators / 2) x (total operands / distinct operands).

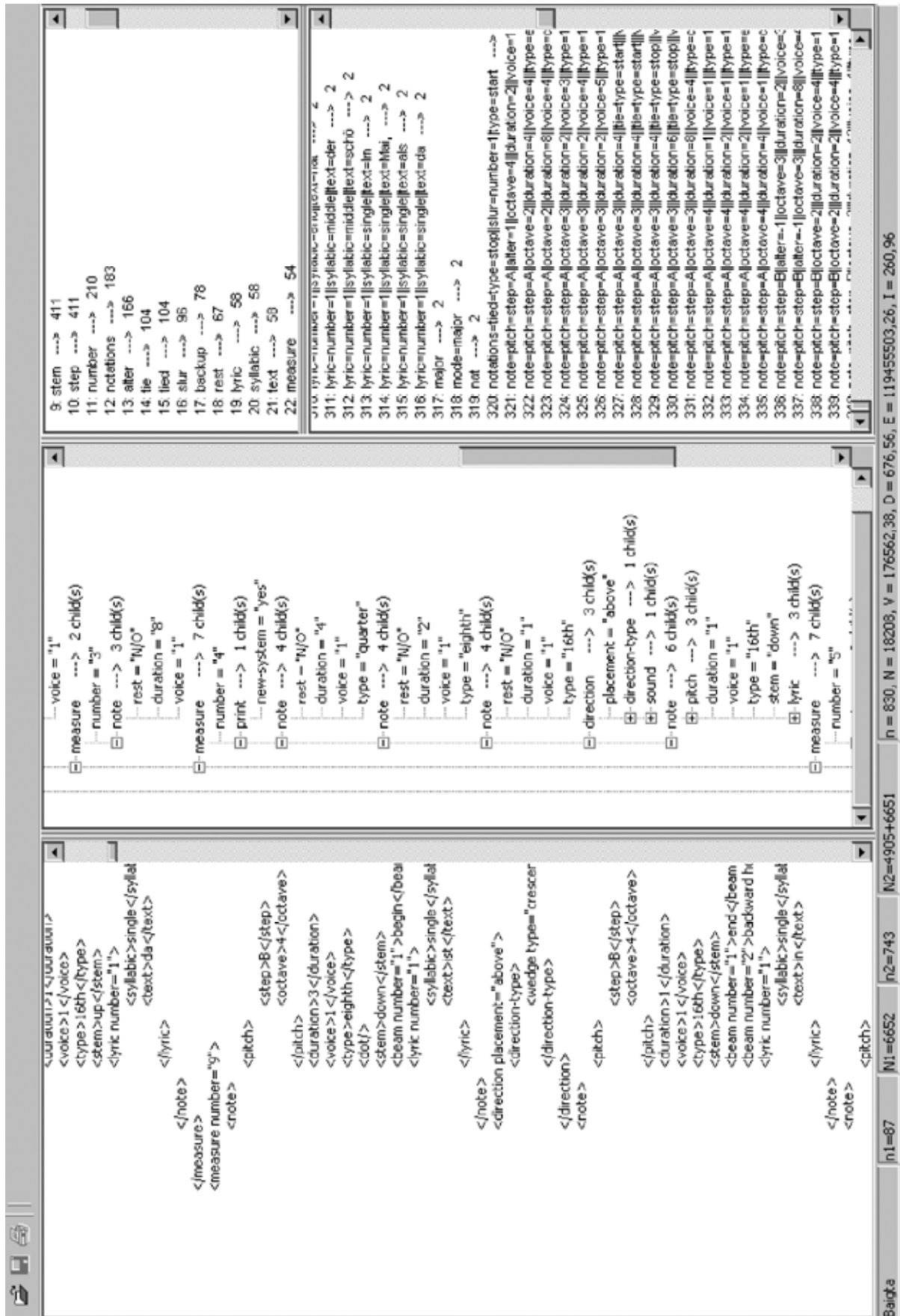
Author of this article conducted a series of experiments, where usage of such metrics was tested with MusicXML format. In Picture 1 screen of a prototype computer program is displayed, where fundamental elements of Halstead metrics are calculated from a musical score in MusicXML format. Already now it is possible to confirm validity of the results, and further development of this research is being done at the moment.

Such analysis might add to the development of impartial metrics for a musical text. To conclude, let's remember famous sentence of Sir William Thomson Kelvin: "I often say that when you can measure what you are speaking about, and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind; it may be the beginning of knowledge, but you have scarcely in your thoughts advanced to the state of Science, whatever the matter may be."

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Picture 1. Screen of a prototype computer program



Santrauka

Muzikinio teksto ir kompiuterinės programos pradinio kodo panašumai: naujos muzikinės metrikos galimybės

Tiriant kompozitoriaus kūrybą, visada tikslinga remtis autentiška jos išraiška – muzikiniu tekstu. Muzikinis tekstas taip pat yra kūrinio analizės bazinis elementas.

Muzikinio teksto ir kompiuterinės programos pradinio kodo analogija yra akivaizdi. Tam tikru sutartu kodu (natomis, ženklais) kompozitoriaus minčiai yra suteikiamas statiškas pavidalas. Vėliau ši informacija gražinama į dinaminį, erdvėje bei laike egzistuojantį būvį – perduodama atlikėjui-interpretatoriui. Kompiuterinio kodo programuotojas taip pat pagal nustatytas pasirinktos programavimo kalbos taisykles išreiškia tam tikrą algoritmą, kuris yra interpretuojamas konkrečioje operacinėje sistemoje ir paverčiamas realiai funkcionuojančia programa. Kompozitoriaus mąstymas irgi turi daug analogijų su algoritimizavimo principais.

Programavimas, algoritmo kodavimas tam tikroje programavimo kalboje (kompiuterio programų kodų užrašymas) ir muzikinė kūryba (jos užrašymas tam tikru formaliu raštu) yra panašios prigimties ir jiems galioja tie patys formalizavimo bei interpretavimo principai. Geriausias šio panašumo įrodymas – 2000 m. sukurta MusicXML sistema (www.recordare.com).

Analizuojant muzikinį tekstą, yra siūloma jį traktuoti kaip operatorių ir operandų (funkcijų ir kintamųjų) eilę. Tas pats muzikinis tekstas gali būti išreikštas keliais skirtingais funkcijų ir kintamųjų kompleksais, lygiai taip, kaip tas pats algoritmas gali būti išreikštas skirtingo lygio programavimo kalbomis. Žemesnio lygio programavimo funkcijos apima konkretesnę, su procesoriaus komandomis susijusią sintaksę, vidutinio lygio – jungia elementarias funkcijas į sudėtingus procesus bei tam tikrą formą, o objektinio programavimo kalbos, apimančios ir visas kito lygio kalbų funkcijas, leidžia tiesiogiai operuoti sudėtingomis funkcijomis ir esminėmis programos struktūros sistemomis (objektais).

Pagal XX a. 8-ąjį dešimtmetį amerikiečių fiziko ir informatiko Maurice H. Halsteado išplėtotą metodologiją (Halstead, Maurice H. *Elements of software science*. ELSEVIER, New York, Oxford, Amsterdam, 1977), tam tikros matematinės formulės leidžia nustatyti programos kodo sudėtingumą, žodyną, informacinį turinį bei kitus rodiklius, kurie gali būti gretinami tiek su kitomis to paties algoritmo išraiškomis skirtingose programavimo kalbose, tiek su kitų programų algoritmais. Šių matų pagrįstumas buvo įrodytas tiek matematiškai, tiek empiriškai.

Šios metodologijos pritaikymas muzikinio teksto analizei suteikia galimybę nustatyti tam tikrus objektyvius rodiklius, kuriant muzikinio teksto kiekybinės metrikos sistemą.

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Rimantas Astrauskas, b. 1954, Dr. of Humanities (musicology). Assoc. prof. at the Lithuanian Academy of Music and Theatre. Member of the Council of the European Seminar in Ethnomusicology (ESEM), Presidium member of the International Organization of Folk Art (IOV). Author of more than 20 scholar publications, editor of 5 scientific manuals. His interest include calendar melodies in Lithuania and adjacent countries, history and theory of ethnomusicology, semiotics, safeguarding of traditional culture.

Margarita Katunyan, Doctor of Musicology, professor at the Moscow Conservatoire(University), has to her credit more than 180 articles on the most varying subjects: a history of composition, history and practices of *basso continuo*, history of music forms, modern harmony, traditional and modern types of notation, ethnomusic and modern compositions, electronic music, works of contemporary composers, the latest performing forms based on the use of multimedia, etc.

Rimantas Janeliauskas, Dr. Mus., a Lithuanian composer, pianist and pedagogue. Born 1947 in Kaunas. Studied at the Kaunas Secondary School of Art (1962–1966), piano with Prof. J. Karnavičius (1966–1973) and composition with Prof. J. Juzeliūnas (1973–1978) at the Lithuanian State Conservatory. Furthered his training at the department of composition (1979–1980). In 1983 submitted the theses "Aspects of Functional Dynamics in the Works of Contemporary Lithuanian Composers" and was awarded a doctor's degree. In 1989 arranged a concert of his works. Currently, R. Janeliauskas holds the position of associate professor at the Department of Composition at the Lithuanian Academy of Music and Theatre, lectures on musical theory and composition.

The composer's theoretical interests are focused on systematics of the principles of composing. Has organized six international music theory conferences, edited and issued the publications "Principles of Music Composing", Vol. I–VI (2000, 2002, 2003, 2004, 2005, 2006) and series of research papers on the cycles of Čiurlionis' music in Lithuanian and English.

Among his best works are: symphony, quartet, triptych, sonata for piano, sonata for violin and piano and other works.

Kalliopi Stiga was born in 1975 in Athens, Greece. She started studying the piano at age 4 and later joined the Academy of Music of Athens, where she graduated in 2002. In 1987, she won the first prize of the "Maria Kornilaki" pan-Hellenic piano contest. At the same time, she studied at the Faculty of Musical Studies of the Ionian University of Corfou, where she received her diploma in Musicology *cum laude* in 1997. In 1998, she received her post-graduate diploma *cum laude* at the Faculty of Music and Musicology of the Sorbonne University in Paris, France.

Since then, she has focused her research on the area of "the links between text and music" and has studied these links in the works of Greek artist Mikis Theodorakis. Her PhD thesis, entitled "*Mikis Theodorakis: le chantre du rapprochement de la musique savante et de la musique populaire*", is being done under the direction of Professor Anne Penesco. It will be presented on November 2006 at the Faculty of Musicology of the University Lumière-Lyon 2, in Lyon in France. For her research, she has been honoured by a prize and a grant from the Gazi-Triantafyllopoulos foundation in 2002.

Since September 1998, she is an established teacher in Greece and has worked in the Musical Schools of both Rhodes and Agrinio. When teaching, she tries to apply pluridisciplinary teachings and the learning of music history through varied artistic activities.

Kalliopi Stiga has attended several training programs, such as *Music Therapy Seminar* (Greek Association of Musicotherapy, 1995), *Multimedia and Music* (Ionian University, 1996), *Trans-europe Theater* (Socrates/Comenius, Torino, Italy, 2000).

She has given several conferences in Romania, France and Greece and she has presented papers during the following congresses: "*Musical Education: reality or cultural perspective*" (Greece, 2002), "*The Artist as Intellectual: the Composer Fernando Lopes-Graça*" (Portugal, 2006), "*Music and Society*" (France, 2006).

Mikis Theodorakis refers to the works of Kalliopi Stiga in his book *Where can I find my soul...? / Music*, Athens, Ed. Livanis, 2002, 278 p.

Daiva Dženkaitienė (b. 1972), Dr., is a composer, lecturer at the Faculty of Kaunas of the Lithuanian Academy of Music and Theatre, teacher at the School of Sacral Music of Kaunas. Her research interests include: Renaissance vocal polyphony, its musical space, modern compositional techniques.

Fernando Martín Pastor has been a teaching assistant at the University of California and Universidad de La Rioja. He has given talks at several centres like the university of Cambridge, Birmingham, McGill (Canada), Ghent (Belgium), Southampton and Royal College of Music. He has received several awards and grants in music composition like the Guerrero Foundation Prize, Sociedad de Autores de España (SGAE), Ministerio de Español and Fulbright Foundation (US). At the moment he is the recipient of the Art and Humanities Research Council (AHRC) Award in music composition from the British Government and lives in London.

Aleksandra Vojcic, a native of Serbia, has given piano recitals throughout Yugoslavia and was a soloist with The Josip Slavenski String Orchestra and the Belgrade Philharmonic, with whom she made her debut at the age of 17. In addition to live performances, she performed frequently for the Radio and Television programs.

In the United States, she had appeared in the New York's Steinway Hall, at the Kosciuszko Foundation, the Museum of Modern Art, St. Peter's Church Theater, Christ and St. Stephen's, Chelsea Piers, Columbia University, as well as Juilliard Theater and Alice Tully Hall, where she made her New York City debut in Alfred Schnittke's Piano Concerto. She was a soloist with the National Repertory Orchestra, COLBY Symphony Orchestra, Juilliard Chamber Orchestra and The New Juilliard Ensemble. Her performances have been broadcast by NPR and WNYC's "Around New York." In addition, she has been a frequent guest at festivals such as the Storm King Festival, Focus!, and BELEF. She was also featured in a Swiss documentary "Yugodivas" about successful Yugoslav women in the United States.

She studied piano with Seymour Lipkin, Jerome Lowenthal, Aube Tzerko, Morey Ritt and Leonid Brumberg and was the recipient of numerous scholarships and prizes including the Vladimir Horowitz Award. She was the winner of the Yugoslav National Competition and a multiple prizewinner in the "Cittá di Marsala" International Piano Competition in Italy.

She pursued doctoral studies in piano and music theory at the Graduate Center, CUNY. Her dissertation addresses rhythm and form in later twentieth-century music. Ms. Vojcic lectures frequently and is currently on the faculty at Juilliard, where she teaches music theory courses.

Rima Povilionienė (b. 1975) has been a doctoral degree student at the Lithuanian Academy of Music and Theatre since 2003. In 2000 she graduated from the Lithuanian Academy of Music with a MA degree as a pianist (prof. J. Karnavičius class), and in 2003 she obtained MA in musicology (prof. dr. G. Daunoravičienė class). Povilionienė was honoured a grant of Socrates/Erasmus student exchange program and in April – August, 2004, she has studied musicology at Leipzig University. In 2006 and 2007 Povilionienė was awarded a scholarship of Lithuanian National Fund of Science and Studies.

In 2002 Rima Povilionienė was the winner of Lithuanian Academy of Sciences award in the Lithuanian university student's competition for the best research work with her study "On Semantic and Constructive Principle of the Number in Baroque Music". For the second time in 2004 Povilionienė received this award of Lithuanian Academy of Sciences for the best research work with her study "Constructive and symbolical functions of number in the 20th century music".

The musicologist investigates the use of the number as a semantic and compositional mean in music. Her doctoral studies continue providing an overview of the development of the tradition of numerology in music from Antiquity to the 20th century. During the research activity there were systematized methods of musical composition, which analyze how the element of numerical constructivism influences the texture of music.

Rima Povilionienė lectures at Lithuanian Academy of Music and Theatre. She publishes reviews, critiques and articles in Lithuanian musicological press; has participated in the conferences in Lithuania and Italy, where presented the papers that based on her researching theme. The scientific articles based on her research study were printed in the volumes of "Lithuanian Musicology", "Tiltai".

Anton Rovner was born in 1970 in Moscow, Russia and lived in the USA since 1974. He studied composition with Andrew Thomas at the Juilliard School Pre-College Division, and then with Milton Babbitt at the Juilliard School, from where he obtained a Bachelors of Music degree in 1991 and a Masters of Music degree in 1993. In 1989–1990 he received an IREX grant to study at Moscow Conservatory. He took music theory courses with Jeffrey Nicholls and Joseph Dubiel at Columbia University in 1991–1993. He studied composition with Charles Wuorinen at Rutgers University (New Jersey), from where he received a PhD degree in 1998. Since 1997 he is residing in Moscow, Russia. He is a member of the American Music Center, the Composers' Guild of New Jersey and the Composers' Union of Russia.

Anton Rovner's music has been performed in a variety of concerts and contemporary music festivals in New York, Seattle, Moscow, Paris, Luzern, Freiburg, Bucharest, Seoul, Chisinau, Kiev, Lviv, Odessa, Kazan, Bryansk, Nizhni-Novgorod, Samara and Perm. His pieces were performed in such concert series as the American Festival of Microtonal Music and the Composers' Concordance series in New York, the Icebreaker festival in Seattle, the Moscow Autumn, Moscow Forum and Alternativa festivals in Moscow, the Sound Ways, Pythian Games, "From the Avant-garde to the Present Day" and Sergei Oskolkov and his Friends festival in St. Petersburg, the Europe-Asia festival in Kazan, the Nicolai Roslavetz and Nahum Gabo Festival for the Arts in Bryansk, the Two Days and Two Nights of New Music festival in Odessa, the Contrasts festival in Lvov and the Days of New Music Festival in Chisinau. In New York he has directed the Bridge contemporary music series. He has contributed as a music theorist to a variety of musical periodicals, including *Muzykal'naya Akademiya* and *Muzyka I Vremya* in Moscow, *Musica Ukrainica* in Odessa, *21st Century Music*, *New Music Connoisseur* and *The Microtonal Activist* in the USA and *Seen & Heard* in Great Britain. He has attended the Darmstadt Ferienkurse für Neue Musik in 1998, has been invited to the World Music Days 2000 festival in Luxembourg and the Dresdener Tage des Zeitgenössischen Musik as a journalist and has lectured at the Music Camp in Ogre, Latvia in 1998, 2000, 2002 and 2006. He is a member of the Russian Composers' Union and a faculty member at the Music Theory Department of Moscow Conservatory, where he is also currently enrolled in the Doctoral Program.

Darius Kučinskas (1966), Assoc. Prof. PhD., had finished Lithuanian Academy of Music and Theater in 1993 (piano class of prof. B. Vainiūnaitė). 1990–1998 worked as research associate in National M. K. Čiurlionis Art Museum, 1993–2002 was a music editor of Jonas Petronis music publishing house. Since 2002 teaches music theory disciplines in Lithuanian Academy of Music and Theater and in Kaunas University of Technology. Now he is a chair of Department of Audiovisual Art Technologies at Kaunas University of Technology.

Since 1992 D. Kučinskas started actively participate in musicological research life. He prepared ten editions of music of M. K. Čiurlionis and A. Kačanauskas. Wrote and published two studios "M. K. Čiurlionio kūriniai fortepijonui: rankraščiai ir redakcijos" [Piano compositions of M. K. Čiurlionis: manuscripts and editions] (1999) and "Three etudes on music of M. K. Čiurlionis" (2003). In 2004 had published a monograph "M. K. Čiurlionio fortepijoninės muzikos tekstas (genezės aspektas)" [Text of M. K. Čiurlionis' Piano Music (aspect of genesis)]. In 2007 published "A Chronological Catalogue of M. K. Čiurlionis' music".

Research interests include musical text, textology and musical semiotics. He is doing research mostly on the creative heritage of Mikalojus Konstantinas Čiurlionis.

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Lindsay Davidson is a professional piper and composer with a broad range of interests. Between solo and band competitions, Lindsay has won most of the most prestigious awards, undertaken two world concert and workshop tours, ran his own school of piping and a small equipment supply service. Always interested in innovation his school created a new method of teaching and his supply company developed 'Pipewriter', a leading pipe music type setting computer program in addition to publishing several books.

As a composer Lindsay has developed a large collection of music for various bagpipes and orchestral ensembles in a popular vein, available on several CDs. It was inevitable that Lindsay should seek to more closely integrate and synthesise these two musical traditions.

This he did with his PhD, from Napier University, Edinburgh, Scotland in 2007; his thesis and portfolio of compositions demonstrating '*mantroch*' technique described in the following article.

He has written extensively for harp and smallpipes and performs at festivals across Europe with his harpist wife, Irena. He leads a chamber musical ensemble called 'The Reivers' which draws its repertoire from the borderlands between the 'traditional' and 'classical' genres.

Further information is available on his website: www.lindsaydavidson.co.uk

Francis Rousseaux is professor in computer science, specialist in Artificial Intelligence. Since 2000 he is in charge of European research projects coordination at IRCAM (France). He plays trumpet, and searches for new ways of supporting improvisation for trumpet players.

Paul Ramshaw studied music and the recording arts with philosophy and politics at the University of North Carolina in the United States in the late 1980's during which time he focused on synthesis and sampling technologies. During the 1990's he performed with a *Jazz quartet* and an *African ensemble* and composed music for commercials and a few short films. He also took a degree in law at the University of Wales at Aberystwyth. In 2001 was awarded a PhD in International Political Economy also from Aberystwyth. In 2002 he began teaching music technology at Thames Valley University in Reading and in 2004 moved to the London College of Music in Ealing. He specialises in teaching creative approaches to sound design, music for film and experimental sound. Most recently he has composed and performed new music that involves deconstructing both live and recorded audio signals into harmonic and melodic elements that are then improvised live or later re-composed into new musical artefacts. In August 2007 he was awarded the patronage of the Society for the Promotion of New Music as a shortlisted composer for a period of three years.

Mantautas Krukauskas has a master degree in piano and composition and is currently working on his doctoral thesis at the Lithuanian Academy of Music and Theatre. His compositions, mostly chamber music, have been performed in Lithuania, Austria, Germany and other countries. Mantautas Krukauskas also has been involved in various organizational activities, including project coordination, event organizing etc. His interests comprise interdisciplinary approach, music and media technologies, and synergy of different aesthetic and social approaches.