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MUZIKOS KOMPONAVIMO PRINCIPAI:

ratio versus intuitio

PRINCIPLES OF MUSIC COMPOSING:

ratio versus intuitio

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Turinys / Contents

Pratarmė

Šis leidinys – tai mokslinių straipsnių rinktinė, sudaryta remiantis pranešimais, pristatytais 17-ojoje tarptautinėje muzikos teorijos konferencijoje „Muzikos komponavimo principai: *ratio versus intuitio*“. Konferencija vyko 2017 m. lapkričio 8–10 d. Vilniuje. Ją surengė Lietuvos muzikos ir teatro akademija ir Lietuvos kompozitorių sąjunga. Konferencijoje savo idėjas pristatė dvi dešimtys muzikologų ir kompozitorių iš Lenkijos, Graikijos, Austrijos, Vengrijos, Serbijos, Lietuvos, Jungtinės Karalystės, Australijos, Kanados, JAV.

Moksliniai straipsniai sugrupuoti į tris potemes.

I potemė – „Racionalusis ir intuityvusis komponavimo procesas (teorinės įžvalgos)“. Straipsnių spektras daugialypis. Problemą bandoma nušviesti kultūriškai, istoriškai, psichoanalizės, archetipų, muzikinio patyrimo, suvokimo ir praktinės analizės aspektais. Markos Lekko manymu, kultūriškai įsitvirtinusioje *ratio vs intuitio* dilemoje tiek klausimas, tiek atsakymas yra sugalvoti. Todėl intuicija jau vien dėl kompozitoriaus kūrybinės veiklos racionalumo tėra apgaulė. Kitaip problema išskleidžiama Miglės Miliūnaitės straipsnyje. Čia mėginama perskaityti *ratio vs intuitio* reikšmes nuo antikos laikų žinomoje kontroversijoje – muzika kaip *logos* (Pitagoras) ir kaip *aesthesis* (Aristoksenas) – bei apmąstyti šių komponentų vienovę (Platonas). Aleksandras Kontićius ir Milošas Zatkalikas, remdamiesi psichoanalize, gilinasi į kūrybinio akto prigimtį. Straipsnio bendraautoriai mano, kad kūrybiniam ego būdingas ir atvirumas pasąmonės impulsams (kūrybinė regresija), ir gebėjimas atrasti sunkiai apčiuopiamos (*ineffable*) idėjos komunikaciją, atliepiančią bendrąsias kultūros normas ir prasmes. Ritminio kūrybiškumo versmę kitaip nusako Rimantas Janeliauskas – jis manifestuoja nuo amžių kultūriškai įsišaknijusią ritmo archetipų kvaterniją. Racionalumo ir intuityvumo įžvalgas garso aukščio ir harmonijos srityje išdėsto Bertas Van Herckas. Fokusuodamasis į akustinį tonų nelygiavertiškumą, autorius plėtoja mintį apie galimybę intuityviai atrasti harmonijos konsonavimo ir disonavimo fenomenus šiuolaikinėje muzikoje. Šią idėją logiškai papildo Manos Panayiotakio mintis apie naują skambesio įtampos ir iškrovos metodiką intuityviai organizuojant skambesio debesis ir faktūrą.

II potemė – „Muzikos kūrinys kaip racionalios ir intuityvios kūrybinės veiklos rezultatas“. Čia autoriai dažnai pažymi *ratio* ir *intuitio* komponentų santykio lygiavertiškumą ir balansą, taip pat jo reiškėjus bei parametrus. Markas Konewko, apmąstydamas O. Messiaeno kūrinį *La nativité du Seigneur*, įžvelgia racionalios ir intuityvios minties vienovę, atsirandančią muzikos išgyvenimo procese. Arthuras Kaptainis, išanalizavęs M.-A. Hamelino Tokatą fortepijonui prancūzų pasaulietinės dainos „L'homme armé“ tema, manifestuoja atvejį, kai racionalumas ir intuityvumas kūrinyje yra susipynę į abipusį santykį. Panašią racionaliai organizuoto muzikos teksto sankirtą su intuityviai atskleidžiamu muzikos tekstu nustato Markas Vuorinenas, analizuodamas A. Pärto kūrinį sopranui ir orkestrui *Como cierva sedienta*. Chrisas Williamsas, nagrinėdamas Billo Evanso solo improvizaciją *Peace Piece*, pozicionuoja intuityvią racionalaus proceso aprobaciją ir išryškina aktualias dichotomijas, kaip antai: improvizacija ir įkūnijimas, teorija ir kompozicija. Tam tikrą staigmeną pateikia Stephenas Guokas. Tyrinėdamas ankstyvąjį lietuvių genijaus M. K. Čiurlionio kūrinį – kantatą „De Profundis“, autorius atranda kompozitoriaus stiliui būdingą racionalumą taikant dar studijų metais įgytą komponavimo techniką ir spontaniškumą meistriškai įprasminant lietuvių etnomuzikos patirtis. O Manuelis Dominquezas Salasas, gilindamasis į meksikiečių kompozitoriaus Julio Estrados multi-operos „Murmullos del páramo“ poetiką, iškelia intuityviai atrastas komponavimo technikas (makrotembrą, sonorinio kontinuumo artikuliaciją, rašytinių tekstų transformaciją į skambesio struktūras ir kt.), taip pat šių technikų racionalų traktavimą operos procesuose.

III potemė – „Racionalumo ir intuityvumo fenomenai šiuolaikinėje komponavimo praktikoje“. Šios potemės, panašiai kaip ir ankstesnės, straipsnių autoriai konkretizuoja *ratio* ir *intuitio* fenomenus neapsiribodami vienu kūriniu. Apmąstydamas savo pastarojo meto kompozicinę praktiką kompozitorius Rogeris Redgate'as pabrėžia nuolat besikeičiantį racionaliai planuojamų ir intuityvių spontaninių kompozicinių procesų santykį formuojant medžiagą; be to, pasiektas rezultatas apžvelgiamas iš informatyvesnės intuicijos interpretacijos ir minties pozicijų. Įdomi Yusuke Nakaharos mintis: tyrinėdamas B. Bartóko ciklo *Mikrokosmos* pjeses, autorius atveria intuicijos veikimo koreguojamą racionalios kūrinio schemos detalių chaosą, beje, padedantį atskleisti meninę ekspresiją. Jamesas Daltonas, apžvelgdamas Lou Harrisono laisvojo ir griežtojo stiliaus kūrinių intonacijas, prieštarauja įprastai nuomonei ir pabrėžia: laisvasis stilius yra labiau racionalus, nes čia kontrolės priemonės pasirenkamos intuityviai, o griežtasis – labiau intuityvus, nes improvizuojama remiantis modusu. Francesco Finocchiaro tyrinėja nebyliojo kino (1920 m.) ritmo reiškinius, gana artimus muzikiniam ritmui; mažojo plano ritmas kine siejamas su spontanine scenų kaita, o didžiojo plano ritmas tarsi pulsuoja įvykių kulminacijomis ir yra racionaliai projektuojamas.

Apibendrindami apžvalgą norime pažymėti, kad leidinio straipsniai gali būti diferencijuojami pagal pakraipas – mokslinę teorinę ir praktinę. Ir nors absoliučių ribų nėra, vienus straipsnius sąlygiškai galima išskirti kaip vertingesnius moksliniu teoriniu požiūriu (autoriai Markos Lekkas, Miglė Miliūnaitė, Aleksandr Kontić ir Miloš Zatkalik, Rimantas Janeliauskas, Bert Van Herck, Manos Panayiotakis, Mark Konewko, Roger Redgate, James Dalton), o kitus – praktiniu (autoriai Arthur Kaptainis, Mark Vuorinen, Chris Williams, Stephen Guokas, Manuel Dominques Salas, Yusuke Nakahava, Francesco Finocchiaro).

Leidinį papildo konferencijos metu pristatytos vertingos kontekstinės apybraižos. Aptardama K. Stockhauseno kūrinį *Aus sieben Tagen*, Katarzyna Bartos pozicionuoja sąmonės būseną, „kurioje intuityvumas ir racionalumas transcenduoja neišardomą vienį". Apibūdindama E. Bogusławskio kūrinius kameriniam orkestrui, Małgorzata Kaniowska išryškina formos racionalumo ir intuityviai atrandamos spalvos balansą ir apibendrina – „neoklasicizmas *vs* sonorizmas". Dėmesį patraukia racionalios ir intuityvios muzikinės minties sandūra, kurią Kalliopi Stigka atskleidžia graikų kompozitoriaus G. Bikos kūryboje.

Tikimės, kad 17-osios muzikos teorijos konferencijos straipsnių rinktinė sulauks skaitytojų dėmesio ir bus įdomi kiekvienam besidominčiam šiuolaikine muzika. Redaktorių kolegija tikisi skaitytojų dėmesio tiek čia, Lietuvoje, tiek užsienyje. Būsime dėkingi už visas pastabas ir atsiliepimus apie leidinį. Organizatorių vardu dėkojame visiems rėmėjams ir rengėjams.

Prof. dr. Rimantas Janeliauskas

Foreword

This publication is a collection of scientific articles compiled on the basis of the papers delivered at the 17th international conference "Principles of Music Composing: *Ratio versus intuitio*". The conference was held in Vilnius on 8–10 November 2017 by the Lithuanian Academy of Music and Theatre and the Lithuanian Composers' Union. About twenty musicologists and composers from Poland, Greece, Serbia, Lithuania, the United Kingdom, Australia, Canada and the United States of America participated in this conference.

The scientific articles featured in this publication are divided into three subthemes.

The first subtheme: Rational and Intuitive Compositional Process (Theoretical Insights). This subtheme contains a broad spectrum of articles. It encompasses attempts to address this issue from cultural, historic, psychoanalytic points of view, as well as employing such fields as cognitive psychology, concept of archetypes and artistic research. According to Markos Lekkas, in a culturally established dilemma of *ratio versus intuitio* both the question and the answer are fabled. Thus, due to the rational nature of compositional practice, intuition is a mere hoax. This problem is addressed in a very different manner by Miglė Miliūnaitė. In her article she addresses the meaning of *ratio versus intuitio* as continuous controversy – music as *logos* (Pythagoras) and music as *aesthesis* (Aristoxenus), as well as cogitate the unity of these components (Plato). Aleksandar Kontić and Miloš Zatkalik investigate the nature of the act of creation based on psychoanalysis. The co-authors presume that creative *ego* features both the openness to the impulses of the subconscious (creative regression), as well as the ability to discover the ineffable communication of the idea that resounds with omnicultural norms and meanings. Rimantas Janeliauskas uncloaks the stream of rhythmical creativity by manifesting a quaternion of rhythmic archetypes that is deeply entrenched in our cultural domain. Insights on rationality and intuition in the realms of pitch and harmony are presented by Bert Van Herck. The author focusses on the acoustic inequality of tones and elaborates on the possibility to intuitively discover the phenomena of harmonic consonance and dissonance in contemporary music. This idea is further enriched by Manos Panayiotakis and his ideas of new methodology of sonic tension and release, which derives from intuitive organization of sound and texture.

The second subtheme: Musical Work as an Outcome of Rational and Intuitive Creative Activities. The authors here frequently address the balance between the domains of *ratio* and *intuitio*, as well as reveal their significants and parameters. The unity of rational and intuitive domains is also observed in the article of Mark Konewko, which focusses on *La Nativité du Seigneur* by Messiaen and the process of musical experience. Arthur Kaptainis presents a case of the bonding between rationality and intuition through the analysis

of a *Toccata* by Hamelin, which is based on the theme of *L'Homme Arme*. Similarly Mark Vuorinen identifies a crossing between the rationally organized and intuitively developed musical text in *Como cierva sedienta* by Pärt. Chris Williams positions an intuitive approbation of rational processes in *Peace Piece* by Evans. The author observes relevant dichotomies, such as improvisation and embodiment, theory and composition. The article by Stephen Guokas is a particular surprise. He analyses the cantata *De profundis* – an early composition by the most renowned Lithuanian composer Mikalojus Konstantinas Čiurlionis. The author discovers rational use of compositional techniques that are characteristic of Čiurlionis' style, as well as unravels an intuitive approach to the act of embodiment of Lithuanian ethno-musical heritage. Lastly, Manuel Dominguez Salas analyses the poetics of the multi-opera *Murmullos del páramo* by Julio Estrada, where he discovers intuitively developed compositional techniques (macro-timbre, articulation of sonoric continuum, transformations of written text into sound structures etc.), as well as the rational approach of their organization within the structure of the opera.

The third subtheme: Phenomena of Rationality and Intuition in Contemporary Composing Practice. Similarly to the last sub-theme the authors delve into the specifics of *ratio* and *intuitio* not confining themselves to one particular piece. Roger Redgate marks a constantly changing balance between rational and intuitive domains in the processes of his recent compositions. Yusuke Nakahara analyses pieces from Bartók's *Microcosmos* and reveals the chaos of rational scheme details in a musical form, which is being corrected by intuition. He also addresses the benefits of this act for artistic expression. James Dalton holds a broad view of the intonations of strict style and free style in the works by Lou Harrison. In contrast to what might seem, the free style is much more rational, because of intuitively assigned means of control. The strict style, hereby, is more intuitive, because of its improvisatory nature in a given framework of a predetermined scale. Finally, Francesco Finocchiaro presents research on temporal phenomena in silent cinema (the 1920s) that are fairly close to musical rhythm. Small-scale rhythm is related to spontaneous change of the scenes, while large-scale rhythm seems to operate together with the arcs of the events and is constructed rationally.

At the conclusion of this overview we would like to observe that the nature of presented works calls for a particular differentiation. Due to a different balance of theoretical and practical approaches in each article we would like to single out the papers of the authors (Markos Lekkas, Miglė Miliūnaitė, Aleksandr Kontić and Miloš Zatkalik, Rimantas Janeliauskas, Bert Van Herck, Manos Panayiotakis, Mark Konewko, Roger Redgate, James Dalton) as of more theoretical, and the rest (Arthur Kaptainis, Mark Vuorinen, Chris Williams, Stephen Guokas, Manuel Dominques Salas, Yusuke Nakahava, Francesco Finocchiaro) as of more practical value, although, admittedly, no absolute boundaries exist.

The publication is supplemented by valuable contextual outlines presented in the additional proceedings of the conference. While discussing *Aus sieben Tagen* by Stockhausen, Katarzyna Bartos positions the state of the consciousness in which intuition and rationality transcends into undivided unity. While looking into the orchestral works by Edward Bogusławski, Małgorzata Kaniowska observes the balance between the rationality of musical form and intuitively discovered colour that she sums-up as *neo-classicism vs sonorism.* Also noteworthy is the observation of a conjunction between rational and intuitive musical thought made by Kalliopi Stigka, who explores the works by Greek composer Georgios Bikos.

We hope that this collection of articles from the 17th music conference will attract the attention of a large number of readers and it will be interesting to everyone who appreciates contemporary music. The Editorial Board also expects the attention of readers both from Lithuania and abroad. We will be grateful for all the remarks about the publication. On behalf of the organizers I want to thank everyone for any kind of support that contributed to the release of the publication.

Prof. Dr. Rimantas Janeliauskas

1

RACIONALUSIS IR INTUITYVUSIS KOMPONAVIMO PROCESAS (TEORINĖS ĮŽVALGOS)

RATIONAL AND INTUITIVE COMPOSITIONAL PROCESS (THEORETICAL INSIGHTS)

Markos Lekkas

The Rational Deception of Intuition

Abstract. Art and consequently music is an architectural apparatus of communication allowing ideas and concepts to travel from one mind to the other, a function performed by the brain, as the mind does not itself constitute a separate entity but an integral functional state of the brain. Thus, art becomes possible through a combination of creative activity which is – by default – rational. In this respect intuition is a rational process.

Keywords: Beethoven, Sonata Op. 27.2, Goethe, Byron, Pugin, intuition, fictional realism, Romantic fiction, structural narrative.

Inside the labyrinth of the myth

In the Greek myth, the Athenians having killed the son of King Minos were punished to send seven male and seven female adolescents, chosen by casting lots to be eaten by the beast Minotaur. Theseus, the son of the king of Athens, decided to travel among them in order to break the terrible ordinance and save the youth of his city. There, the daughter of King Minos Ariadne, who fell in love with Theseus, provided a thread helping him to find the sleeping beast and secure his escape out of the complex maze of the labyrinth.

In this manner, he was able to kill the Minotaur, while Ariadne undertook the rational part of the myth, setting the ground for Theseus to perform his heroic deed unimpeded, alleviating him from the rational responsibilities, not having to be worried about the trivialities of calculating the structural foundations of the labyrinth and its complex form, allowing him in this manner to be expressive, an artist of heroic deeds. Thus, as a noble gesture reminiscent of a harmonic modulation to the dominant, he promises to take Ariadne as his wife. At the end of his heroic act, embarking the ship for his return to Athens, in another act of intuition, having acquired the habit to transfer his rational responsibilities to others, in a less noble gesture utterly rational, Theseus abandoned Ariadne at the island of Naxos, reckoning her as part of the local collateral damage, returning back to the tonic of the home key, as he is reaching the outskirts of the coda of his expedition, a purely intuitive act, within a rational framework.

Fictionalizing the myth

Examining the myth it becomes obvious that it was not the Minotaur who required the fourteen young people to be sacrificed. In fact, the Minotaur had never been outside the Labyrinth, nor had he any idea about the sacrificial deals between King Minos and the Athenians, who, after they killed his son, arranged to send their young people there as an act of moral duty – an intuitive gesture of purely rational origin.

Then, to mark their mourning, they used black sails, demonstrating their inner suffering in a highly-romanticized way. This way they turned reality into fiction, in which the signifier is all there is, knowing that the sails would be the only part of the terrible voyage to return intact. It became an added semantic touch that would cause their mourning to collect tragic substance, enriching their collective drama, while getting the lot ready for the next group to be sent.

On his way home, Theseus, absorbed into the celebration over his victory and the rest of the crew over their salvation, neglected to change the sails from black to white, not being aware of the importance of the semantic aspect, causing in this manner his father to throw himself into the sea, presuming his son had been dead.

In the end, everyone in his turn seems to have preferred an act of inspired intuition, allowing minimal consideration for the rational part which is left to be executed by someone else.

As time goes by, the lives of the old heroes little by little are turned into literature, destined to feed the following generations. The myth has already collected enough drama, being turned into mythology, ready to enter the realm of affections and affectations.

Since actually no other drama exists except for the staged drama, they only needed to create the metaphor, borrowing only the fiction, pretending it was for real, twisting the language to clothe the fantasy of their lives, bringing genuine exotic tales right into their homes, creating in this manner a manufactured literary fiction, destined to serve western Europe's expressive as well as didactic needs, for centuries.[1]

[1] The denotation of the word drama refers to a staged performance involving imitation and dialogue, dramatizing an incident from the heroic times, as was also the medieval liturgical drama. The association with a personal situation is a connotational metaphor invented by European Romanticism.

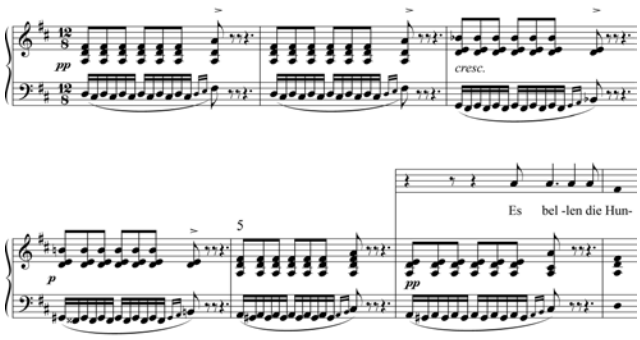
In the meanwhile, the procurers of people's misfortunes get their pens ready to fill the modern arenas of fictional drama (whether opera houses or book pages) for a blood-thirsty audience having already stretched the Christian metaphor to the core, drinking and eating the blood and flesh of their savior as an act of spiritual cleansing.

The rational creation of irrational wandering Doppelgängers

Thus, Wilhelm Müller of Dessau, the son of a tailor or a shoemaker, sitting at the warm side of his window sends his pen on the outside attempting to describe himself into the dark and cold night, travelling to no destination. In this manner, with his body on the inside and his heart on the outside, he hears the dogs bark at him, detesting the villagers who are indifferent to his fictional suffering, sleep dreaming what life has deprived them of.[2]

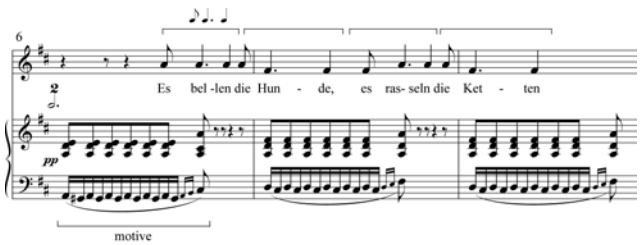
In rational terms, he, from the warm inside is actually dreaming of a fictional self, an eternal wanderer, detesting those on the inside for their indifference and pitiful life, detesting in fact his real self – seeing other people in his place but unable to see himself. The doppelgänger is already there, it is only a matter of time until the term would reach rural Dessau, dominating everybody's fictional self and becoming a living necessity. Fictional realism has finally reached his door, and is invited inside.

Franz Schubert in a more pragmatic manner uses semitonal dissonance to describe the rattling of the chains, exploiting *musica ficta* phthongs, within a framework of the two orbital dominants [A and G] around D.



Example 1a. In the rational labyrinth of intuition (Schubert, *Im Dorfe* D. 911.17)

The supposed rattling effect is actually the motif of the lied in binary formation [𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯 𝅘𝅥𝅯 instead of 𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯 𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯 𝅘𝅥𝅯] as shown below, acting as a leitmotif in a pattern dominating the structure, used in the same manner as the motifs of D. 795.1 and D. 188, setting the aural scenery against which the structural narrative unfolds.



Example 1b. The pragmatism of Schubert's (Schubert, *Im Dorf*e D. 911.17)

It seems rather perplexing that a provincial Wilhelm Müller describes the people of the small village giving them characteristics of townspeople (dreaming while their dogs bark). It looks like he has collected enough of perceptional township in his veins to mix the rough villagers with the nobility-seeking people of the city, who sleep living another life in their dreams, unwilling to awake. In this manner they would have to face what they themselves deprived from life itself, as they travel in full speed to the end of fantasy,

[2] People asleep in their beds / dreaming of things they do not have […] hoping that what they left behind / they will find again on their cotton pillows [Müller, Winterreise: Im dorfe].

having assumed another self to whom they assign the rational responsibilities of their dreams, keeping the most expressive parts for themselves.

As Wilhelm Müller depicts himself in the wilderness, on the other side of his window the merchant Vasilij Berkhunov (Василий Андреевич Брехунов), in the outskirts of the village of Goryatchkino (Горячкино) would perish under the snow in a less exotic death with doppelgänger nowhere to be found. His servant Nikita (Никита) who dies twenty years later thanks God that with his death relieves his children from one more mouth to feed.[3] Doppelgänger by the time had become permanent resident of fictional Germany, in which within the heavy industrial background, as a lone wanderer keeps meeting elves and mythical creatures, living deep inside the forest for the sake of romantic literature alone. The forest, has thus become another literary metaphor through which one is able to forget the factories of the cherished industrial so-called revolution that define the landscape of the city, stretched as a curtain between his senses and his mind, an apparatus through which reality travels to the brain transmogrified into an exotic nymph, turned too into a literary device.

Within this framework, the young mother Susanna Margaretha Brandt from Frankfurt, stripped from her real substance, is being transformed by Johann Wolfgang Goethe into a fictional character.[4]

Franz Schubert would once again take care of objective realism. He does that by setting the spinning wheel into rubato motion, so as to follow the thoughts of fictionalized Gretchen, while the real one had already been executed in the most rational manner at the town square of Frankfurt, and her head rolling on the pavement, on January 14, 1772, in front of an audience eager to witness the event, sponsoring the execution with their own very presence, reminiscent of Roman ethics and dimensions.

Inventing Fiction

The year is 1821 and Wilhelm Müller from rural Dessau crosses the Alps with his pen, writing his first collection of poems about the Greek revolution against the Turks, a subject he knows little about, copying and mixing mythical creatures with little shepherdesses living exclusively in literature. To this, he adds one more poem for his literary hero George Byron, the lord sent by British agents and his romantic adventurism to Greece to negotiate the terms of a usurious loan to the Greek state before the state was even formed. This act created the dependence before independence was ever gained, and helped the British empire to expand its domination, as it was getting ready to negotiate the next deal, signed with the barrels of the canons, in 1842, selling opium to China, in order to finance the importation of tea, which would keep awake and alert the factory workers of its imperial industrial mills. In the meantime, Byron has to abandon Italy, heading to Greece to become a hero of national struggles, after a quarrel in March 1823, with Italian Sergeant-Major Stefano Masi, in which his personal mob cut the genitals of the soldier, enjoying the protection of Italian authorities throughout the incident (Simopoulos 2007: III-41).

Müller however, innocent of all this, borrows a few keywords from *Childe Harold's Pilgrimage,* turning Byron's poem into a cut-out board through which he can take part in someone else's fictionalized struggle, letting what happens outside his window escape his pen, not as an act of concealment but as an act of romantic escapism, building his personal refuge with exotic verbal illustrations.

Franz Schubert, equally innocent, would rush after him to depict aural illustrations – the rattling chains, millstones and spinning wheels – in an attempt to give substance to their collective fictional reality, thus turning realism into a literary device.

In this manner at the other end of the myth, inside the romantic workshops of fiction, invented fragile innocent heroines, are being turned by fictional realism into fictional Romantic characters, feeding its own hungry, voracious Minotaur to no end. Then, in compliance with the mythographic protocol, would assume one by one, the rest of the roles, providing the thread through which the fictionally tormented European soul would be able to reenact *ad libitum* its psychological studied drama [the drama of creating a drama]. Thus entering in this manner the realm of collective fictional realism, giving carte blanche the rostrum to Wilkie Collins, the creator of urban literary nymphs returning from the past to negotiate old debts, opening the secret passage through which it is made possible for everybody to enter deep fantasy, from the wardrobe of which they are clothing themselves, at their own expense. The scenery setting is ready; it is time for Faust to step in. In the meantime, Amalia Freud sings lullabies to a young boy named Sigmund…

[3] Tolstoy, Lev Nikolaevich: *Master and Servant* (1895).

[4] Susanna Margaretha Brandt (1746–1772) was executed with a sword in Hauptwache of Frankfurt am Mein. Johann Wolfgang Goethe who was practicing law there, had met her in the courtroom at the period of *Werther* and was probably present at the execution. He later turned her into the Gretchen of *Faust*.

Augustus Welby Pugin (1812–1852), would depict the difference in 1840, providing the two realities, letting both the need for such invented creatures as the doppelgänger as well as the need to seek refuge in fantasy to be exposed. His *Contrasts* (subtitled, *the present decay of taste*)[5] are not simply reminiscent of older times nor they juxtapose two different epochs. They are not records of the past, they are exclusively records of the present, demonstrating the inescapable of their lives, as the inventions of literature and art are drawing them deeper into fiction, deeper into their everyday escape–reality, the only one they would have from now on becoming characters inside the paintings of Caspar David Friedrich.

Image 1. A Catholic town in 1440 and the same in 1840 (Pugin, *Contrasts*)

At the other end of intuition

Art and consequently music is an architectural apparatus of communication allowing ideas and concepts to travel from one mind to the other, a function performed by the brain, as the mind does not itself constitute a separate entity but an integral functional state of the brain. Thus, art becomes possible through a combination of creative activities which are – by default – rational.

In this respect intuition is a rational process; if not, then a covered rational process.

Paul Hindemith in the introduction of his *Craft of Musical Composition* described the process of artistic invention in music thus (Hindemith 1970: 2):

> "A musician who feels called upon in these times to contribute to the preservation and of the craft of composition is, like Fux, on the defensive. He is, in fact, even more so than Fux, for in no other field of artistic activity has a period of over-development of materials and of their application been followed by such confusion as reigns in this one. We are constantly brought face to face with this confusion by a manner of writing which puts tones together according to no system except that dictated by pure whim, or that into which **facile and misleading fingers draw the writer as they glide over the keys**."

The concept of rational versus intuition is culturally forged as an ornate establishment of a dilemma for which both the question and the answer are invented. A wittiful pursuit of which western culture has long been a prolific and passionate gestator, creating a fictitious condition – or perhaps a circumstance – where the dilemma itself perpetuates its own existence, setting itself in orbit, from which it is unable to exit in any meaningful manner, travelling interminably according to the laws of its surrounding, being a mere artifact of its own condition. As for the question and the answer, both keep emerging on the surface of the rhetorical arenas without engaging the mind, as they exist by themselves, not related to structural narrative.

[5] Pugin, Augustus Welby. *Contrasts* (1840).

Thus, Mimi in the opera *Boheme* is about to die of consumption in the surroundings of inhospitable Paris, making everybody feel closer to her in the darkness of the opera house, alleviating them from the obligation to act, as they are separated by a wall of light, protecting them from the perils of the performance. When the lights go off, all obligations cease to exist and everything is being transferred into sweet memory or sweet forgetness, put gently to sleep, having no longer to spin. In the same manner Gretchen's spinning wheel is set in motion, at the dexterous hands of Franz Schubert, who is absorbed within the vortex of his devices and becomes inadvertently a benefactor to Goethe's fact-laundering, achieved in full conscience through fictional dramatization of people's lives.

That is the only condition the audience would be willing to bear, being with a consumptive woman in the same room for any amount of time. The condition that the woman lies on the other side of the light, protecting them from the actual event in the same manner the 'burg' of their cities, made of actual stone, has been protecting them from those being outside of it and their misfortune, having invented charity as a way of keeping them afar. In this manner, charity buys them the necessary distance. It is not therefore an act of intuition but a rational one. Friedrich Engels records a letter sent by 'a lady' to a local newspaper in 1884 irritated about the fact that charity as a status is breached by the poor.[6]

Forged Emotions

As it happens in nature where the bees – not necessarily aware of the fact – help the insemination by carrying the pollen attached to their legs onto other receptors, the ideas of music are travelling attached to the fingers of the performance species, bearing the same chance of awareness, the status of which relies heavily also on rational behavior, which most of the time belongs to admirable, however mechanical process. As the work of art does inhabit neither the mind of the composer nor inside the score, it leaves space for foreign intervention on its meaning, being prone to interpretation. In this respect, it can be later turned into either a question or an answer or perhaps a dilemma, manipulating its own nature to reproduce itself eternally, without ever exhausting its resources. As the question, the legitimate child of rhetoric, keeps inviting a multiplicity of answers, which feels no need to either absorb or even use, becoming later generously available to everybody in need, being what it is; a rhetorical question.

The process is reminiscent of the pre-composed epigrams on the back of postcards which the sender needs only to sign. The passionate words have already been there, delivered by a professional hand, filling the paper with the necessary trembling pathos, promising to awaken the sleeping emotions of the receiver, drawn straight from the inkpot of Johann Wolfgang Goethe, Jean-Paul Richter, George Byron, covering the entire gamut of well-crafted, ready-made emotions, forged inside the workshop of romanticism, the multiplicity of which would render more nominal value than their substance is capable to suggest.

The professional hand would be that of a copyist, not necessarily that of a thinker. The original lies in romantic fiction, the major characteristic of which is not the action itself but the manner in which the surroundings gets involved into the plot, allowing the receptor to reconstruct the feeling of the moment, without the need for the description to be exact, since the sought regard is the emotional aura, the scenographic setting in which the condition exists. In this respect, the condition itself is not actually necessary and could be replaced by one involving the receptors themselves. One, which would match their particular characteristics, their particular brand of emotional state. In this respect, they could browse through the catalogue of emotional sceneries, picking the one which fits best their particular circumstances.

Thus, the posed dilemma is not necessarily related to the actual artwork but is more the creation of the desires, lurking inside the receiver. Therefore, its home lies not within the work of art but inside the mind of the audience. As Igor Fyodorovich has noted (Stravinsky 1975: 163):

> Most people like music because it gives them certain emotions, such as joy, grief, sadness, an image of nature, a subject for daydreams, or still better oblivion from every-day life. They want a drug – 'dope.'

The time has come for Georg Christoph Grossheim and Ludwig Rellstab to step in; the rest is provided by romantic fantasy.

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[6] "Mr. Editor, For some time past our main streets are haunted by swarms of beggars, who try to awaken the pity of the passers-by in a most shameless and annoying manner, by exposing their tattered clothing, sickly aspect, and disgusting wounds and deformities. I should think that when one not only pays the poor-rate, but also contributes largely to the charitable institutions, one had done enough to earn a right to be spared such disagreeable and impertinent molestations. And why else do we pay such high rates for the maintenance of the municipal police, if they do not even protect us as far as to make it possible to go to or out of town in peace? I hope the publication of these lines in your widely-circulated paper may induce the authorities to remove this nuisance; and I remain, Your obedient servant, A LADY." (Engels 2009: 277)

Under the gothic moon

In November 1819, Georg Christoph Grossheim, signing his letter as 'Doctor of Philosophy', tries to persuade Beethoven not to "*impart to the world, the marriage between the Fantasia in C sharp minor* [meaning the Sonata Op. 27.2] *and Die Beterin of Seume*".

Seume's poem is of a maiden, pleading for the recovery of her sick father and the poet wishes himself to approach death in order to be the recipient of her fervent prayer.

Grossheim, in his letter urges Beethoven on behalf of all to set the poem to the music of the first movement of the sonata (Albrecht 1996: 263):

> "What pleasure it would give us all to hear Die Beterin with your music and the inconceivable joining of hands that Beethoven and Seume give one another in spirit!"

Apart from speculation, Beethoven never answered the letter nor did he turn the sonata into a song, according to the wish of Grossheim.

Grossheim's effort to link the sonata to *Die Beterin*, led however into the false perception of the existence of a painting of the pleading maiden, which inspired Beethoven to write the first movement of the sonata. Thus, for a certain period of time the first movement of the sonata had been associated with the figure of a woman existing exclusively inside the minds of those who had the need to mythologize it, regardless of the fact that no actual painting had existed.

After Beethoven's death, Grossheim exercised once more his Elysian pen, which he dipped in expressive romantic metaphors, recalling vividly what he had never witnessed, knowing too well that scribing is the remedy to keep someone from being forgotten (Albrecht 1996: 263):[7]

> "Beethoven's thoughts at Seume's grave, which I still protect like a noble jewel, give an exact report of his magnanimous outlook in the world's misfortune."

In the meanwhile, the sonata was travelling in time with all the artifacts it had collected in its forced association with the inkpots of romantic literary expressive verbalism.

From Labyrinth to Sans Souci

Ludwig Rellstab (1799–1860) a poet and music critic, in 1832, five years after Beethoven's death, in a review in *Vossische Zeitung* linked the sonata to a boat trip by the moonlight in Lake Lucerne in Switzerland. In this manner, the sonata has once more been turned into a soundtrack of a personal memory destined to accommodate the individual needs of every bittered person, resembling the way Man visualizes God; in his own image.

In the meantime, the respective literature would collect epithets and metaphors from the inkpot of Romanticism, embroidering the plainchant of its imagination with verbal trills and other ornaments, rearranging the scene, painting Beethoven's sonata in colourful verbal illustrations, turning it into a cut-out board where one can stick his head and live his own fictional dream.

By that time, Beethoven has already been forgotten, as the city of Vienna (been proud of having the most important collection of famous names carved on stone in its cemeteries, securing in this manner, another monument in its collection of monumental dead) feels free to be devoted to pure entertainment, importing quadrilles from Paris, getting at the same time filled the arenas where gladiators such as Franz Liszt and Sigismond Thalberg would compete in the speed of execution.

According to Hector Berlioz, Franz Liszt, in a spontaneous burst of intuition, ornamented the first movement of Beethoven's Sonata Op. 27.2 with extended trills and tremolos (Jones 1999: 49), providing the aural only part of the performance, as the visual was already embedded in his own self, leaving the rational responsibilities to Beethoven who, in a stubbornly fatalistic manner, had supplied a contrapuntal exposition to the first movement, to which everyone would be able to add their own expressive intuitive touch, providing the vehicle, at times of personal and other times of mass escapism (see Ex. 2).

Beethoven, quite unaware of all consequences, constructed his theme using three different formations of a subject, one in augmentation and the other two in contrapuntal *stretto*. He used the same devise in the string quartet Op. 18.4 iii where the successive entries of the fugal subject form the theme of the sonata, arriving at a double form of a fugue within a sonata.[8]

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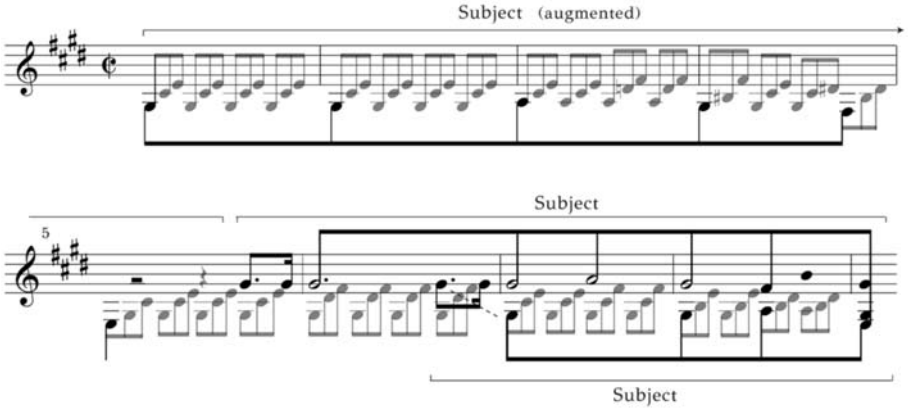
7 Seume died in 1810 in Teplitz, where Beethoven spent some time in the summers of 1811 and 1812.

8 Brahms has also used the same devise in the cello sonata Op. 38, iii.



Example 2. In the rational labyrinth of intuition (Beethoven, Piano sonata Op. 27.2 i)

Epilogue

In this respect, the rational sonata due to the European longing for self-expression, collecting cultural artifacts on its way, becomes a vehicle for borrowed fictional moments one has never experienced. It does that by giving shelter to the feigned tormented souls of Europe, which due to lack of its own resources turns to such works, in its calculative quasi desperate search for a soothing sound-concoction, a sound elixir. For it seems easier to rationally construct inner feelings and expose them to the cosmos than to rationally construct meaning, which involves the understanding of the structural elements of the sonata (such as the cell and the motive) in order to decode its meaning, posing another eternal question [turned alchemically into a dilemma] resembling the manner in which western culture poses for the sake of the posing itself, taking psychocultural selfies of itself, not in order to create a record of events but for the mere experience of capturing the moment of being captured, of attracting its own attention to itself, producing endless existential selfies, of which being present is more important than the record produced. In this respect, since the focus is not in the process, for the rational apparatus is there but not involved [perhaps not even detected] thus as their existence relies on the awareness, it does not produce any records.

In this respect, it does not even exist.

Bibliography

Albrecht, Theodore. *Letters to Beethoven and Other Correspondence: 1813–1823* (U of Nebraska Press, 1996).
Engels, Friedrich. *The Condition of the Working Class in England* (Penguin, 2009).
Hindemith, Paul. *The Craft of Musical Composition* (Schott, 1970).
Jones, Timothy. *Beethoven: The 'Moonlight' and other Sonatas Op. 27 and Op. 31* (Cambridge UP, 1999).
Simopoulos, Kyriakos. *Πως είδαν οι ξένοι την Ελλάδα του 21 [How Foreigners Saw Greece of 1821*] (Piroga, 2007).
Stravinsky, Igor. *An Autobiography* (Norton, 1975).
Tolstoy, Lev Nikolaevich. *Master and Servant* (Penguin, 1987).

Racionali intuicijos apgaulė

Santrauka

Racionalumo ir intuicijos priešpriešos koncepcija yra kultūriškai suformuotas išpūstos dilemos įtvirtinimas, kurios ir klausimas, ir atsakymas yra pramanyti. Tai ilgesingas vaikymasis to, ką Vakarų kultūra nuo seno priima kaip aistringa nešiotoja, sukurdama fiktyvią būseną, o galbūt aplinkybę, kurioje ši dilema amžinai išsaugo savo egzistenciją pakilusi į orbitą, iš kurios pati negali ištrūkti; ji nuolat keliauja paklusdama tik ją supančios aplinkos dėsniams, būdama viso labo savo pačios būsenos artefaktu.

Tad šiuo požiūriu racionalus meno kūrinys, pakeliui rinkdamas kultūrinius artefaktus, dėl europietiško saviraiškos ilgesio tampa priemone sklisti skolintiems, išgalvotiems, niekieno niekada nepatirtiems momentams ir kartu priedanga netikroms iškankintoms Europos sieloms, kurios, stokodamos savų resursų ir kvazidesperatiškai ieškodamos raminančios garso mikstūros, garso eliksyro, atsigręžia į tokius kūrinius. Atrodo, kad yra lengviau racionaliai sutelkti vidinius jausmus ir juos demonstruoti visam kosmosui, negu racionaliai sukonstruoti reikšmę, į kurią įeina kūrinio struktūrinių elementų, tokių kaip ląstelė ir motyvas, supratimas, būtinas norint juos iškoduoti.

Miglė Miliūnaitė

Aesthesis versus *Logos*: Two Doctrines of Music and Possibility of Reconciliation

Abstract. The problem of the dualistic nature of music is found in the doctrines of music created by Pythagoras and Aristoxenus. The article assumes that the opposite perceptions of music were determined by different philosophers' attitudes to the issue of body-soul relationship. The first section presents the controversy between understanding music as a sensual and music as a philosophical thing. The second part analyses fragments about music from Plato's dialogues in order to uncover the unity of body and soul in Plato's philosophy. The aim of this article is to disclose the philosophical point of view in which the sensible and intelligible contents of music (μουσική) is not opposing each other.
Keywords: music, body, soul, Plato, harmony, philosophy.

Introduction

Dualistic debate about the aims of music has been rephrased in irrelevant ways; music based on rationality *versus* music based on intuition, high art *versus* folk art, sacrum *versus* profanum, traditional *versus* progressive etc. The importance of the mind and sensory criterion is relevant to the foundation of the principles of music composing, aesthetics and acoustics. The problem of music's dualistic nature is discussed by many philosophers and music theorists in various topics. This paper invites to look back at the origins of dualistic debate about the nature of music in philosophical/religious context during the Classical period. The article assumes that the opposite perceptions of music created by Pythagoras and Aristoxenus were determined by different philosophers' attitudes to the problem of body–soul relationship. The issue of the relationship between soul and body was first discussed by Plato. The object of investigation is fragments about music from Plato's dialogues, found in the *Phaedo*, the *Republic* and the *Timaeus*. Based on the work of the scholar Francesco Pelosi *Plato on Music, Soul and Body* the article uses the method of musical analogy to disclose a philosophical point of view, in which the sensible and intelligible content of music (μουσική) does not oppose each other.

I. Perception of Music as a Spiritual and Sensual Masterpiece

Pythagoras (582 BCE–496 BCE) believed that everything in the Universe corresponds to mathematical rules and proportions. For him and all Pythagorean tradition the philosophical mind is more valuable then empirical knowledge. Even though his theory was primitive, it serves to give us a picture which was later developed by philosophers such as Boethius, Johannes Kepler, the Rosicrucian Robert Fludd, and, in contemporary times, by scientists working with quantum relationships. Charlene Douglass (Douglas 2005: 1) summarizes the main ideas of Pythagoras:

- All things are numbers. Mathematics is the basis of everything, and geometry is the highest form of mathematical studies. The physical world can be understood through mathematics.
- The soul resides in the brain and is immortal. It moves from one being to another, sometimes from a human into an animal, through a series of reincarnations called transmigration until it becomes pure. Pythagoras believed that both mathematics and music could purify.
- Numbers have personalities, characteristics, strengths and weaknesses.
- The world depends upon the interaction of opposites, such as male and female, lightness and darkness, warm and cold, dry and moist, light and heavy, fast and slow.
- Certain symbols have a mystical significance.
- All members of the society should observe strict loyalty and secrecy.

The Pythagorean doctrine of music postulates that music has a primal connection with the World (conceptually). Everything in the Universe corresponds to mathematical rules and proportions, which means that numbers let us understand the structure of the Cosmos. The heavenly bodies also appear to have moved in accordance with the mathematical ratios that govern the concordant musical intervals in order to produce music of the heavens, which in the later tradition developed into "the harmony of the spheres" (Proust 2011: 358). Pythagoras and his followers conceived the universe as a vast lyre, in which each planet, vibrating at a specific pitch, in relationships similar to the stopping of the monochord's string, harmonized with other heavenly bodies to create "music of the spheres", a concept which remained viable for centuries (see Figure 1). The idea of the harmonious unity of the universe is being developed up to Johannes Kepler's book *The Harmony of the World* (Smirnov 1998: 521).

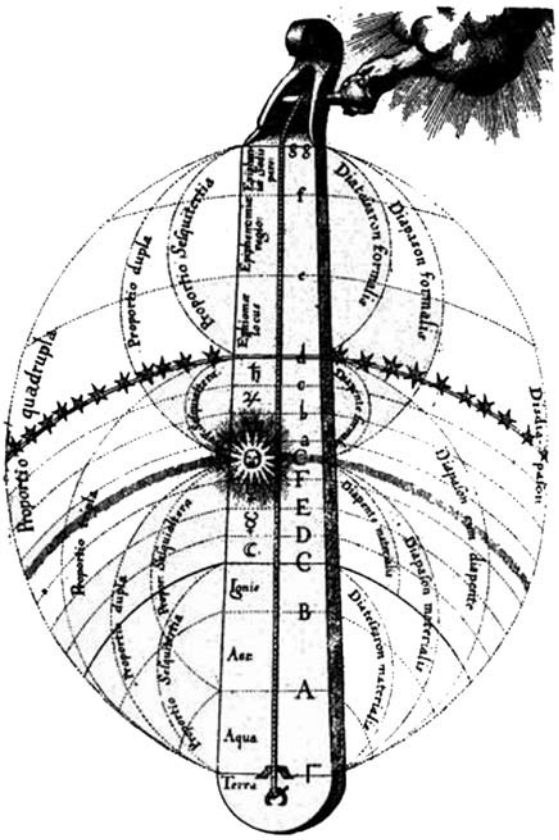


Figure 1. The mundane monochord with its proportions and intervals.

Cosmic structure matches the gradation of God's monochord. The position divides the monochord into two octaves – Diapason materialis and Diapason formalis, which represent the spiritual and the material world. Worlds are centred through sun's note (G), from which quintiles intervals are put to both sides, thus determining their further internal order. In such way, the world is organised according to musical laws. Picture from Fludd's book *De Musica Mundana* (Fludd 1617: 10)

Iamblichus the fourth-century scholar who wrote nine books about the Pythagorean sect describes the main principles of music (Brucker 1767: 1056):

1. The harmony of music must be judged not only by hearing, but also by mind, because the sensory perception does not correspond to the proportions of sound and is perceived only by the mind.

2. The music is one of the most reasonable philosophical exercises and is attributed to katharsis (κάθαρσις - purification, cleaning): in order to make the soul healthier and to purify the mindset of disasters. The Pythagoreans had a habit of wiping their souls with music in the morning and evening.

3. Musical harmony is based on irrevocable rules and canons because the mind, seeking what is wise, uses such canons and rules.

4. The Pythagorean tradition of music, being based on philosophy (λόγος), separated itself from Aristoxenians, who solved harmony just from the sensation (αἴσθησις), and ridiculed the former for their different views. According to Ptolemy, they found the intelligence factor humiliating.

Aristoxenus (449 BCE–401 BCE) was the Greek Peripatetic philosopher, usually pictured as an empiricist whose theory stems from purely practical issues of actual music making. He was the first authority on musical theory in the classical world and wrote *Elementa Harmonica*. In this book he argued with the disciples of Pythagoras who raised the question that was eternally new: are the cogitations of theorists as important as the observations of musicians themselves? His specific contention was that the judgment of the ear with regard to intervals was superior to mathematical ratios. Instead using ratios, he divided tetrachord into 30 parts (Aristoxenus 1902: 249).

Figure 2. The Monochord. Consonance can be judged just by hearing.

It is usual to assume that the author of the treatise is attributed to the Pythagorean thinking. However, in the chapter "The Monochord. Consonance can be judged just by hearing" (*Unica chorda qua soni cuiuslibet consonantiae simul audiri possunt*) we can recognize the elements of Aristoxenus doctrine. In this picture we can see a man solving a problem of phytagorean comma (between c–fis). In the chapter, the author concludes that consonance (pure interval) can be judged just by hearing.

Picture from treatise *Musica theorica* written in by Ludouici Foliani mutinensis (Foliani 1529: 39)

Therefore Aristoxenus was hailed by the sixteenth and seventeenth century theorists as the inventor of equal temperament[1] and also authority creating new composition techniques in the seventeenth century[2]. However, he may have intended this for the Pythagorean tuning, for most of the other scales he expressed in this unusual way correspond closely to the tunings of his contemporaries. From this we gather that his protest was not against current practice, but rather against the rigidity of the mathematical theories.

II. Musical Analogy in Plato's Philosophical Theory of Soul

The alliance of music and soul. Italian scholar Francesco Pelosi's work *Plato on Music, Soul and Body* suggests applying the musical analogy method in order to reveal Plato's body and soul philosophy:

> "My intention is to demonstrate that Platonic reflection on music provides a useful opportunity to reread the mind–body question in Plato. This will allow us, with relatively new instruments, to plumb the psychological and epistemological fields of the theories of the constitution of the soul and its relationship with the body, and the relationship between sense perception, emotion and thought" (Pelosi 1999: 3).

Music that has an acoustic nature and physical expression the ideal of harmony prevailing in ancient aesthetics, connected with the spiritual world and combining the state of body and soul and ethical purpose, becomes not only one images of Plato's philosophy, but also suitable analogies as methods for interpreting his philosophy.

So dualistic debate about music can be discussed in the coherence with the soul and body relation problem; it concerns the philosophy of religion and can already be found in ancient orphism beliefs. Ideas about the soul in philosophical conception first appeared in Plato's dialogues. As mentioned by Pelosi, it is a field that, in recent years, has been the object of a lively interest on the part of many scholars, who are trying to go beyond the traditional and reductive paradigm of Plato as a rigid dualist (Pelosi 1999: 3). In our days we have two camps of Plato's expounders: the first camp is saying, that "as a whole, Plato's philosophy is an idealistic system resting on a sharply defined dualism between mind and matter, God and the world, body and soul" (Zeller 1969: 144–147); the opposite approach to the Platonic corpus has been given a label of "unitarism". For example, Harold Cherniss points to Plato's interest in three ethics, epistemology and ontology (metaphysics) and in the dialogues found clear evidences of Plato's intense endeavour "to find a single hypothesis which would at once solve the problems of these several spheres and also create a rationally unified cosmos by establishing the connection among the separate phases of experience" (Cherniss 1936: 445–446). "Unitarian tradition" in Lithuania represented by works of Naglis Kardelis' (study *The Insight of Unity in Plato's Philosophy*) and Tatjana Aleknienė's (study *Harmonies of the Soul*). They reveal the main aspects of the Greek conception of soul (ψυχή).

Music as one of the solutions to the rational argumentation problem. Ideas about the soul in Plato's dialogues (*Phaedo, Republic, Symposium, Phaedrus*) are special for their aspiration to consider the soul not through mythological, but philosophical conception. In *Phaedo* the theory of immortality of the soul is presented, the condition of which is to understand everything through the mind; however, Kardelis observes that the dialogue fails to express any undeniable proof of the soul's immortality, and that after long philosophical discussions and arguments no clear or definitive answers are found (Kardelis 2007: 246–247). Participants of the dialogue compare the soul to musical harmony, a tailor; Socrates himself eventually moves on to the *Myth of the True Earth*. It is obvious that even though the author criticises different ways of knowledge, this and his other works cannot do with merely rational explanations and so other methods, such as analogy, are used.

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1 As mentioned by Willem Kroesbergen, during Bach's lifetime it was generally accepted that Aristoxenus was the first who described equal temperament by making all the fifths a bit narrow by ear. (We can find it in Mersenne Harmonie Universelle (1636) Livre Second, des instruments a chordes, p. 58–61; Sébastien de Brossard Dictionnaire de Musique (1701), p. 147 or under 'Temperamento' in later prints; Mattheson Grosse General-Bass-Schule (1731, p. 147; Mattheson, Der vollkommene Capellmeister (1739); Corrette Maitre de clavecin (1753), p. 87.) After the translation of Aristoxenus *Elementa harmonica*, mainly two methods of temperaments were in use: 1. Meantone (or modified meantone) by tuning the octaves pure, 11 fifths out of tune, the last one became the 'wolf' 15 and most thirds pure; 2. Equal temperament tuned by ear: octaves pure, fifths so little out of tune that they sound pure and the thirds as wide as the ear can accept (Kroesbergen 2015: 4).

2 For example, composer M. Scacchi, who was in probably famous polemics during the seventeenth century with old style composer P. Siefert, in one of letters wrote, that "I wish to act according to true reason, I ignore and despise these who prefer angry words to modesty. In any case, to satisfy the curious, I shall say that in this cantilena of mine we must consider the doctrine of Aristoxenus, where the tone is divided into two equal parts, that is, into two semitones" (Scacchi 2016: 100).

Alongside the mythological explanation of the conception and literary qualities of the texts, researchers of Plato pay attention to the method of allegory and analogy. Various musical examples are used to justify the tripartite soul theory in the fragments of the *Republic.*

Kardelis summarises the sequence of notes by researchers T. S. Eliot and Pseudo-Longinus by concluding that if we were to analyse Plato's texts "purely philosophically" and ignore its style and literary quality, we still would not be equipped to *philosophically* analyse them, let alone grasp the subtleties of its style (Kardelis 2007: 214). According to Kardelis, the popular opinion that Plato's myths are a jump to irrationality and are only used when rational thinking and logical argumentation fail, is unjustified. To him, myths and images rise above discursive reflections and attempt to use vivid, sensory analogies to describe what it is that the soul once saw through the eyes of the mind, not the body; that is considered to be the *primary form of philosophy* (Kardelis 2007: 216). Thus, the arising soul and body unity problem requires an outlook that contains more works and aspects.

Plato's writings often include statements that struggle to be argued philosophically or logically; they are often left unsaid due to reality's set-up and the weakness of human language, as well as the youthfulness of the philosophical language of the time. This kind of situation is especially relevant to the theory of soul (ψυχή).

The theory of soul as harmony. Ancient thinkers perceived the soul as the centre of emotions and desires; it was customary to assume that the soul is coherent, although, as seen in *Phaedo*, the counter-arguments of Simmias and Cebes conflict with the immortal soul and body. Nevertheless, the researchers see the similarity of the harmony of the fair soul (ἁρμονία) and the harmony of music. Its application is abundant in the *Republic*. Here are three parts of the soul: intelligence, courage, temperance, and relationships in the soul parts – restraint, justice. Plato states that if each element knows its value and occupies it according to its nature and general order, the soul is well-regulated. According to Plato, a person can self-regulate and arrogate oneself: "One becomes friendly to oneself and as if the three tones of harmony – the lowest, the highest and the medium, and any in between – they combine three elements of their own soul, link them together and out of them make a very real one, restrained and harmonious" (*Republic,* IV book: 441 d–e). It is also stated in the work that the sneakiest human form is not a man, but a beast, and the best of its forms is not only human, but simply divine (Aleknienė 1999: 15).

The harmony between the soul and the body is especially emphasized in *Timaeus*. One who wants a good soul must take care of its order and harmony, arising from the balance of the soul and the body – a soul, stronger than the body does not benefit the entire person but makes them unhappy and ugly. For both the body and the soul need to be equally developed so that the two are harmonious in both parts and in each other (*Timaeus*, 87c–88c).

Figure 3. The myth of the chariot in Plato's *Phaedrus*.

Alternative depictions of Plato's charioteer model of the human. These correspond to the honor-loving and appetitive parts of the soul, respectively; on the right the charioteer is "reason", who is the driver [driving force] of two horses, called emotion and desire, but is having trouble controlling the horses. Sometimes reason is in control, but at other times emotion and desire end up setting the direction of the chariot.

The soul as harmony explanation is also found in *Phaedrus*. It is important that in order to know one's body and soul there is a necessity to divide their beings (*Phaedrus,* 270 b). Dialogue also uses the myth of horses: "We compare the soul with the union of a team of winged horses and their charioteer; while the gods have noble horses and charioteers, other souls have a mixture. Firstly, the team of horses is controlled by our (soul) ruler; secondly, one of his horses is beautiful, and of noble birth, while another horse – the opposite of the first one, its ancestors opposite to noble, so it is inevitable that to guide is a dull, hard job" (*Phaedrus*, 246 a-b). Then the myth about Zeus, who takes care of the celestial order that will reveal itself in the inner harmony of the human soul, is told (*Phaedrus*, 246 e). These myths reveal yet another peculiarity of Plato's philosophical speech – the regularity and fractality of the order of the universe and difference, manifested not only in the mythical, but also at the theoretical philosophical level; the dialogue says that not only the life of a person, but also the way of the whole state depends on which side the desire of the soul is more focused on.

Sensible and intelligible contents of music. Music, as mentioned by Pelosi, for the soul is useful because of the sensible and intelligible contents:

> Now, the process with which music acts on reason, described in these terms, leads on the one hand, in quite a surprising manner, to musical intervention on sensibility, conducted through non-rational channels; while on the other hand it leads to the philosophical journey of ascent (or return) of the immortal soul towards an ideal dimension, a journey that is marked by an important involvement of rationality. (Pelosi 1999: 85) … To reflect on the nature of music and what it signifies to listen to it, understand it, make use of it and enjoy it leads Plato to the crucial question of the relationship between the sensible and intelligible contents of *mousike* and the impact that they have on sensibility and the intellection of man. I have advanced the hypothesis that Plato's attitude with respect to the question is conditioned by the psychophysical subject that he means to handle with music and the manners of treatment. The twofold nature of the musical phenomenon assumes a series of different expressions in relation to its psychophysical interlocutor (Pelosi 1999: 209).

It is usual to assume that Plato is attributed to the Pythagorean thinking, but it is difficult to summarize the quite fragmented speeches on the subject of music: on the one hand, it is known that Plato recognized the system of the eight main tones of the Pythagoreans and criticized those, who thought that "ear is more important than the mind". It is known that the Pythagorean tuning was recognised by Plato in the *Republic* (IX book, 530 d).

One of the Pythagorean postulates was that music is the structure of opposing subjects; and a great deal of unity and harmony of differences. According to Aleknienė, in *Philebus* Socrates claims that all arts appeared on the divine path – that things called 'eternal' consist of one and many (Aleknienė 1999: 37).

Johann Jakob Brucker's text (Brucker 1767: 1057) about the Pythagorean musical theory which became prominent in Plato's time states that Pythagoras assigned music to katharsis (κάθαρσις – purification, cleaning): The Pythagoreans had a habit of cleaning their soul with music in the morning and evening. In the *Republic* Socrates talks about the internal basis of good and evil behaviour, and applies the image of duly stressed strings to the soul's parts: "releases", "without strain (unsteadily) stresses, is too relaxed…" (*Republic*, IX book, 590 b). Later, Plato states that God gave humans the soul and the body not to cultivate them (as some think), but to reconcile the wicked and good elements of the soul (*Philebus*, 16 c).

According to the Pythagoreans, music should be dealt not only with hearing, i.e. not by observing differences in sounds, but in relationships (proportions) using one's mind, because relationships often do not match sound experience and are perceived only by the mind. In the *Republic* Plato criticised those who thought "ears more important than the mind". The family of Pythagorean musicians created with philosophical minds and separated themselves from the Aristoxenians, who solved harmonies by feelings and ridiculed the former for a different attitude, and, as Ptolemy testified, considered the criterion of the mind to be disgraceful. Harmony in music is based on irrevocable rules and canons, because the mind, seeking wisdom, uses the canons of harmony or rules.

On the other hand, Plato criticized those, who in sounds were looking only for numbers. Socrates, in dialogue about the immortality of the soul *Phaedo* presents the possible of twofold meaning of art (μουσική):

> The dream was encouraging me to do what I was doing, that is, to make music, because **philosophy was the greatest kind of music** and I was working at that. But now, after the trial and while the festival of the god delayed my execution, I thought, in case the repeated dream really meant to tell me to make this which is **ordinarily called music**, I ought to do so and not to disobey. (Phaedo, 61 a)

Kardelis states that the classical aesthetic standard is best described by the notion of harmony (Kardelis 2007: 236) in the ancient conception, beauty is the property of the part formed by the (and hence the bodily) object, due to the harmonious structure of the parts, embodying certain mathematical proportions. "We will see that our pupils do not try to learn something imperfect and directed not for that purpose. Do not you know harmony is similarly treated? Being confined to accords and hearable singing sounds and measuring, comparing them to each other, they do a useless job. In the accords we hear, they are looking for a number, but do not rise to the problems and do not analyse which numbers are harmonious, and which ones are not and why. … It would be useful in finding beauty and goodness" (*Republic*, IX book, 531 c).

Thus, from Pythagorean and Plato's reflections on music it is evident that the philosopher used the art of the criterion of truth and the beauty of kinship to being and good by referring art to the truth of cognition: "The heavenly arches should be used as examples – I said – so that we can know what is invisible" (*Republic*, VII book, 529 e). Possible features of this music: the proportionality, relationship, harmony, and, in particular, the harmony of the spiritual and sensory bases became a model for use in Plato's philosophy.

Conclusions

Dualistic debate about the nature of music founded during the Classical period. The Pythagorean tradition of music, being based on philosophy (λόγος), separated themselves from Aristoxenians, who solved harmony just from the sensation (αἴσθησις), and ridiculed the former for their different views. The relationship between the sensible and intelligible contents of music is discussed in the coherence with the soul and body relation problem.

Ideas about the soul in philosophical conception first appear in Plato's dialogues. Alongside the mythological explanation of the conception and literary qualities of the texts, researchers of Plato pay attention to the method of allegory and analogy. Various musical examples are used to justify the tripartite soul theory in the fragments of dialogs. Music that has an acoustic nature and physical expression the ideal of harmony prevailing in ancient aesthetics, connected with the spiritual world and combining the state of body and soul and ethical purpose, becomes not only one of Plato's philosophy's images, but also suitable analogies as methods for interpreting Plato's philosophy.

Ancient thinkers perceived the soul as the centre of emotions and desires, it was customary to assume that the soul is coherent. The researchers see the similarity of the harmony of the fair soul (ἁρμονία) and the harmony of music. The theory of the soul as harmony is recognised in the *Republic*, *Phaedo, Timaeus, Phaedrus.*

Based on the "unitarist" view to the Platonic corpus, analysis of fragments showed that music successfully works in the sensible and intelligible sphere. Consequently, the nature of music can very well unite all perspectives despite their diversity. Music in Plato works has the sensible and intelligible contents, but the main function of music is to "reconcile the wicked and good elements of the soul" (*Philebus*, 16 c).

Bibliography

Aleknienė, T. (1999). *Sielų dermės* (Harmonies of the Soul). Vilnius: Aidai.

Aristoxenus, *Armonika Stoicheia.* The Harmonics of Aristoxenus. Edited with translation notes and index of words by Henry S., Macran, M. A. Oxford at the Clarendon Press, 1902.

Brucker, I. I. (1767). *Musica* in *Historia critica philosophiae a mundi*: t. 1, p. 1056–1060. Leipzig.

Cherniss, H. (1936). The Philosophical Economy of the Theory of Ideas. In: *American Journal of Philology* 57.

Douglass, C. (2005). Pythagoras. In: *Math Open Reference,* California.

Fludd, R. (1624). De Musica Mundana. In: *Ultriusque Cosmi*, Band I, Oppenheim.

Foliani L. (1529). *Musica theorica.* De Sabio.

Kardelis, N. (2007). *Vienovės įžvalga Platono filosofijoje* (The Insight of Unity in Plato's Philosophy). Vilnius: Versus aureus.

Kroesbergen, W. (2015). *18th century quotations relating to J.S. Bach's temperament.* Cape Town.

Pelosi, F. (2010). *Plato on Music, Soul and Body*. New York: Cambridge University Press.

Plato, *Phaedo*. Plato in Twelve Volumes, Vol. 1, translated by Harold North Fowler. Harvard University Press, 1966.

Plato, *Phaedrus.* Translated into English Verse Christopher Smart, A. M. London. G. Bell and Sons, 1913.

Plato, *Republic*. Translated by James Adam. Cambridge University Press, 1902.

Proust, D. (2009). The Harmony of the Spheres from Pythagoras to Voyager. In: *The Role of Astronomy in Society and Culture, Proceedings* IAU Symposium No. 260, p. 358–369.

Scacchi, M. *Canones nonulli*. Edited by Marco Bizzarini, Aleksandra Pister. Vilnius: National Museum-Palace of the Grand Dukes of Lithuania, 2016.

Smirnov, V.A. (1998). Music Theory and the Harmony Method in J. Kepler's Work The Harmony Of The Universe. In: *Astronomical & Astrophysical Transactions.* Dec. 99, Vol. 18, Issue 3.

Zeller, E. (1959). *Outlines of the History of Greek Philosophy*, transl. L. R. Palmer, New York: Meridian Books.

Aesthesis versus *Logos*. Dvi muzikos doktrinos ir jų darnos galimybė

Santrauka

Kontroversija tarp muzikos kaip juslinio prado ir muzikos kaip filosofinio prado atsirado dar antikoje: pitagorietiškoji muzikos tradicija, matematiniais dėsniais grindusi kosmoso tvarką ir tobulumą, atsiskyrė nuo aristokseniečių, apie muzikos harmoningumą sprendusių pagal pojūčius. Straipsnyje keliama prielaida, kad priešingą stovyklų požiūrį į muzikos prigimtį, paskirtį, praktiką ir akustiką lėmė skirtingi kūno ir proto svarbos kriterijai, todėl muzikos prigimties klausimas svarstomas atsižvelgiant į sielos, proto ir kūno santykį.

Sielos samprata filosofinės koncepcijos pavidalu pirmą kartą pasirodė Platono dialoguose. Šiuolaikinėje platonistikoje aptinkamos dvi pagrindinės sielos teorijos interpretacijos galimybės – dualistinė, kai siela suprantama kaip autonomiška kūno atžvilgiu, ir unitaristinė, kai tarp sielos ir kūno įžvelgiamas dialektinis santykis. Straipsnyje, pozicijonuojant antrąją kūno ir sielos santykio sampratą, taikoma muzikos ir sielos analogija (kūnas – juslės; siela – Pitagoro „dieviškasis *logos*“) ir atveriamas filosofinis požiūrio taškas, kurio perspektyvoje aptinkama kūniškojo (juslinio) ir sielos (filosofinio) pradų sąveikos galimybė sielos–muzikos koncepcijose.

Platono dialoguose muzika, turinti akustinę prigimtį, fizikinę išraišką, antikinėje estetikoje vyraujantį harmoningumo idealą ir apjungianti kūno bei sielos būvį, tampa ne tik vienu iš minėto mąstytojo filosofijos įvaizdžių, bet ir tinkamų analogijų kaip metodų sielos sampratai perteikti. Nors filosofas tiesiogiai ir nepasako, kuo remiantis reikėtų spręsti apie garsų harmoningumą, galime atpažinti tiek vienai, tiek kitai doktrinai būdingų bruožų: Platonas *Valstybėje* pripažino pitagoriečių aštuonių pagrindinių tonų sistemą ir kritikavo tuos, kurie „ausis laikė svarbesnėmis už protą“; kitur filosofas kritikavo sąskambiuose ieškančiuosius skaičių; galiausiai Sokratas dialoge *Faidonas* pateikė galimą dvejopą meno (μουσική) prasmę – amatininkystę ir filosofavimą. Platono harmonijos teorija atsiskleidžia kaip derinanti juslinį (kūniškąjį) ir protinį (dvasiškąjį) pradus, todėl aprėpia tiek juslinį, tiek dvasinį muzikos pradą. Taigi minimi doktrinų postulatai pasirodo ne kaip opoziciniai, o kaip papildantys vienas kitą.

Aleksandar Kontić
Miloš Zatkalik

Regression in Music or How to Communicate the Ineffable

Abstract. Psychoanalysis contends that the process of artistic creation is organized in two, ostensibly contradictory, yet balanced phases. According to Ernst Kris, they are a) the phase of inspiration: withdrawing from the objective reality and opening a path to individual, unconscious impulses; b) elaboration of the form the idea will assume to be communicated. The first phase implies "regression in the service of the ego": abandonment to the primary process of mental functioning; the subsequent one is largely influenced by secondary processes. Reality testing, suspended in the first phase, acquires pivotal importance in the second. What used to be irrational, formless and archaic must be rendered in such a form that it can be shared. The inspiration phase is comparable with dreaming, when one abandons oneself to primary process functioning. However, the artistic creative act – however its inspiration phase may resemble a dream – requires a recombining of inspirational ideas into communication. The two phases are intertwined, not strictly chronologically following one another. In musical creation, these phases can assume extreme forms. Having its roots in the earliest stages of individual development, when the individual's mental apparatus functions in the archaic, unconscious and preverbal mode, music is of all the arts closest to primary-process mental functioning. Musical processes (thematic work, elaboration of fundamental structures, shaping of global form etc.) are highly isomorphous with primary-process transformations. Even such compositions that seem highly intuitive, resulting from a fleeting moment of inspiration (e.g. Debussy), or such that purport to epitomize primal, irrational forces (Stravinsky, *Sacre*), are carefully crafted within a framework of cultural norms. The personality of a creative artist possesses both an openness toward one's own unconscious impulses, the faculty of abandoning oneself to creative regression, and the ability to hatch communicable meanings out of the raw material of individual fantasy.
Keywords: primary process, regression, Kris, Varèse, Messiaen, Shostakovich.

One of the supreme attributes of human beings – the creative act – has always been a puzzling question that many schools of psychology have tried to probe. Among them, the psychoanalytic school emphasizes unconscious impulses as crucially (yet not solely) responsible for the creation of a work of art (see for example Waelder 1965). However, the statement that this highest human potential that we call creativity can be in such a close connection to the "dark continent" of human unconsciousness needs some justification. The aim of the present paper is to shed light on these intricate relationships. While the ultimate unraveling of the psychological foundations of artistic creativity remains (and will probably remain) beyond our reach, it is still feasible at least to peer into the roots of a work of art deeply buried in the unconscious mind.

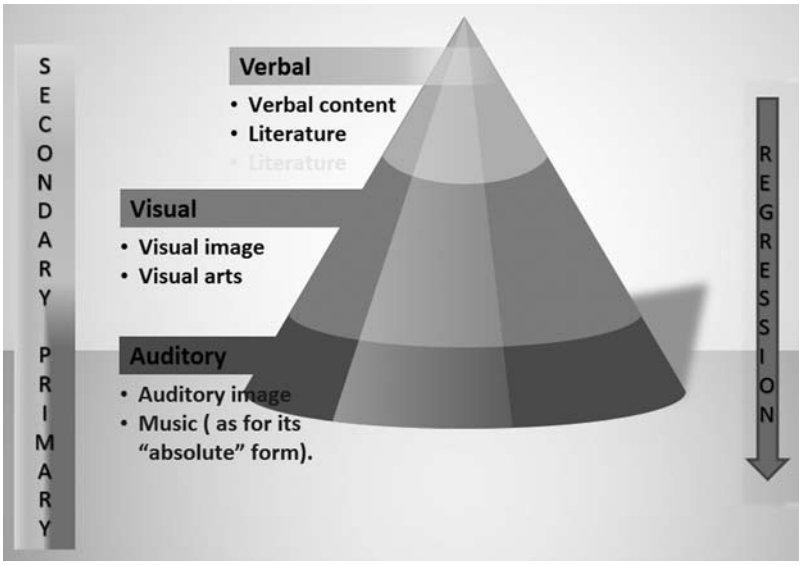
We will begin by quoting Sigmund Freud, whose words even more than a century later seem to capture some essential aspects of creativity:

> "The energetic and successful man is one who succeeds by his efforts in turning his wishful fantasies into reality. Where this fails, as a result of the resistances of the external world and of the subject's own weakness, he begins to turn away from reality and withdraws into his more satisfying world of fantasy, the content of which is transformed into symptoms should he fall ill. In certain favorable circumstances, it still remains possible for him to find another path leading from these fantasies to reality, instead of becoming permanently estranged from it by regressing to infancy. If a person who is at loggerheads with reality possesses an artistic gift" (a thing that is still a psychological mystery to us), he can transform his fantasies into "artistic creations instead of into symptoms. In this manner he can escape the doom of neurosis and by this round-about path regain his contact with reality" (Freud 1957/1910: 49).

To clarify this statement and explore its full potential for our paper, we will undertake a brief psychoanalytic excursion into personality development. The psychoanalytically-oriented developmental theory maintains that at the beginning of individual mental life only unconscious processes existed. The unconscious mind, or the *id*, has little connection to reality, to spatial and temporal constraints and the precepts of formal logic. This means that life in infancy is largely dominated by wishful fantasies. The developmental task of the ego will then be to serve the testing of reality and adaptation to it. The development that replaces these fantasies with the reality principle does not follow a linear path. There is no smooth progression, it is described rather as a process with ups and downs, and this fluctuation should not be confused with psychopathology. Nor is the process of transition from the one to the other ever completed: an average adult is also spending a significant percentage of their daily mental life withdrawing from objective reality and fantasizing. It may not be immediately obvious since adults tend to be less naïve and less willing to communicate their fantasies than children are, and would rather keep them to themselves. And if we seek a proof that every human *is* withdrawing from the sensations

of the environment, we need no better one than dreams. It was Freud's great discovery that a dream, no matter how disguised the form in which it presents itself, is actually a fulfilling of some deeply repressed wish (Freud 1953/1900). This withdrawal from reality is called regression, a return to the earlier stages of development, in which fantasy takes over the reality principle. But it is crucial to note that there are two kinds of regression: one is pathological, may often be irreversible, and will lead to neurotic and/or psychotic functioning: a part of unpleasant reality is denied (neurosis), or reality as a whole is denied (psychosis). As this falls in the realm of psychopathology, it is of no concern in this article. What, in contrast, is of vital importance is the second type of regression that the famous psychoanalyst Ernst Kris named "regression in the service of the ego" (Kris 1952; more recently reactualized in Knaffo 2002). What is the difference between pathological regression, and regression in the service of the ego, the latter also known as creative regression? While the first one is permanent, with regressive swing moving against the will of the conscious ego, regression in the service of the ego is purposeful and controlled by the same ego. Creators, by their conscious will, sever the links with the external world to listen with their inner ear to their fantasies and unconscious impulses. This is comparable to the withdrawal from reality and entering the realm of dream that every human being undergoes. The following statement by Johannes Brahms is paradigmatic: "I am in a trance-like condition – hovering between being asleep and awake; I am still conscious but right on the border of losing consciousness and it is at such moments that inspired ideas come" (Abell 1955: 25). We have sufficient reason to believe that despite the tremendous changes in musical language and social circumstances that have taken place since, creative minds still find their ideas where Brahms found them.

A further question now arises. When the artist willingly and temporarily regresses to the earlier stages of mental functioning, to what stage of development will he regress? How "deep" will that creative regression be along the imaginary axis of the mental strata? In our previous work (Zatkalik & Kontić 2013; 2015), we proposed a model of the regressive depth, as shown in Example 1.



Example 1. Depth of regression

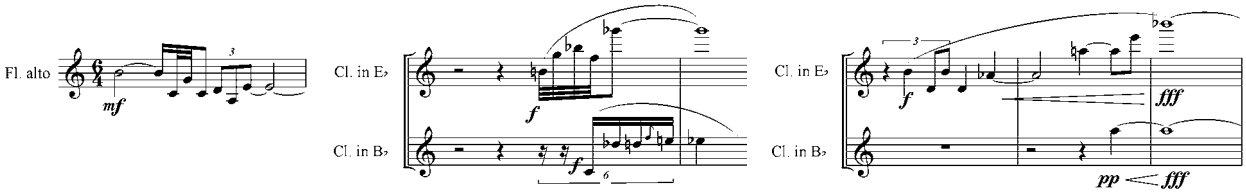
As can be seen, this model stipulates that the regressive path is the "shortest" for those artists who form their imagination through the verbal medium: the literary art. The visual artist will abandon the realm of spoken and written words, and will organize his fantasy by means of visual images. Finally, the musician will abandon both the realm of words and visual images, and will regress to the deepest level of the archaic psyche. This is precisely the reverse of the developmental process. At the earliest stages of development, the world was first represented through auditory images; visual imagery is meaningfully organized at a somewhat later stage, whereas the mastering of language, the development of the verbal-conceptual apparatus is due at yet a later one. It goes without saying that in this hierarchic organization from the most archaic to the most recent, the more recent developmental layers do not obliterate the archaic ones: they exist alongside each other and the mind is capable of fluctuating between them.

This also invites a logical conclusion: the organization, or the form that a work of art assumes, resembles the properties of the mental strata from which the creative idea originated. In our previous work (Zatkalik & Kontić 2013; 2015), we strived to demonstrate that musical structures and processes bear the imprints of the deepest levels of the archaic psyche, dominated by unconscious, preverbal primary processes. The fact that these deepest mental strata are preverbal, accounts for the cliché about the ineffability of music.

Real-life percepts when subject to primary processes tend to be heavily distorted. This is best observable in dreams, where the latent dream thoughts appear significantly transformed to yield the manifest content of the dream. Percepts can be fragmented, their fragments recombined, or fragments are made to represent entire objects (*pars pro toto*); several objects can be conflated, they coalesce into one; repetitions are frequent, and events in a dream are sometimes given the meaning opposite to the one they ostensibly possess (Friedman 1960). All these transformations have their counterparts in music. In previous articles (Zatkalik & Kontić 2013; 2015; 2017), we illustrated this isomorphism between music and primary-process mechanisms with a plethora of examples. To make our meaning clearer, we will here present several of them.

It will transpire that the music of the last hundred years or so is especially rich in primary-process transformations. Psychoanalytic advancements into the unconscious realm seem to be perfectly matched by composers' endeavors to probe into the same area and give it an audible form.

Condensation is often cited as one of the basic primary-process mechanisms. In dreams, two persons can coalesce. In music, two themes or two motives may coalesce to produce a new one (Ex. 2).

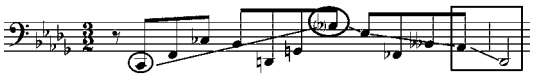


a) beginning b) rehearsal 2, b. 3 c) rehearsal 6, bb. 14–15

Example 2. Edgard Varèse, *Amériques*

Different scales or modes merge into one another. The polymodal procedures of Béla Bartók are a case in point. His works are often based on various modes or scales (major, minor, octatonic, Lydian, Phrygian) combined in specific ways, prompting the Bartók scholar János Kárpati to observe: "…although the individual modes may appear as relatively self-contained, independent systems, they do lose their independence either partly or completely… and, producing a new quality, *merge* [italic ours] into one another…" (Kárpati 1994: 226).

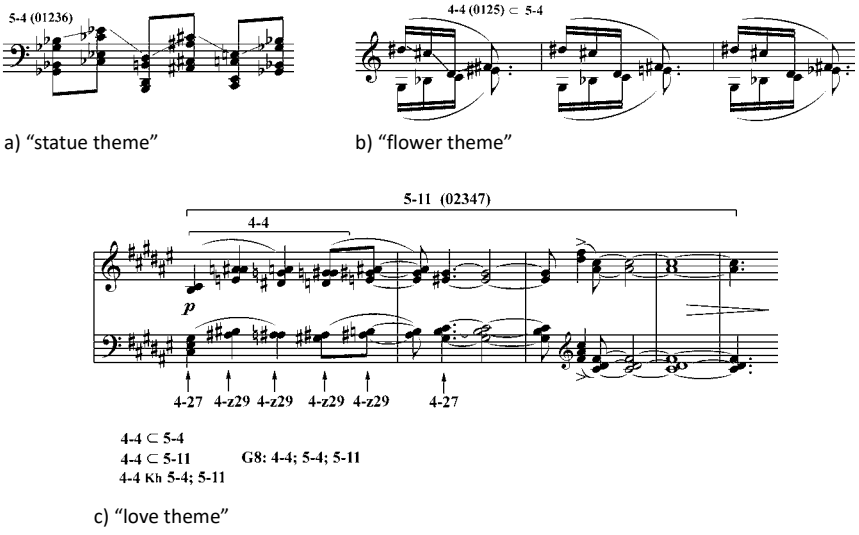
Even broader principles of pitch organization, "musical languages", can be conflated in a single musical piece. The beginning of Dmitri Shostakovich's Twelfth String Quartet features a twelve-tone row, but imbued, permeated with tonality.



Example 3. Shostakovich, String Quartet No. 12

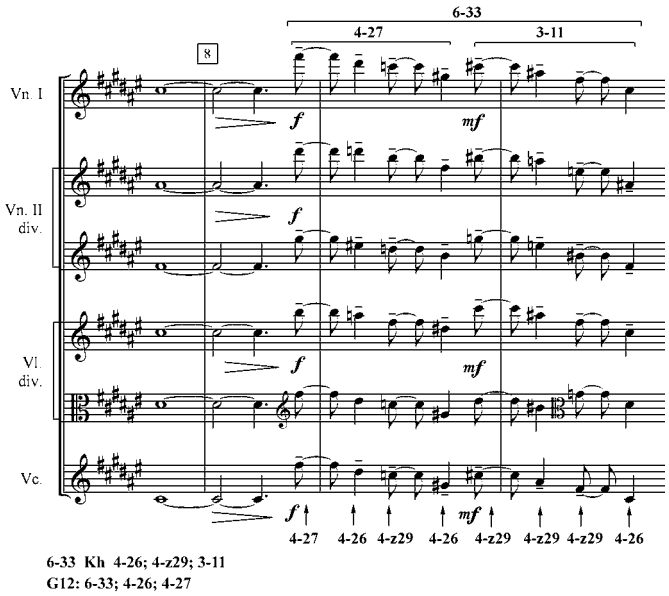
To begin with, the completing twelfth tone of the row is the tonic D-flat (the home key of this quartet) and with the penultimate A-flat, it forms a quasi-cadential gesture. The tonic arrival and the completion of the twelve-tone aggregate – two common goal-projecting strategies from the tonal and atonal domains, respectively – have colluded to produce the closure of the row, which at the same time initiates the subsequent statement of the first sonata theme. Furthermore, the dominant A-flat combines with the two most prominent tones: the first and lowest C and the highest G-flat in the middle, to form an incomplete dominant seventh chord. The A-flat itself, together with the preceding quasi-appoggiatura is also the axis of vertical symmetry. While the twelve notes are ordered in such a way as to conform to the normative dodecaphonic procedures, there are tonal undercurrents, unobtrusive, yet deeply embedded. Thus, two usually opposed musical languages are seamlessly welded together.

We take a further example from Olivier Messiaen's *Turangalîla* Symphony (Ex. 4).



Example 4. Messiaen, *Turangalîla*

What every textbook will tell you is that the Symphony contains several recurring, cyclic themes, most prominently the "statue" theme, also known as masculine, and the "flower", the feminine theme; it is also common textbook knowledge that a kind of synthesis of the statue and flower themes is achieved in Movement VI ("love theme").[1] Contrasting as the themes are on the surface, Messiaen scholars have always felt that they somehow belonged together (see especially Екимовский 1987: 150ff). And although set theoretical analysis may not always be suitable for this composer, in this case it reveals that with respect to the pitch content, the upper voice flower forms a set-class which is a subset of the upper voice statue set. The two sets also form a subcomplex (Kh) relation, and both belong to the same genus, Genus 8. Whatever the differences, there is a deeper, if concealed, affinity between them. In these deeper layers, inaccessible to consciousness, they form a unity. The manifest content is, however, highly fragmented. In the love theme, the three themes are clearly shown to be related in several significant ways: for instance, the pitch content of the beginning of the love theme is identical with the flower; these disguised relations clearly show how thoroughly and beyond recognition the latent idea is distorted in the manifest content. Condensation is again in action, and it also brings about affective transvaluation.

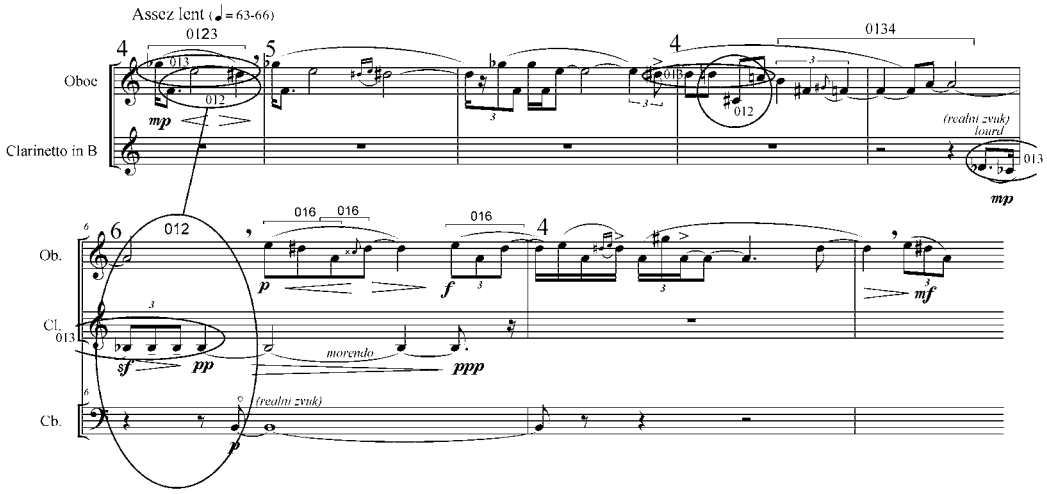


Example 5. Messiaen, *Turangalîla*, Movement VI, climax

[1] Such characterizations of themes orginate with Messiaen himself (see Sherlaw Johnson 1975: 82ff, Екимовский 1987: 151).

The climax of the movement features a number of significant relations between pc sets, corroborating our conclusion about the underlying unity (Ex. 5). We draw attention to the 4–27 set, previously designated to the accompaniment, now transferred to the melodic voice – *displaced* in other words – and its shape and function radically altered (perhaps even turned into the opposite). The horizontal and vertical dimensions are collapsed, the figure-ground distinction blurred, the constraints of space seem to be obviated. These are again transformations most likely encountered in dreams, thus readily attributable to the workings of primary processes. Let us not forget, this most oneiric movement is titled Garden of Love's Sleep. How else?

Another mechanism we will briefly engage with is fragmentation. One might almost call it the destiny of any musical theme to be fragmented, and at some future point reassembled. Tonality also, once established tends to be fragmented; the integrity of harmonic progressions is fractured, but also inevitably restored: the laws of tonality function as a musical superego. Contrariwise, some important tendencies in post-tonal music strive to present the musical flow as irreparably fragmented. Let us consider an excerpt from Edgard Varèse's *Octandre* (Ex. 6).



Example 6. Varèse, *Octandre*

The basic unit, the cell, is no more than a chromatic tetrachord.[2] But even that splits into two interlocking trichords, and thus the greater portion of the first movement unfolds in perpetual redistribution of these trichords in time and space. And even that is not all. The second movement further breaks down these trichords, and the F – G-flat dyad is sustained for eight bars in the initial portion of the movement.

True, at the very end of the first movement, there is something in the nature of a reprise, but we would take the liberty of calling it a fake. To resort to a cliché: too little, too late, and somehow too out of context to be able to serve the formal function of a reprise. Unlike the tonal form, repetitions in atonality provide neither orderly and balanced architectonics of the work nor the narrativizing evocations of past events, nor yet the mastering of the separation trauma by regaining the object. They feel more like an emergence of the repressed; particles of the unconscious breaking out suddenly to the surface.

To generalize from these fragmentation examples: everything is amenable to fragmentation. Thematic material undergoes disintegration: in the 20th century, a considerable number of compositions dispenses with such entities as themes and hinges on motives or intervals. In the extreme cases of pointillist texture, as exemplified by Anton Webern, the very fabric of music disintegrates. Another process we have witnessed is the disintegration of the tonal system. Furthermore, in the unprecedented diversity of 20th-century music we can observe fragmentation of the system of values, the breakdown of cultural consensus, or – in keeping with the psychoanalytic spirit of this paper – the absence of an aesthetic superego. In aleatory music, even the agency of the creator undergoes fragmentation. Nor is discourse about music spared fragmentation. Theoretical approaches and analytical methods proliferate; scholars often seem not to be able even to understand each other: the situation that Kevin Korsyn aptly called Babelization (Korsyn 2013: 16).

[2] The idea of the generative cell in Varèse's *Octandre* was discussed in Moura 2004, but in a rather different context.

All this has many ramifications. We could, for instance, attempt to provide explanations for certain tendencies in music from the past several decades by invoking the psychoanalyst Heinz Kohut and his distinction between the tragic and the guilty man (Kohut 1977), as the present authors did (Zatkalik & Kontić 2017), but to follow these lines would greatly exceed the scope of this article.

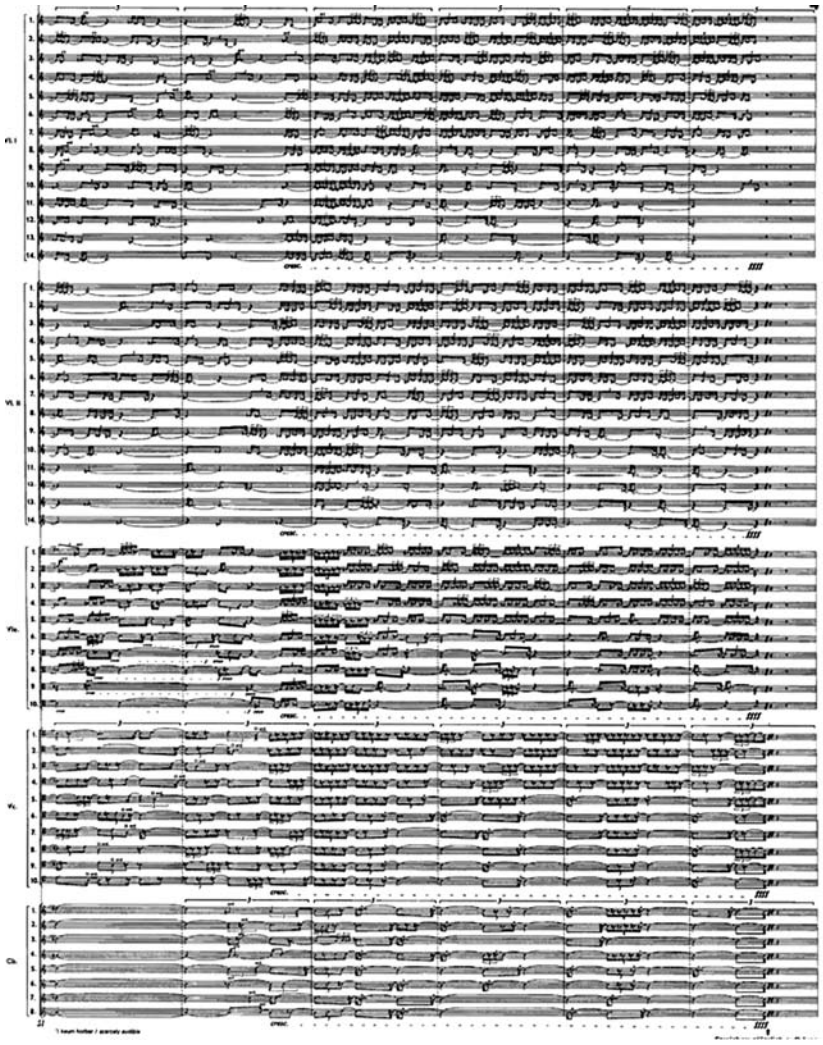
It would be, of course, gross oversimplification to attribute the creative act solely to the functioning of the unconscious. Psychoanalysis contends that artistic creation is structured by two, ostensibly contradictory processes: one implies a withdrawing from the objective reality and acquiring the subjective expression of the creator; the other is the creative subject's tendency to communicate the idea to the other, with a special emphasis on the psychological equilibrium of the two aspects. Ernst Kris (1952) was the first to introduce this idea, and he regarded creativity as a two-phased process: the phase of inspiration, i.e. searching for a creative idea, suspending cathexes[3] with the other, opening a path to individual, unconscious impulses. This is followed by an opposite process: elaboration of the form the idea will assume in order to be communicated. The first phase implies creative regression and abandonment to the primary processes of mental functioning; the subsequent one is largely influenced by secondary processes. Reality testing, suspended in the first phase, acquires pivotal importance in the second. What used to be irrational, formless and archaic must be rendered in a form in which it can be shared. The inspiration phase is comparable with dreaming, when one abandons oneself to primary-process functioning. In a sense, dreaming is also a creative act. Dream, irrational as it may seem, represents intimate communication between the dreamer and his unconscious. But outside this channel, it is devoid of communicability. This, however, is of no importance, since communication with the other is not its purpose in the first place. On the other hand, the artistic creative act – however its inspiration phase may resemble a dream – requires a recombining of inspirational ideas into communication. Needless to say, the two phases are intertwined, not strictly chronologically following one another.

As long as we as creators are concerned with molding our ideas so as to be acceptable to the other, we are also exercising our empathic abilities. As a means to accomplishing this communicative task, the artist is obliged to put himself in the position of the audience. Kurt Eissler called this the *doxaletic function* (Eissler 1971). Let us consider the following situation. Suppose you were a composer writing music for a children's fairy tale. The tale itself, however appealing it may be for any child, contains many frightening figures and situations (wolves, dark forests, witches etc.). In order to write appropriate music, you will use your compositional skills, your knowledge of orchestration, harmony, form etc. Such knowledge is rational, belongs to the secondary functions of the conscious ego, directed toward reality, toward solving actual compositional problems. At the same time, music is there to provide, or rather to enhance tensions and relaxations. You may lack empathy for the amount of tensions that are to be presented to the ear of the child; you may frighten them, instead of offering the quantity of tension they may control before the resolution finally takes place. Such empathic abilities can hardly be learned. You must somehow be a child, become one, that is, invoke the child in you.

While these considerations apply to any form of artistic creation, it should be noted that in musical creation, the two phases can assume extreme forms. Having its roots in the earliest stages of individual development, when the individual's mental apparatus functions in the archaic, unconscious mode, music is of all the arts closest to primary-process mental functioning: creative regression, as shown in Example 1 is the deepest in music. As our examples 2–6 from the present paper, as well as those from our previous work indicate, musical processes (thematic work, elaboration of fundamental structures, shaping of global form etc.) are highly isomorphous with primary-process transformations (let us reiterate: transformations similar to those one encounters in dreams). Contrariwise – and probably precisely because of it – even such compositions that seem highly intuitive, resulting from a fleeting moment of inspiration (e.g. Claude Debussy), or such that purport to epitomize primal, irrational forces (Igor Stravinsky, *Sacre du printemps*), are carefully crafted within a framework of cultural norms.

Such passages from György Ligeti's micropolyphonic works as shown in Example 7, demonstrate the astounding level condensation can reach in music. One might say that this texture collapses upon itself, producing something in the nature of a musical black hole. This seems to originate from the deepest recesses of the archaic unconscious. Yet, at the same time, these passages are most carefully crafted, most precisely calculated. The extremes of primary and secondary processes collude to produce this music.

[3] In psyshoanalysis: emotional charge associated with an instinct, or the process of investing psychic energy in an instinctual object.



Example 7. György Ligeti, *Atmosphères*

To conclude, we would first invoke the idea of Gilbert Rose, a musically competent psychotherapist, that music may be viewed as interplay between primary and secondary processes (Rose 2004: 20). Our present effort confirms this view, and further etches it by concluding that the personality of a creative artist possesses both openness toward one's own unconscious impulses, the faculty of abandoning oneself to creative regression, and the ability to hatch communicable, universal meanings out of the raw material of individual fantasy. The secondary processes are there to provide "objective" universals to subjective universe. The content of individual fantasy would remain forever at the level of the strictly personal, were it not for the creative elaboration it undergoes.

References

Abell, Arthur (1955). *Talks with Great Composers*, New York: Citadel Press.

Eissler, Kurt (1971). *Discourse on Hamlet and "Hamlet."* New York: International Universities Press.

Freud, Sigmund (1953/1900). *The Interpretation of Dreams*. In: *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, Vol. IV. London: Hogarth Press.

Freud, Sigmund (1957/1910). *Five Lectures on Psycho-analysis*. In: *The Standard Edition…*, Volume XI: 1–56. London: Hogarth Press.

Friedman, Stanely (1960). One Aspect of the Structure of Music – A Study of Regressive Transformations of Musical Themes. *Journal of the American Psychoanalytical Association*, 8: 427–449.

Kárpati, János (1994). *Bartók's Chamber Music.* Stuyvesant, New York: Pendragon Press.

Knafo, Danielle (2002). Revisiting Ernst Kris's concept of regression in the service of the ego in art. *Psychoanalytic Psychology,* 19(1): 24–49.

Kohut, Heinz (1977). *The restoration of the self*. New York: International Universities Press.

Korsyn, Kevin (2013/2005). *Decentering Music: A Critique of Contemporary Musical Research*. New York: Oxford University Press.
Kris, Ernst (1952). *Psychoanalytic explorations in Art.* New York: International Universities Press.
Moura, Eli-Eri (2004). Interactions between the generative cell and symmetric operations in Varèse's *Octandre*. *Contemporary Music Review*, Vol. 25/1: 17–44.
Rose, Glibert (2004). *Between couch and piano: Psychoanalysis, music, art and neuroscience,* London, New York: Routledge.
Sherlaw Johnson, Robert (1975). *Messiaen*. Berkley and Los Angeles: University of California Press.
Waelder, Robert (1965). *Psychoanalytic Avenues to Art*. New York: International Universities Press.
Zatkalik, Miloš and Aleksandar Kontić (2013). Is there a wolf lurking behind these notes: The unconscious code of music. In: Miloš Zatkalik, Denis Collins and Milena Medić (eds.), *Histories and Narratives of Music Analysis*. Newcastle: Cambridge Scholars Publishing: 628–644.
Zatkalik, Miloš and Aleksandar Kontić (2015). Psychoanalysis and music: discourse about the ineffable. In: *Muzikologija* No. 19: 127–146.
Zatkalik, Miloš and Aleksandar Kontić (2017). Čovek krivice, tragičan čovek i njihova muzika [The guilty man, the tragic man and their musics]. In: *Tradicija kao inspiracija: zbornik radova sa skupa „Dani Vlade Miloševića"* [Proceedings from the conference "Days of Vlado Milošević"]. Banja Luka: Akademija umjetnosti: 82–92.
Екимовский, Виктор Алексеевич [Ekimovski, Viktor Alekseevich)] (1987). *Оливье Мессиан* [Olivier Messiaen]. Москва: Советский композитор.

Regresija muzikoje, arba Kaip komunikuoti tai, kas neišreiškiama

Santrauka

Vienas iš aukščiausių žmogiškųjų būtybių požymių – kūrybinis aktas – visada buvo keblus klausimas, jį bandė nagrinėti daugelis psichologijos mokyklų. Psichoanalizė, viena iš jų, pabrėžia pasąmoninius impulsus kaip kertinius (nors ir ne vieninteliusi), atsakingus už meno kūrinio sukūrimą. Šiame straipsnyje gvildenamas kūrybinio ego vaidmuo kūrybinės idėjos ir kūrybinio akto komunikacinės jėgos koncepcijų kontekste.

Psichoanalizės teorija tvirtina, kad meninė kūryba yra sąlygojama dviejų neva prieštaringų procesų: pirmas – tai pasitraukimas iš objektyvios realybės ir subjektyvi kūrėjo raiška; antras – kūrybinio subjekto tendencija komunikuoti idėją kitam. Psichologinė pusiausvyra tarp šių dviejų stadijų yra ypatingo dėmesio vertas aspektas. Ernstas Krisas kūrybiškumą traktavo kaip dviejų fazių procesą. Visų pirma išskiriama inspiracijos fazė, t. y. kūrybinės idėjos paieškos suvaržant kateksio poreikį, atveriant kelią individualiems, pasąmoniniams impulsams. Vėliau vyksta priešingas procesas – formos konstravimas siekiant tinkamai pateikti idėją. Pirmai fazei būdinga vadinamoji kūrybinė regresija ir pasidavimas pirmapradžiam mentalinio funkcionavimo procesui, antrai fazei – antriniai procesai. Eksperimentavimas su realybe, suspenduotas pirmoje fazėje, antroje įgyja centrinę reikšmę. Tam, kas buvo iracionalu, beformiška ir archajiška, reikia surasti suprantamą formą. Įkvėpimo fazė yra prilyginama sapnavimui, kai pasiduodama pirmapradžiam funkcionavimui. Sapnas, kaip įprasta manyti, yra iracionalus reiškinys, jis atspindi intymią komunikaciją tarp sapnuojančiojo ir jo pasąmonės: komunikatyvumo stoka šiuo atveju nėra reikšminga, kadangi komunikacija su kitu nėra pirminis tikslas. Kita vertus, nors meninio kūrybinio akto įkvėpimo fazė gali priminti sapną, inspiracines idėjas reikia pertvarkyti į komunikuojančias. Abi fazės yra susipynusios (negriežta chronologine tvarka) ir eina viena po kitos.

Muzikos kūryboje šios fazės gali pasiekti kraštutines formas. Į ankstyviausias individo vystymosi stadijas (t. y. kai mentalinis individo aparatas funkcionuoja archajiniu, pasąmoniniu ir ikiverbaliniu būdu) pretenduojanti muzika iš visų menų yra arčiausiai pirmapradžio proceso mentalinio funkcionavimo: kūrybinė regresija muzikoje yra giliausia. Iš įvairių pavyzdžių matyti, kad muzikinius procesus (temų plėtojimą, fundamentalių struktūrų organizavimą, globalios formos projektavimą) galime taikyti izomorfinių pirmapradžių procesų transformacijoms (pavyzdžiui, sapnui). Priešingai – o galbūt būtent dėl to – tokios kompozicijos, kurios atrodo netgi labai intuityvios, atsirandančios iš įkvėpimo momento blyksnio (pvz., Debussy), arba tokios, kuriomis pretenduojama įkūnyti pirmaprades, iracionalias jėgas (pvz., Stravinskio *Sacre*), yra kruopščiai įgyvendintos pagal kultūros normas.

Galima apibendrinti, kad menininko asmenybei būdingas tiek atvirumas pasąmoniniams impulsams, gebėjimas pasiduoti kūrybinei regresijai, tiek mokėjimas modeliuoti perduodamas universalias prasmes iš neapdorotos sufantazuotos materijos.

Rimantas Janeliauskas

Quaternion of the Oppositional Rhythmic Archetypes, Based on the Examples of Lithuanian Folk and Contemporary Music

Abstract. Musical archetypes are approached here as concentrated communicative models to be tested by long lasting musical tradition as well as capable to assure the vitality of musical art. Early manifestations of rhythmic archetypes are found in Lithuanian ethnomusic. These archetypes could be characterized as communicating by oppositions. The quaternion of rhythmic archetypes is proposed in this paper: 1) diminutive, 2) rotational, 3) grouping and 4) proportioning. Each of the mentioned archetypes is acting in different way – by operating tempo, accents, meter or proportions. Oppositional rhythmic archetypes in modified forms manifest in contemporary music, and so they remain relevant for the search of national recognisability as well as the ground for the performance-oriented approach.

Keywords: archetype, opposition, quaternion, rhythmic value, accent, metrical rhythm, rhythmic pattern, formation, diminution, augmentation, rotation, grouping, proportioning, ethnomusic, contemporary music.

Introduction

The significance of musical archetypes seems to be related with communicative structures, proven by long-lasting musical tradition as well as assuring the vitality of musical art. In this course, archetypes should be discussed in more detail. In Jung's theory, archetypes are considered as universal, archaic patterns and images that derive from the collective unconscious (Feist, J., Feist, G. J. 2009). They are inherited potentials which are actualized when they enter the consciousness as images or manifest in the behaviour of interaction with the outside world (Stevens 2006). From the etymological perspective, the first part of this concept – *arche-* (from Greek *arkhē* "first, origin")[1] – appeals to somewhat archaic, mythological, ritualistic, while the second part – *-type* (from Greek *túpos* "sort, type, model, pattern")[2] – denotes structural attribution.

In this paper, the concept of archetype is further explored on the base of the Lithuanian ethnic heritage, particularly referring to traditional monodic songs as well as polyphonic ones called *sutartinės*. For this reason, archetype is disclosed not only as a generic term, but serves as an attribute of the national identity and contributes to the search for Lithuanianness. There is a variety of musical archetypes, and they interact with all the composing parameters such as melody, harmony, timbre, and so on. Yet rhythm plays an exceptional role in this process. It is not accidentally that the theories of musical origin claim: in the beginning there was rhythm (Riemann 1967: 803). The communicative potential of rhythm is familiar up to our days – tempo, accents, meter, proportions, just a few to be mentioned. The particular sort of archetypical manifestation is communication based on oppositions, as formed by rhythmic values, accents, meter or proportions. The concept of opposition is closely linked to the mythical mindset, inclined to divide things into groups and create a bipolar image of a world (Gimbutienė 1994: 110). Thus it could be speculated that the archetype of rhythm can only be oppositional as it is a product of the mythical consciousness.

As this discourse develops around the issues of archetype and rhythm, a question could accordingly be brought up – whether oppositional archetypes of rhythm remain relevant in the new fields of music such as aleatorics, sonorism, drone, spectralism, microtonality, serialism, minimalism and others. The goal of this paper is to answer (at least in part) this controversial question. The reached solution may possibly be related to the choice conducted by personal virtue. Aspiring for the national identity and communicability in music, the particular objects are chosen for the adequate research of rhythm. First of all, Lithuanian ethnomusic is in the centre of this study, embedded its origins to the times of Stone Age (Славюнас 1972: 7). In general, archaic polyphonic vocal-instrumental songs, as *sutartinės*, could be characterized by their syncretic nature. They apparently correlate with Lithuanian monodic folk songs (Čiurlionytė 1999: 113), which also get into the scope of this research. Furthermore, actualization of rhythmic archetypes in the 20th century is based on the examples of the oeuvre of Sergei Prokofiev, Charles Ives, Igor Stravinsky and Béla Bartók.

The method of this research could be referred to the concept of quaternion (lot. *quaternio*). The latter is related with the early human efforts to systematize the primeval chaos. In this process of systematization different images or models are invoked such as the number, square, cross, primal elements, mandala, etc. Those early systematizing methods are captured by science of the present day.

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1 Liddell, Henry George & Scott, Robert. A Greek-English Lexicon, http://www.perseus.tufts.edu/hopper/text?doc=Perseus:text:1999.04.0057.

2 Ibid.

To illustrate this notion only a few of overall multiplicity are to be mentioned:

- 4 major archetypes (Jung);
- 4 types of temperament;
- Semiotic square (Greimas);
- 4 categories of number (Лосев);
- 4 basic forces of subatomic particles;
- 4 blood types;
- 4 types of brain signals (Rosenboom); etc.[3]

In systematization of rhythmic archetypes, the methodology of quaternion is complemented by principles of analogy, logical analysis, comparativism. Besides the introduction and final conclusions, the paper includes the following chapters:

1. Quaternions' representation in music theories.
2. Theoretical insights into archetypical rhythmic communication.
3. Quaternion of oppositional rhythmic archetypes.

1. Quaternions' representation in music theories

One of the most archaic manifestations of quaternion could be identified in Lithuanian polyphonic songs *sutartinės.* The friction between two opposing bichords of thirds may be expressed by the formula $(2 \times 2)^1$ that represents two poles each containing two tones distanced by the interval of third. This primal quaternion is extended by antiphonic periods, and may be expressed as $(2 \times 2)^2$. Further on, shifting between strophes of text occurs, $(2 \times 2)^3$ accordingly, so continuing up to the culmination – ecstasy, i.e. $(2 \times 2)^n$. Thus ostinatic ritual sounding gains binary progression based on quaternion $(2 \times 2)^{1,2,3...n}$ (Janeliauskas 2002: 144).

We can find other manifestations of the quaternion principle throughout the history of Western music. As for instance, the antique theory of composing widely used tetrachords, i.e. sequences based on four tones. While joining two tetrachords by common tone (joined system), each of them may be permutated for four times. Those permutations conditioned the harmonic changes, for example: Dorian – Phrygian – Lydian – Dorian. Finally, the four sequential tetrachords, joined or detached, embraced the whole diapason of the so-called perfect system (Герцман 1986: 29–69).

In Medieval multi-voiced music, there were only four perfect intervals (*perfectum*) – as unison, octave, fifth and fourth. Contrary to them, there were four imperfect intervals (*imperfectum*) – third, sixth, second and seventh.

Mensural rhythmic of *Ars nova* is also systematized by quaternions. Mensuration of rhythmic value contains four levels: 1) *maximodus,* 2) *modus,* 3) *tempus,* 4) *prolatio* (Евдокимова 1983: 99). In addition, Phillip de Vitry proposed quadruple mensuration of *semibreve.* The quaternion of *prolatio* is denoted as follows: a) *perfecta prolatio major;* b) *perfecta prolatio minor;* c) *imperfecta prolatio major;* d) *imperfecta prolatio minor* (idem: 122).

Renaissance polyphony is usually realized as four-voiced texture, which originated from the four major elements by Zarlin. According to him, while composing "for this particular number of voices, they are treated as natural, analogically to four elements, since every complex corpus is constituted of them; likewise any perfect music is made of this particular number of voices" (Ambrazas 1980: 26).

In the tonal era of music, quaternions may be identified in different aspects – in harmony, rhythm, texture, timbre, form, etc. Some of them have to be mentioned. In modern times, four-voiced choral texture becomes a generally consolidated norm. In the period of baroque, a suite of four movements is established, characterized by quaternion of different tempo: *allemande* (slow), *courante* (fast), *sarabande* (very slow), and *gigue* (very fast). In the tonal period of classicism and romanticism, cadences were articulated in each four bars. The four-movement cycle of sonata is one more instance of prevailing quaternion.

Theorists and composers of the 20th century also mention different manifestations of the quaternion principle. Valentina N. Kholopova reveals the quaternion of rhythmic types. In her opinion, the criterion of rhythmic quality is metre, as it determines rhythmic motion. Depending on how strictly regularity is respected, also regarding the quality of accentuation, two pairs of rhythmic criteria are indicated: regularity – irregularity, accentuation – non-accentuation. These pairs of criteria determine four basic types of rhythm: 1) regular accentuation, 2) irregular accentuation, 3) regular counting of time, 4) irregular counting of time (Холопова 1971: 76–77).

[3] The subject is more discussed in Janeliauskas (2003: 129–136).

Besides that, the criteria of analogical quaternion is applied to the systematization of texture. According to Kholopova, the functional development of textural voices is determined by a pair of particular phenomena: constancy and inconstancy of voice disposition, as well as the stability and variability of functions referred to voices.

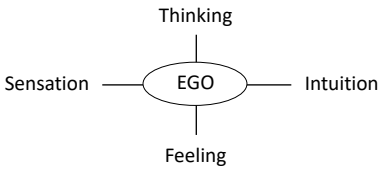
A few more quaternions related to the serial principle of composing (Schoenberg) are worth mentioning. Each dodecaphonic series has four forms: *primus* (P), *retroversus* (R), *inversus* (I), *retroversus-inversus* (RI). When the first note of R is the last note of P, and the first note of RI is the last note of I then this composition of four forms is called quaternion (Коroутек 1976: 128). Besides that, each form of a series (P, R, I or RI) with all possible transpositions constitute the whole of 48 rows, collected in the so-called "magical square" (ibid.). Anton Webern applies dodecaphonic principle to construct a "magical square" made up of triads (P, R, I, RI).

After comparing different musicological quaternions, we can notice, that classification according to quaternion principle is applied to various aspects of compositional structure and sonic material. The principle of quaternion is usually invoked as a crossing marking of a telescope, which helps to elementarily classify and comprehend any phenomena acting in a chaotic multitude (Jung 1999: 253).

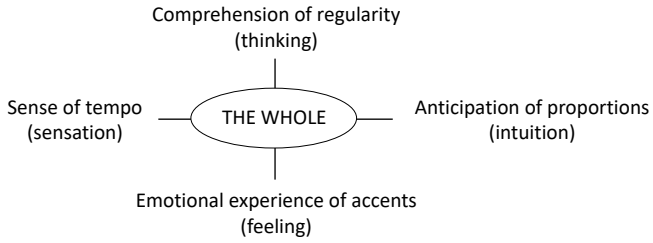
However, the mentioned musicological quaternions lack those fundamental features of classification, which highly developed sciences imply. Namely, they lack meaningful relations between different quaternions, opposition between components, and also purification of hierarchical aspects.

2. Theoretical insights into archetypical rhythmic communication

In order to comprehend the potential of archetypical rhythmic communication more deeply, we should recall the quaternion of psychological functions proposed by Jung (idem.: 127).



Jung asserted that all functions should act in harmony for the proper activity of the conscious. Psychological functions and communicative potencies of the conscious, probably, are similarly corresponding to each other as recipient and transmitter. The application of the analogy method seems to be reasonable in this case. Different phenomena of rhythm are accordingly sensed, comprehended, emotionally experienced or anticipated. Here, an analogical scheme of psychic functions corresponding to rhythm is proposed:



In this proposed model two axes are also at our disposal: tempo and proportions on the one hand, and regularity and accentuation on the other. The phenomena of the first pair communicate by relations (rhythmic values or proportional segments). These relations in one case are sensed by aural perception, in the other they are intuitively anticipated, foreseen. Another pair of phenomena manifests itself more as substantial (meter, accents). Those are rationally comprehended or emotionally experienced. The mentioned phenomena (based on relations or substantial) simultaneously inform the conscious of the recipient about rhythm as a certain whole. However, it does not necessarily happen all the time.

There is abundance of instances in modern music, where the vitality of rhythm is not the main focus of interest of the composer. In those cases the communication of rhythm is nearly suspended, bringing other musical factors to the fore (such as timbre, texture, serial constructions, and so on). Those suspensions of rhythmic communicability are called very differently: metronomically counted time, indeterminate musical time, serial concept of time, continuum, moment, intuitive space, conceptual field, etc. These manifestations evince the devaluation of the rhythmic communicative potential, which can hardly be accepted as an absolute constant.

While implementing the projection of some particular artistic tasks, the revival of expressive, forceful communication, assertion for performance situation, recognisability as well as turning attention to archetypes seems as an inevitable demand. It should be noted that the archetypical communicability of rhythm is not limited to psychological functions of the consciousness. It is rather a natural given than communication itself as well as it is rather potential than kinetics. Thus the essential feature of archetypical rhythmic communicability is the formation of communication by opposition.

Oppositions in various archetypes of rhythm are manifested in different ways, as follows: by the diminution or augmentation of rhythmic values, by rotating the strong and weak accents, by grouping even and odd meters, by proportioning macro and micro structures.

3. Quaternion of oppositional rhythmic archetypes

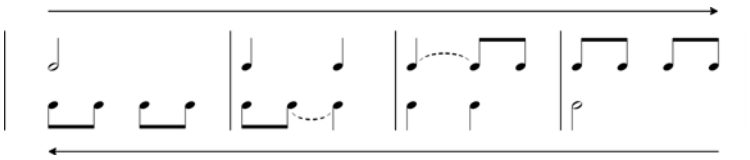
With respect to communicative potentials and nature of rhythm, four oppositional archetypes comprising the systemic quaternion are discerned:

1. Oppositional archetype of diminution/augmentation of rhythmic values.
2. Oppositional archetype of rotating the rhythmic accents.
3. Oppositional archetype of grouping the metrical rhythm.
4. Oppositional archetype of proportioning the rhythmic segments.

Let's discuss each of the oppositional archetypes in more detail.

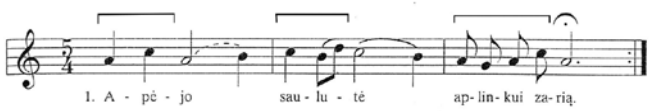
3.1. Oppositional archetype of diminution/augmentation of rhythmic values

This archetype validates all that is related to the sensation of rhythmic pace, rate (density) and tempo. That is realized by shortening or lengthening the rhythmic values. The intense diminution of a long rhythmic value results in the sensation of increasing rate or acceleration. Such a process is usually opposed by the augmentation of rhythmic values, which causes the effect of deceleration, rarefying, and extensive release. The comprehension of the opposition of diminution and augmentation is reinforced by steady repetition of the selected rhythmic values. The oppositions of rhythmic values in Lithuanian monodic and polyphonic folk songs (*sutartinės*) manifest in elementary partitional structures. In Scheme I, we can notice the most common manifestations of rhythmic diminution and augmentation. The half note value is successively being shortened to eighth notes, while the latter, on the contrary, are oppositionally being augmented. The oppositions of rhythmic values, in the broadest sense, determine the sensation of tempo[4]. Firstly, it accelerates (→), later on – decelerates (←).



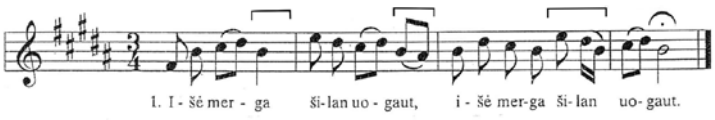
Scheme I

In Lithuanian monodic folk songs, we can find ingenious instances of this particular archetype. In Ex. 1 we see consistently diminishing openings of repetitive motifs, while keeping their constant core. Here, two initial crotchets are diminished to four eighth notes at the end of the melody, while the core of the motif, only slightly varied (♩.♪♩ or ♩.), remains almost stable. In the next instance, the endings of motifs are diminished (Ex. 2). The crotchet, closing the initial motif, is further diminished in the followings measures (♩𝅗𝅥 and ♩♫). Meanwhile, the opening of four eighth notes is maintained stable through all the measures (mm. 1–3). The melody is closed by opposing augmentation (m. 4).



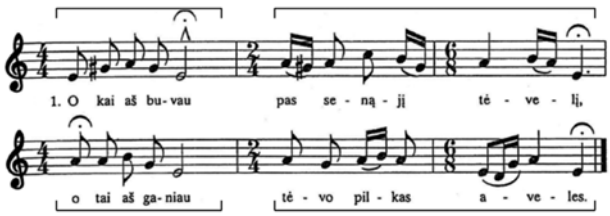
Example 1 (JČ 1)

[4] The concept of tempo here is treated differently from the traditional understanding.



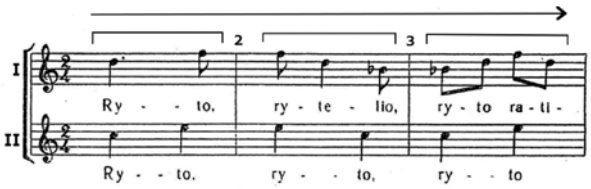
Example 2 (JČ 46)

Oppositional diminutions may interchange, likewise in antiphons (Ex. 3). Here, the first motif (m. 1) is opposed by diminution (mm. 2–3), and further (m. 4 to mm. 5–6).

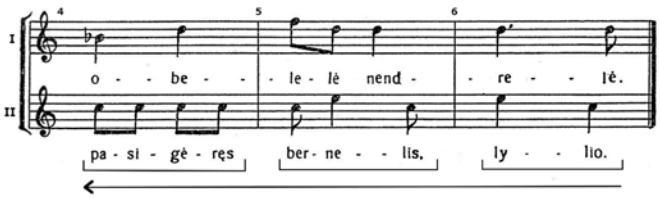


Example 3 (JČ 6)

Original rhythmic diminutions/augmentations are noticed in Lithuanian polyphonic songs *sutartinės*. The process of diminution/augmentation in *sutartinės* may be induced by consistently shortening or lengthening the rhythmic values in particular measures (Ex. 4). In the example, the notes of the first voice are consistently diminished to short values (mm. 1–3), while in the second voice the constant ostinato of crotchets is maintained. In the next instance (Ex. 5), opposition is formed in the contrary way. The rhythmic values of the second voice are augmented from eighth notes to crotchets. Meanwhile, the first voice maintains ostinato of the crotchets in a slightly varied way. It is interesting that both examples of *sutartinės* recombine the diminutions of motifs as well as maintain the stable core.

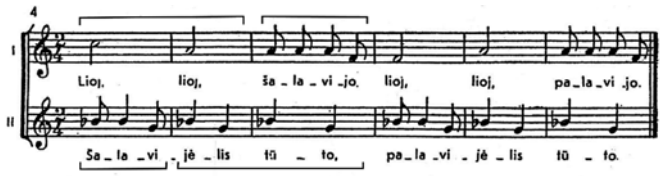


Example 4 (SP 140)



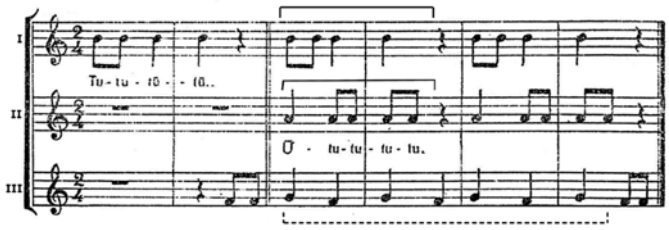
Example 5 (SP 173)

Diminution may appear in separate segments between the voices of *sutartinė* (Ex. 6). In the first voice, the diminution of eighth notes, unexpectedly, is opposing half rhythmic values, whereas the second voice, in a complimentary way, extends the missing links of the consistent process (Ex. 6a). These medium linking elements of the second voice (2 and 3) variably maintain the ostinato pulse of the *sutartinė,* which balances the opposing contrasts of the first voice (1 and 4). Diminution, which provokes the contra-rhythm, presupposes the demand of ostinatic pedal to maintain the pulse (Ex. 7). Contra-rhythm is formed by diminution of the crotchets to eighth notes between different voices (the first and the second). Sounding simultaneously, these voices, within limits of a motif, create a continuous, complimentary texture of eighth notes. The ostinato of crotchets in the third voice ensures the sensation of pulse as well as realizes the idea of the initial motif in the vertical axis of sounding.



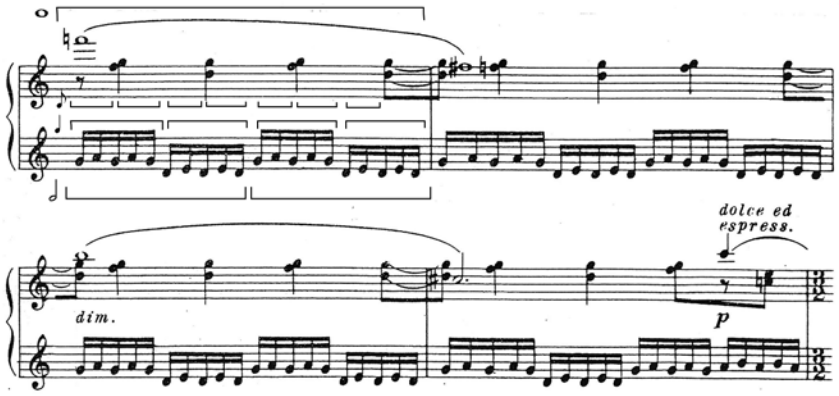
Example 6 (ZS 4, *keturinė*)

Example 6a



Example 7 (SP 45)

Diminutional archetype is also actualized in contemporary music. In the excerpt of Sergei Prokofiev's *Sonata* No. 9 (Ex. 8) the diminution of three different velocities (half notes, crotchets and eighth notes) opposes the augmentation of full values. Besides that, the oppositional impression is reinforced by easily recognizable homophonic texture. The lower layers of this texture evoke the sensation of pulse in contrast to slowly fluctuating rhythmic values in the melody.

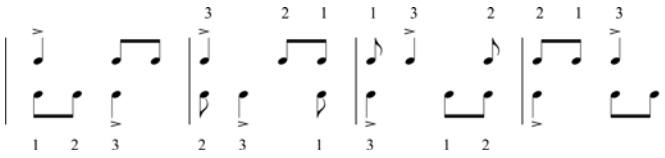


Example 8. Sergei Prokofiev. Sonata No. 9, Mov. 4, mm. 124–127

The analysis of the first archetype shows that the oppositions of acceleration and deceleration are usually accompanied by ostinatic pulse, while repeating one of the elements of diminutional process, for example, medium (Ex. 4–6); slow, varied by interchanging the motifs (Ex. 1, 3); and even the fastest (Ex. 2, 8).

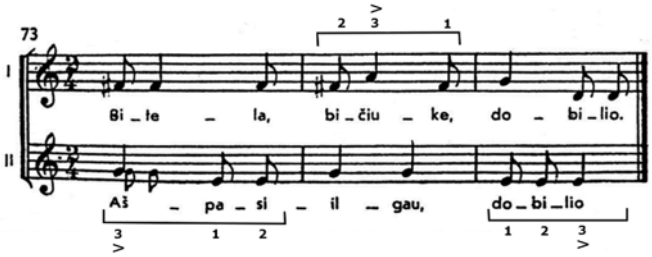
3.2. Oppositional archetype of rotating the rhythmic accents

The emotional experience of the play of rhythmic accents is the essential trait of this archetype. Oppositions are created by rotating the particular figures or re-accentuating the weak metrical beats (Scheme II). We can notice how the accents are repositioned to the ending of the rotating figure, and on the contrary – to the beginning of the rotating figure (rotation: 1–2–3, 2–3–1, 3–2–1). The reposition of accents to the beginning or ending of a figure indicates the oppositions of accents in horizontal sequences. As for the vertical axis, oppositions are formed by re-accentuating the weak beats of a measure.

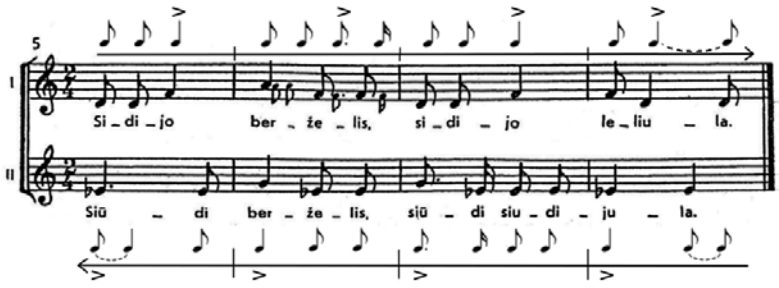


Scheme II

Different instances of accentual oppositions are observed in Lithuanian ethnomusic. Accents are opposed by polarizing different voices of *sutartinės* as well as rotating motivic figures (Ex. 9). Accents, while moving to the ending of a rotated motif, interchange between different voices: the first (**3**–1–2), the second (2–**3**–1), the first (1–2–**3**). Within each measure, the weak metrical beats are re-accentuated. More precisely, in different voices metrical accents are constantly opposed by figural accents of the weak beats. The oppositions of rhythmic accents can consistently be revealed by employing the reverse sequence of rhythmic figures. In the first voice of Ex. 10, the accents of weak beats or figural accents are focused, while the second voice moving in retrograde direction is opposed by accents of strong metrical beats.

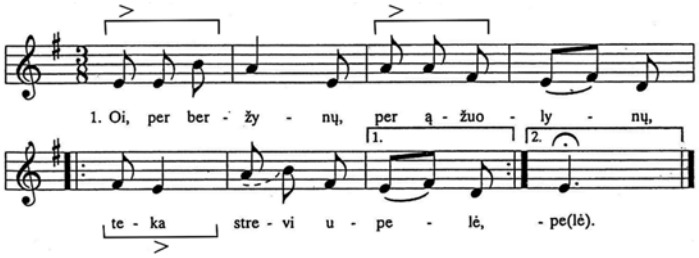


Example 9 (ZS 75, *trejinė*)

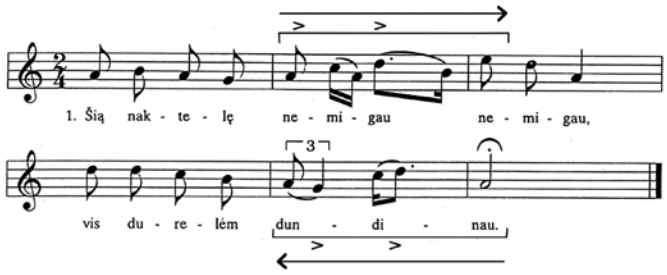


Example 10 (ZS 5, *keturinė*)

In Lithuanian monodic songs, iambic motifs often are opposed to choree, and vice versa. Such accentual oppositions segment monodic phrases. The accents may be polarized at the beginnings of phrases (Ex. 11*)*. In this example, the beginnings of the initial motifs (m. 1, m. 3) are characterized by metric accents of choree nature, while the beginning of the second phrase is re-accentuated in iambic nature. Accentual oppositions may be distributed in a different manner. In Ex. 12, the second measures of phrases, moving towards the end, are opposing by their choree and iambic nature (m. 2, m. 5).

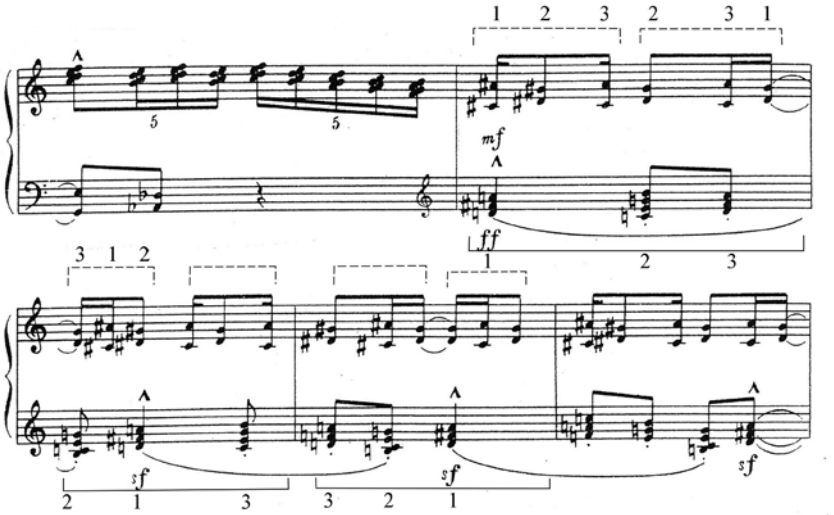


Example 11 (JČ 239)



Example 12 (JČ 224)

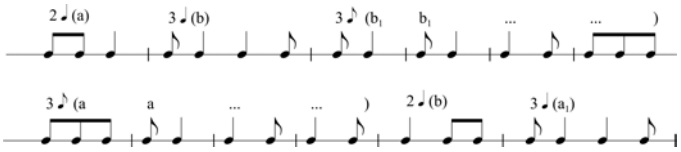
Interesting interpretations of this archetype are found in contemporary music as well. In the excerpt of Charles Ives' music (Ex. 13), we can notice the repositioning of rhythmic accents to the ending of rotated figure (1–2–3, 2–1–3, 3–2–1). The latter is supplemented by double diminution of the rotation in the right hand.



Example 13. Charles Ives. Sonata No. 1, Mov. 4, mm. 47–51

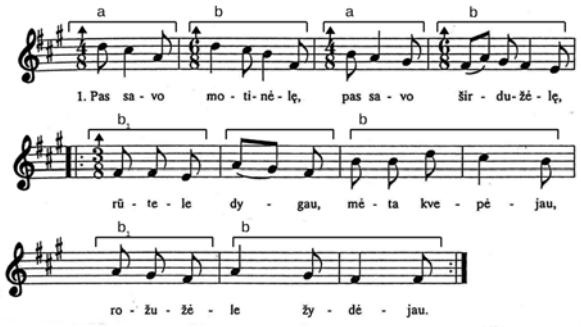
3.3. Oppositional archetype of grouping the metrical rhythm

The nature of this archetype stipulates the perception of the periodicity of rhythmic groups. There are two main cases of such a grouping. Firstly, one group of metrical rhythm may oppose another, depending on whichever outweigh the perception of regularity. For example, the encounter of two different rhythmic groups (of even or odd nature) is followed by a periodic repetition of one of them (Scheme III: a b b_1 b_1*)*. Secondly, while periodically repeating the first group, its opposition may temporarily be inserted (a a a b a_1). To add to this, the first case of grouping stipulates the persistence of periodicity, its consolidation after the encounter of oppositional metres. Meanwhile, the second case shows the overcoming of periodic inertia by temporarily inserting a metrical opposition.



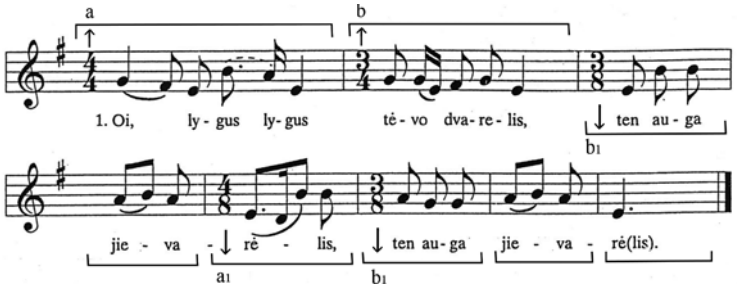
Scheme III

To illustrate the mentioned cases, we will discuss the several examples of Lithuanian folk music. In the first phrase of the Ex. 14 oppositional metrical groups are exposed (a and b: 4 ♪ and 6 ♪). Both groups are tantamount and are repeated. In the second phrase we notice the diminution of the second group (b_1: 3 ♪), which is periodically repeated till the end. This periodicity as well as its consolidation, obviously, is inspired by the encounter of the initial metrical groups. By eliminating the oppositional element (interfered a), the repeated motif (b) acquires the acceleration of impetuousness.



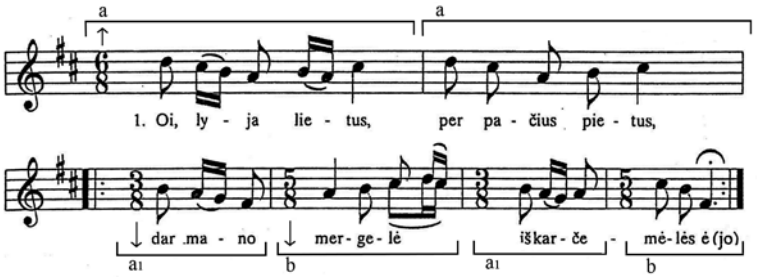
Example 14 (JČ 174)

In a different way, the opposition of periodicity is realized in another monodic song (Ex. 15). In this case, the periodicity for the oppositional metrical groups (a: 4 ♩ and b: 3 ♩) is created by a motif of diminished rhythm (b_1: 3 ♪). The repetition of the latter is interrupted by diminished opposition (a_1: 4 ♪).

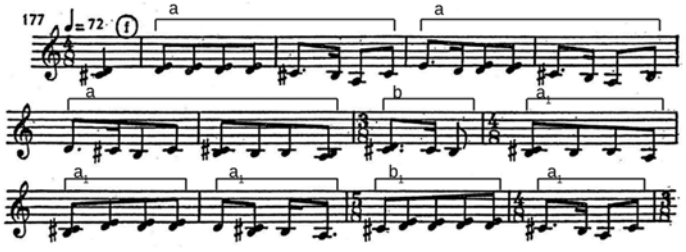


Example 15 (JČ 39)

This instance brings us up to a sort of opposition, when after periodically repeated metrical group, a polar metric motif is inserted (Ex. 16). Thus, after repeating the initial group (a: 6 ♪), diminution follows (a_1: 3 ♪) with an interference of oppositional element (b: 5 ♪). The latter is also repeated. Interference of an opposing element causes the interruption or dissolution of the possibly emerging monotony of periodicity, what preconditions the renewal and continuation of periodicity. Similarly, the established periodicity (Ex. 17, a: 4 ♪) is interfered by oppositional groups: by a shorter one (b: 3 ♪) and by a longer one (b_1: 5 ♪) afterwards. Similar intersections, again, refresh and reinforce the comprehension of periodicity.

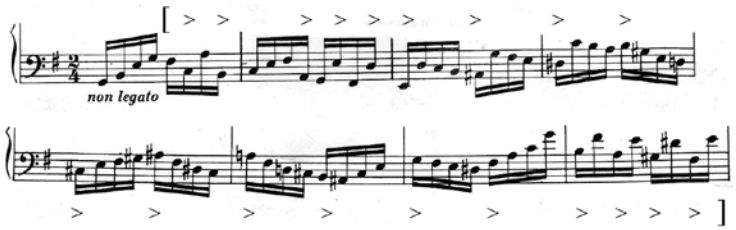


Example 16 (JČ 217)



Example 17 (ZS 177)

The phenomenon of oppositional periodicity is revived by the 20th century composers as well. As for instance, in the excerpt of Igor Stravinsky's *Sonata* (Ex. 18) the ostinatic pattern of sixteenth notes is contrasted regarding the configuration of the passages. Thus in the first two measures the weak beats are accented because of the leaps and, at the same time, opposition is formed to further establishing periodicity of crotchets as well as diminished eighth notes. Hence, we find gradually established periodicity of accented strong beats activated by opposition (interference of accented weak beats).

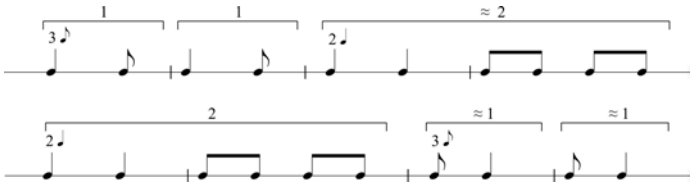


Example 18. Igor Stravinsky. Sonata, Mov. 3, mm. 1–8

3.4. Oppositional archetype of proportioning the rhythmic segments

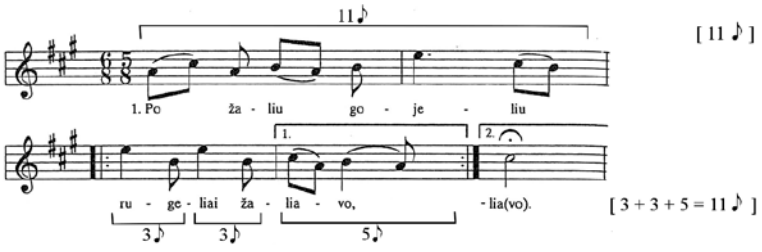
This archetype embraces what relates to the prediction of rhythmic process, which is realised by oppositionally proportioning the rhythmic segments. Typically, it operates in rhythmic sets of different volumes. These may include motifs and sub-motifs, half-phrases and phrases, sentences and periods. Similar structures may be called differently depending on the articulation and other characteristics. Therefore, there are possible variegated names of oppositions: large and small, major and minor, long and short, and so on. The prediction of the rhythmic process could simply be described as anticipation, intuition or demand of the balance between the oppositional formations.

The most basic and obviously prognostic anticipation is invoked 1) by summing up smaller rhythmic segments to larger ones, or 2) vice versa – by opposing the larger rhythmic segments to smaller ones (Scheme IV, 1 + 1 ≈ 2 or 2 ≈ 1 + 1). Prediction of a balance may manifest in oppositionally set out more complex proportional segments, as follows: 3) by surrounding the mid segment; 4) *polarly* proportioning the equal segments; 5) by employing progressions of rhythmic sets; etc.



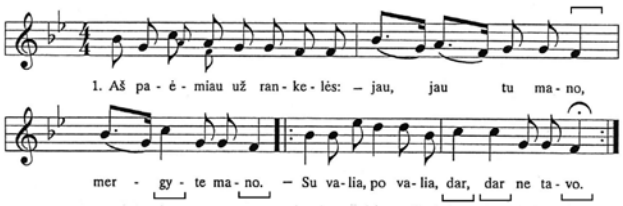
Scheme IV

These cases will be illustrated by examples of Lithuanian ethnomusic. In Ex. 19, the integral two-bar segment is divided into sub-motives (3 ♪ + 3 ♪) in the following bars (mm. 3–4). The latter are summed up (5 ♪). Both the first and the second phrases last for the same time (11 ♪). Thus, divided second phrase, in its total volume, proportionally weighs out the first, and thus balances the monodic line. In turn, the final motif (5 ♪), which opposes the two sub-motifs (m. 3) in its varied volume (6 ♪), balances the second phrase. Thus, in different proportional volumes, different cases of balancing are realized, namely, by division (in the extent of a monodic line), and by summing up (of one phrase).



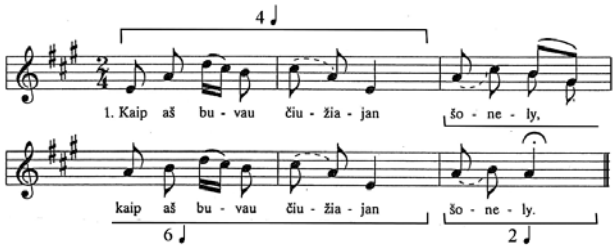
Example 19 (JČ 82)

In Ex. 20, a motif, variably repeated three times, is summed up by two-bar phrase (mm. 4–5). This balance, in addition, is accompanied by gradual augmentation of rhythmic values, at the endings of motifs each time increasing the fourth notes (1, 2, 3 ♩, mm. 2–3, 5).

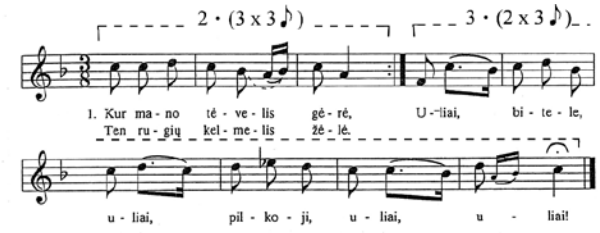


Example 20 (JČ 70)

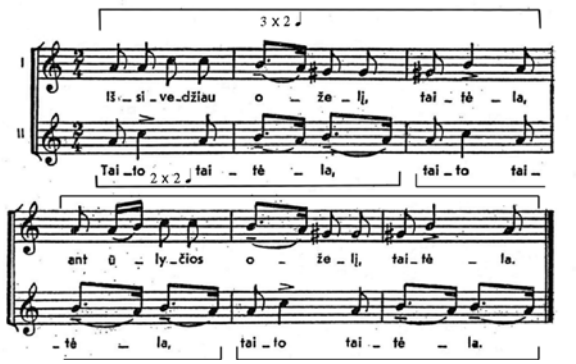
The proportional balance may be anticipated in a different way too. In Ex. 21, segments of different volumes are balancing around medium value. Thus, the initial two-bar motif is prolonged by one bar (2 + 1), later it is shortened (2 – 1). A general count of bars is balanced, which equates to a total of three two-bar repetitions. In Ex. 22, the three-bar phrase repeated two times proportionally opposes the second sentence, constituted of three two-bar motifs. The total volume of the second sentence is equivalent to the first, because both sentences are proportional, counterbalance each other and contain the same amount of bars, i.e. 6 bars for each. We see analogous oppositions in *sutartinės*. For example, two-bar and three-bar motifs sound in different voices in ostinato (Ex. 23).



Example 21 (JČ 43)

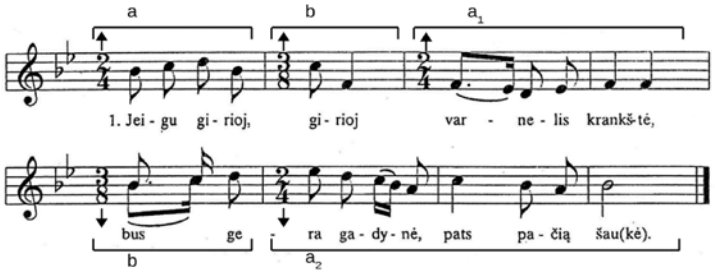


Example 22 (JČ 63)



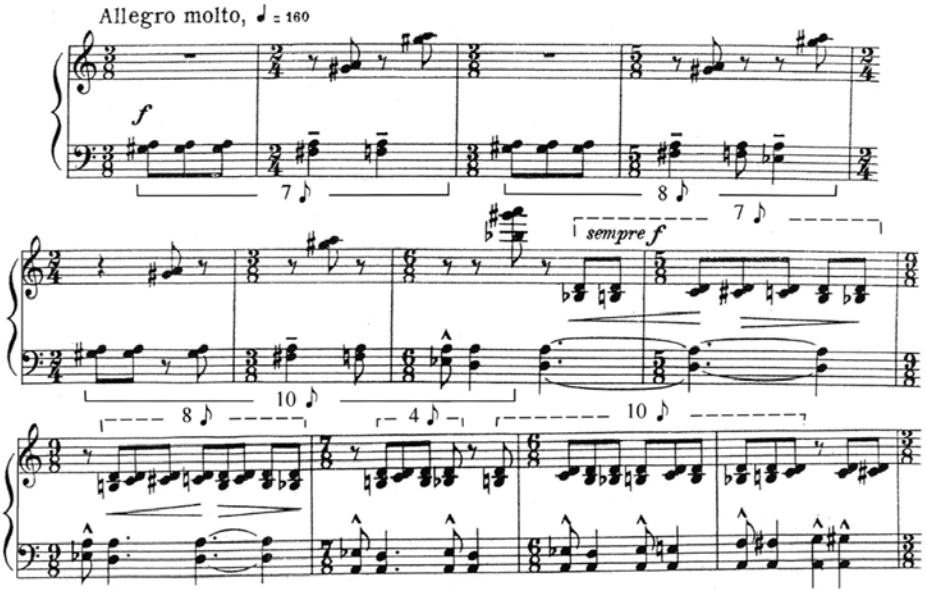
Example 23 (ZS 156, *keturinė*)

We also encounter with the multiple progressive summation of rhythmic segments, thus, with the prolonged realization of the anticipated balance (Ex. 24*)*. Opposite motifs are interchanging here, the second one extends its volume each time (a, a_1, a_2, i.e. 1 x 2 ♩, 2 x 2 ♩, 3 x 2 ♩). Every time the anticipation of the balance is delayed. The last three bars variably sum up all the former segments of the monodic line, and finally balance it.



Example 24 (JČ 151)

We find interesting examples of the proportioning the rhythmic segments in the music of the 20th century. In Béla Bartók's piece (Ex. 25), the motif of the left hand is proportionally brought up to a phrase. The progression is formed: 7–8–10 ♪. Later on, the ostinatic formations of eighth notes in the right hand are proposed, which sum up the collisions of seconds before treated as separate (7 in total). The ostinatic formations, by slightly deviating from the scheme, basically repeat the progressive sequence of values: 7–8–(4)–10 ♪. So, we notice an extended, prolonged realization of the anticipated balance as well as the summing accents of the first phrase implemented by the second phrase.



Example 25. Béla Bartók. *Mikrokosmos,* No. 140, mm. 1–12

Conclusions

The main results of a research are the following:

1. Archetypes constituting quaternion and their communicative possibilities have been explored and identified, such as:

- oppositional archetype of diminution/augmentation of rhythmic values, communicating by the sensation of tempo;
- oppositional archetype of rotating the rhythmic accents, communicating by emotional experience of accents;
- oppositional archetype of grouping the metrical rhythm, communicating by comprehension of regularity;
- oppositional archetype of proportioning the rhythmic segments, communicating by anticipation of proportions.

2. The values of opposing within each of these archetypes have been highlighted:
   - diminution and augmentation of rhythmic values;
   - re-accentuating of rhythmic elements;
   - polarizing the even and odd metres;
   - dividing and summarizing the rhythmic segments.

3. The methodology for systematizing the rhythmic archetypes (quaternization) has been created.

4. Musicological literature regarding quaternions has been comprehensively discussed.

5. Theoretical statements were based on the Lithuanian ethnomusic, namely, on archaic polyphonic (*sutartinės*) and monodic songs.

6. Several manifestations of oppositional rhythmic archetypes in the music of the 20th century's national composers have been analysed, such as works by Prokofiev, Ives, Stravinsky, Bartók.

The main conclusion of this research can be formulated as follows: the quaternion of oppositional rhythmic archetypes is an indispensable stimulus for fostering the national recognisability of music nowadays as well as creating an alternative to the evolving global, indifferent modernism.

References

Ambrazas, Algirdas (1980). *Nuo Carlino iki Rymano.* Vilnius.

Čiurlionytė, Jadvyga (1969). *Lietuvių liaudies dainų melodikos bruožai* (The Feature of the Lithuanian Folk Melodies, in Lith.). Vilnius: Vaga.

Čiurlionytė, Jadvyga (1999). *Lietuvių liaudies melodijos* (The Lithuanian Folk Melodies, in Lith.). Vilnius: Vaga.

Feist, J., Feist, G. J. (2009). *Theories of Personality.* New York: McGraw-Hill.

Gimbutienė, Marija (1994). *Senovinė simbolika lietuvių liaudies mene* (Ancient Symbolics in Lithuanian Art, in Lith.). Vilnius.

Greimas, Algirdas Julius (1989). *Semiotika*: Darbų rinktinė. Sud. R. Pavilionis. Vilnius.

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

Janeliauskas, Rimantas (2003). Teoriniai muzikos komponavimo technikos metmenys (Theoretical Outlines of Music Composing Technique). In: *Muzikos komponavimo principai* (Principles of Music Composing: Between Ethno- and Techno-, vol. II, in Lith.). Vilnius, p. 105–176.

Jung, Carl Gustav (1999). *Psichoanalizė ir filosofija* (rinktinė). Sud. A. Andrijauskas ir A. Rybelis. Vilnius.

Liddell, Henry George & Scott, Robert. A Greek-English Lexicon. http://www.perseus.tufts.edu/hopper/text?doc=Perseus:text:1999.04.0057 [accessed: 2017-12-20].

Paliulis, Stasys (1959). *Lietuvių liaudies instrumentinė muzika* (Lithuanian Traditional Instrumental Music, in Lith.). Vilnius.

Riemann, Hugo (1967). *Musik-Lexikon.* Mainz.

Rosenboom, D. (1990). Extended Musical Interface with the Human Nervous System. In: *Leonardo Monograph,* No. 1. Cambridge, MA: The MIT Press.

Stevens, Anthony (2006). *The Archetypes.* Ed. Papadopoulos, Renos. The Handbook of Jungian Psychology.

Герцман, Евгений (1986). *Античное музыкальное мышление*. Ленинград.

Евдокимова, Юлия (1983). *Многоголосие средневековья. X–XIV века.* Москва.

Когоутек, Ц. (1976). *Техника композиции XX века.* Москва.

Лосев, А. Ф. (1997). *Хаос и структура. Диалектические основы математики.* Москва.

Славюнас, Зенонас (1972). *Сутартинес*: Многоголосные песни литовского народа. Ленинград.

Федотов, В. А. (1985). *Начало западноевропейской полифонии.* Владивосток, с. 17–26, 63–67.

Холопов, Юрий (1988). *Гармония:* Теоретический курс. Москва.

Холопова, Валентина (1971). *Вопросы ритма в творчестве композиторов XX века.* Москва.

Холопова, Валентина (1979). *Фактура:* Очерк. Москва.

Abbreviations

JČ – Čiurlionytė, Jadvyga (1999). *Lietuvių liaudies melodijos* (The Lithuanian Folk Melodies, in Lith.). Vilnius.

SP – Paliulis, Stasys (1959). *Lietuvių liaudies instrumentinė muzika* (Lithuanian Traditional Instrumental Music, in Lith.). Vilnius.

ZS – Славюнас, Зенонас (1972). *Сутартинес*: Многоголосные песни литовского народа. Ленинград.

Opozicinių ritmo archetipų kvaternija remiantis lietuvių etninės ir šiuolaikinės muzikos pavyzdžiais

Santrauka

Opoziciniai ritmo archetipai – saviti muzikos komunikavimo modeliai, patikrinti tradicijos, kaskart atgimstantys ir atsinaujinantys skambesio išraiška. Išskirtinė opozicinių ritmo archetipų savybė – komunikuoti sudarant opozicijas: diminuojant ritmo vertes, rotuojant akcentus, grupuojant metrus ar proporcionuojant ritmo darinius. Pagal tai sudėstoma opozicinių ritmo archetipų kvaternija:

1. Opozicinis ritmo verčių diminavimo archetipas.
2. Opozicinis ritmo akcentų rotavimo archetipas.
3. Opozicinis metrinio ritmo grupavimo archetipas.
4. Opozicinis ritmo darinių proporcionavimo archetipas.

Šios kvaternijos archetipai savo komunikavimo pobūdžiu atliepia recipiento psichines funkcijas (G. Jungas). Tad komunikuojama tempo pojūčiu (1), akcentų išgyvenimu (2), periodiškumo suvokimu (3) bei proporcijų numanymu (4).

Archetipai tiriami remiantis archajiniais lietuvių muzikos pavyzdžiais – sutartinėmis, monodija. Taip pat analizuojama sumoderninta jų raiška šiuolaikinėje muzikoje (S. Prokofjevas, I. Stravinskis, Ch. Ivesas, B. Bartókas).

Pagrindinė tyrimo išvada: opozicinių ritmo archetipų kvaternija turi išliekamąją vertę puoselėjant dabartinės muzikos tautinį atpažįstamumą, komunikabilumą, koncertiškumą ir yra pozityvi atsvara globaliam beveidžiam modernumui.

Bert Van Herck

Pitch and Harmony: A (Rational) Method Based on (Intuitive) Aural Experience

Abstract. Pitch and harmony are difficult topics in contemporary practice. It is a fact that much of the music written today focuses on other parameters such as extended techniques, sound-based structures, textures, gestures, etc. While a lot of innovation is found in these areas, the question of pitch remains even if in the background. All sounds do have some pitch content, so how to deal with pitch? The twentieth century has seen many theories of pitch, starting with dodecaphony, that are highly rational but lack an intuitive aspect. Especially the concept that the horizontal and vertical aspects of pitch are in essence the same is problematic. This is apparent in the Pitch-Class set theory where the voicing of chords is barely discussed. Therefore a new method will be proposed that includes the voicing as part of the identity of the chord. In our perception of harmony, not all frequencies are equal: some seem to reinforce each other, while others clash. The overtone series and the concept of virtual pitch is a good model to clarify this phenomenon, and a theory of consonance and dissonance is consequently developed. Harmonies can be described adequately, in which consonance and dissonance are extremes on a large sliding scale. Some benefits of this new model are: it is applicable for different tuning systems (including various microtonal systems); complex and/or ambiguous chords can be described accurately according to our perception. The theoretical model presented here builds on the work by Célestin Deliège "*L'harmonie atonale: de l'ensemble à l'échelle*" (2001) and Robert Hasegawa "*Tone Representation and Just Intervals in Contemporary Music*" (2006). To clarify this method, two extended examples will be discussed. The first is "*Piano Etude No. 1*" (1999/2003) by Unsuk Chin; the second is "*Feria*" (1995/1997) by Magnus Lindberg.

Keywords: post-tonal harmony, harmony, consonance, dissonance, virtual fundamental, overtone series, Robert Hasegawa, Unsuk Chin, Magnus Lindberg.

1. Introduction

1.1. Harmony in Post-Tonal Music

Harmony is a neglected topic in post-tonal music. Post-tonal harmony is often thought of as avoiding "tonal clichés". This turn away from harmony has resulted in music written with a focus on other parameters. Therefore in the past century, we have seen an increase in rhythmic complexity, a focus on motivic construction, textural composition, extended techniques, and so on. The creative energy in these fields has greatly added to the innovation of new music and brought wonderful new works to the repertoire. While none of these approaches is incompatible with harmonic strategies, often the importance of harmony did move to the background in light of the musical narrative. However it has been observed that each sound has a pitch component, even noise. So perhaps it might be useful to find a way to talk about pitch and especially harmony in post-tonal music.

1.2. A Striking Paradox Regarding Harmonic Language

When the harmonic language of the (tonal) past is concerned it is often stated that the composers used an existing language. This is placed in sharp contrast with the hard task that composers face in the post-tonal era: now composers have to develop a new language, ideally for each and every new piece. This seems a rather blunt statement that needs some nuance. It is a fact that listeners familiar with the so-called standard repertoire can distinguish tonal composers from each other: Bach does not sound as Haydn; Brahms does not sound as Mozart; Beethoven does not sound as Chopin... This is because each of these composers changed, adjusted, and developed the tonal language they inherited.

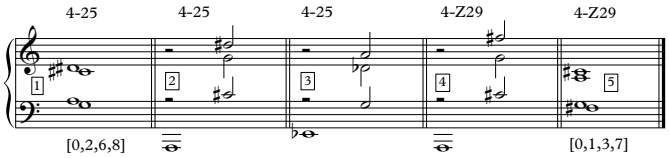
Therefore, the tonal language should be considered as a system that was in continuous evolution where each generation of composers rebuilt part of the tonal language. And if the tonal language was not a fixed system handed down from generation to generation, but a system that was shaped by the composers who used and modified it, then why would there not be some common element in the pitch language today? Indeed, this evolution that we observed in tonal music perhaps did not end with Mahler and Schönberg. Would it be possible to consider that music in the post-tonal era continues an evolution of the pitch language?

Certainly, in post-tonal music this evolution is complicated. In the first place because we do not yet have the historical distance that clarifies common tendencies, but also and importantly because pitch has become so closely interconnected with other parameters by the use of extended techniques, noise, multiphonics, emphasis on textures and gestures, and so on. However, as mentioned already, even noise contains an element of pitch, and if this leads to some kind of common pitch language, it might be useful to discuss the use of harmony in post-tonal music.

2. Analyzing Post-tonal Harmony

2.1. Harmony in the 20th Century

A decisive factor for pitch in the 20th century was Schönberg's claim that harmony was the vertical dimension of melody (and melody being the horizontal dimension of harmony). This claim was the basic assumption for the development of his new dodecaphonic technique. As a result the traditional distinction between melody and harmony has disappeared in most of post-tonal theory. Or put differently, there is no specific theory for harmony any more. Indeed, the most well-known and widespread theory for post-tonal music is the Pitch-Class set theory. This theory has advanced our understanding of non-tonal music in many ways, but it is problematic if the focus is specifically on the harmony. To clarify the problem of the Pitch-Class set theory with harmony, please play the five chords from Example 1.



Example 1. The problem of Pitch-Class sets for understanding Harmony

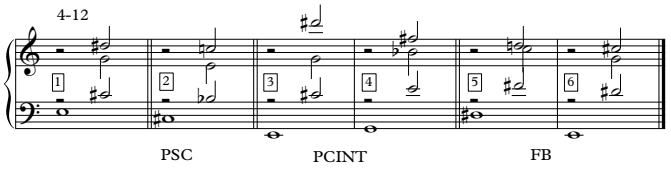
The first three chords belong to the same Pitch-Class set: 4–25 with prime form (0, 2, 6, 8). Yet they do sound very different from a harmonic viewpoint: the first chord sounds rather as a cluster, the second and the third chord are very consonant, each built on a different pitch (the second chord is built on A, the third chord is built on E♭). The last two chords are examples of a different Pitch-Class set: 4–Z29, with prime form (0, 1, 3, 7). Notice how similar the fourth chord sounds to the second chord: they share three pitches, including the bass note. More generally, the three chords in the middle seem to have more in common with each other due to the relative consonance resulting from how the chords are voiced. The difference between the wide voicing of chords 2, 3, and 4 on the one hand and the cluster like chords 1 and 5 on the other hand is more revealing for the harmonic experience than the distinction between the two underlying Pitch-Class sets.

With this example in mind, it is obvious that the Pitch-Class set theory does not deal with the way we perceive harmony. Therefore, for harmonic purposes the Pitch-Class set theory is problematic. While the Pitch-Class set theory is very rational indeed, it does not correspond with our intuition based on our perception of harmony. If harmony is in any way an important factor for the coherence of the music, then we should be able to find a way to express this harmonic coherence in a theoretically different way. That being said, the usefulness of the Pitch-Class set theory is not to be questioned. Much of our understanding of post-tonal music has come indeed from the Pitch-Class set theory. However, for our understanding of harmony we need to find other tools.

2.2. Pitch-Class Set Theory and the Voicing of Chords

In search of other tools, we will start by looking at what is already available for discussing harmony. Important work has been done regarding the voicing of Pitch-Class sets by Robert Morris (1995). Morris proposes three categories: PSC, PCINT, and FB. Each of these categories defines the voicing of chords in more or less restricted ways: PSC is a relation between two chords that are transpositions of each other. They share the same intervals between the corresponding chord tones. PCINT preserves the order of pitch classes from the bass up, with the possibility of having octave transpositions between any two chord-tones. That is, the intervals from bottom up are preserved with the possibility of mod 12. FB stands for figured bass and preserves all intervals related to the bass with mod 12. Therefore the intervals between the chord tones can change because the order of the pitch classes from the bass up can change completely as long as the intervals (with mod 12) in relation to the bass are the same.

These categories are clarified with musical examples in Example 2: Chord 1 is considered the model, therefore Chord 2 is PSC (a transposition of Chord 1); chords 3 and 4 are PCINT (the order of the pitch classes is preserved from the bass up, but with octave displacements); and chords 5 and 6 are FB (the intervals above the bass are preserved with mod 12, but the order of the pitch classes is not).



Example 2. PSC, PCINT, FB – three categories for voicing PC sets by R. Morris

This is certainly a valuable addition to the Pitch-Class set theory; however, Morris is accepting the limitations of the context as set by the Pitch-Class set theory. Two chords that are similar harmonically (for example, chords 2 and 4 in Example 1) are simply different Pitch-Class sets. The similarities he proposes are only within a given Pitch-Class set and harmonic similarities between different Pitch-Class sets are not discussed.

A different perspective on post-tonal harmony comes from Célestin Deliège (2001), who was very critical of the Pitch-Class set theory. When formulating his thoughts on post-tonal harmony, Deliège was also inspired by the concept of the figured bass. But being influenced by spectral music, the intervals above the bass are indicated as overtones of the bass note and not in numbers of semitones. The order of the chord tones is left undetermined in his proposal (similar to the FB category of Morris). Deliège's approach to post-tonal harmony is the result of his critique on the Pitch-Class set theory. He wanted to contribute to the understanding of harmony in a constructive way, attempting to find a way out of the impasse of post-tonal harmony. Deliège found the model of the overtone series a viable method to think about harmony in contrast to the Pitch-Class set theory.

2.3. Harmony and the Concept of Consonance

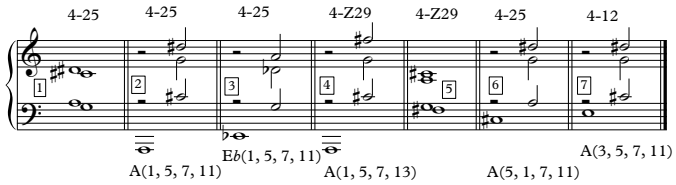
In the search for new tools for analyzing harmony in post-tonal music, we should question what harmony actually is. It seems obvious in tonal repertoire, but for some reason it seems less clear for post-tonal music. The triad is the harmonic reference when thinking of tonal music. Other intervals are melodic, or if placed in a harmonic context they are considered dissonant. This clear distinction is indeed troubled in post-tonal music. All intervals seem to be possible in a harmonic context. So, perhaps the distinction between melodic and harmonic intervals is gone indeed, and Schönberg was right after all.

However, does it not seem strange that our concept of consonance is based on intervals since the beginning of western music in the Middle Ages? Reconsidering the notion of consonance might clarify how the current situation came into being and in particular why the concept of consonance has eroded. Traditionally each interval has a specific quality that results in either consonance, or dissonance. As a first observation, it is perhaps useful to recall that with the development of counterpoint leading to a complex tonal system, the third (and the inversion, the sixth) became consonant. Before that only perfect intervals were considered consonant. Assuming this logic, would a new definition of consonance not be able to place post-tonal music in a new perspective? And a renewed concept of consonance could perhaps make harmony relevant again in the context of post-tonal music.

2.4. Consonance and the Perception of a Virtual Fundamental

Since the groundbreaking work by Hermann von Helmholtz (1875), there has been done a significant amount of research into what consonance actually is and how our perception of sound and consonance works (Terhardt 1984). A key concept for consonance is the virtual fundamental (Parncutt 1988). Pitches are perceived as consonant when they work together to create a virtual fundamental. When pitches compete for different virtual fundamentals we perceive them as dissonant. How does this work? Simply put: if the pitches resemble the structure of the overtone series the lowest pitch of the overtone series is the virtual fundamental. This means that the overtone series is the model for consonance instead of isolated intervals.

Based on this research, Robert Hasegawa (2006) has developed a comprehensive method for analyzing rich and complex chords. Hasegawa clarifies the concept of consonance based on the model of the overtone series. An extremely important aspect is that the voicing of a chord can change everything. This was already demonstrated in Example 1, but here we finally have a model with which we can analyze any given chord. And it needs to be emphasized: the voicing is part of the chord in this method. Hasegawa's analytic description of chords indicates the virtual fundamental of the chord (traditionally called the root) followed by the overtones relating to the chord tones in between brackets.



Example 3. Harmony in relation to Pitch Class sets

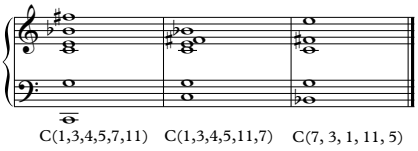
With this in mind we can revisit the chords of the first example. In Example 3, the same chords are analyzed with the method developed by Hasegawa. Now the relationship between the harmonies of chords 2, 3, and 4 is immediately clear. Chords 2 and 3 are transpositions, and chords 2 and 4 are closely connected as they are almost identical: the chord-tone representing overtone 11 is now changed to representing overtone 13. Here we have a method that confirms how we intuitively perceived the chords of example No. 1. To emphasize the contrast, in Example 3 the names of the Pitch-Class sets are indicated above each chord. These labels are unrelated to the aural experience of the harmonies.

In addition, it should be noted that this approach is flexible: the bass note does not need to be the fundamental of the chord as it was the case in the model proposed by Célestin Deliège. See for instance Chord 6 in Example 3, or even more radical: the fundamental does not need to be present in the chord as for example Chord 7 in Example 3.

One small difference in my analytic approach must be noted: where Hasegawa uses the model of the overtone series as a strict and unchangeable order of pitches, I allow for octave transpositions as long as the order of the chord tones is unchanged. This is similar to the flexibility of PCINT described by Morris. An example is found in the analysis of the third chord: E♭ (1, 5, 7, 11) where Hasegawa would have written E♭ (2, 5, 7, 11). In this particular case the difference is small. But it can simplify the numbers, and their reading significantly: for example, chord six would read as A (5, 16, 28, 44) in the strict approach of Hasegawa.

2.5. From Consonance to Dissonance

If the overtone series represents perfect consonance, then any deviation creates some degree of dissonance. With this in mind, the first chord of Example 4 is perfectly consonant. The second chord is less consonant. There are two reasons: the bass note is an octave higher; and the F♯ is placed an octave lower which results in an out of order sequence of the overtones as seen in the analysis. This chord, voiced in a range smaller than two octaves would only be perfectly consonant with fundamental two octaves below the bass note, and is therefore less consonant than the first chord. However, consonance is relative: the second chord is much more consonant than the third chord in which the overtones represented by the chord tones are seemingly completely out of order. From this example, we can state that the more overtones as represented by chord tones are being displaced, the more dissonant the chord will be. Therefore this method is very versatile: it allows for a gradual change from consonance to dissonance in a very controlled manner.



Example 4. Gradually increasing dissonance by adjusting the voicing

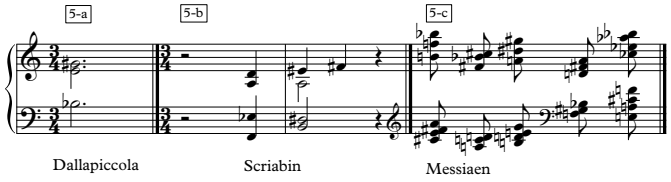
The versatility of this approach does not end here: because chord tones represent overtones, there is inevitably some adjustment of intonation needed: the overtones do not fit perfectly in a 12-tone equal temperament scale; chord-tones represent the nearest overtone. Using quarter tones, the adjustment needed is smaller and the chord-tones representing overtones can be more accurate. Therefore it is clear that by using the overtone series one can adjust to any given tone system from 12-tone equal temperament to just intonation. It is one of the strengths of this method that chords including any kind of microtones can be analyzed. An example of this can be found in Hasegawa's article, with the analysis of three chords from Vortex Temporum by Gérard Grisey that include quarter tones.

2.6. A Gradual Scale

How useful is this model of consonance for post-tonal harmony? Certainly it does take the spacing of chords into account, and it gives an understanding of how the voicing affects the consonance/dissonance of a chord. But the consequence is that consonance and dissonance are not mutually exclusive as it used to be when the concept of consonance was based solely on intervals: now there is a long scale between consonance and many different forms of dissonance from mild to harsh. This difference between either consonance or dissonance on the one hand, and the new model with a variety of shades from consonance to different intensities of dissonance on the other hand should not be underestimated. In post-tonal music consonance is often a question of more or less consonance in a given context instead of an intrinsic and absolute value of a chord regardless of the context. Perhaps this situation is not as easy as in the (tonal) past, but it allows for more nuances and reflects the variety and richness of post-tonal harmony as it occurs in the music.

2.7. Ambiguous Chords

Since the context is important for understanding the consonance of a chord, it is important to discuss how the analysis itself could be ambiguous. Example 5-a shows a chord that is taken from Measure 3 out of "Quartina" from Luigi Dallapiccola's "Quaderno musicale di Annalibera" (1952) (the melody is left out). This chord can be analyzed in at least four different ways: E (11, 1, 5); B♭ (1, 11, 7); F♯ (5, 7, 9); C (7, 5, 13). Playing the different fundamentals in the low register below the same chord, places this chord each time in a new perspective. This multiplicity of possible viewpoints is one of the interests of post-tonal harmony. The composer can play with the difference between chords with a strong fundamental versus chords where the fundamental is ambiguous. Or one can imagine the same chord being placed in different harmonic contexts. For example this chord in a context of E would be consonant, but the same chord in a different context for example C or even more extreme A would sound quite different. In this way the same chord can receive different meanings depending on the harmonic context.



Example 5. Analyzing ambiguous chords

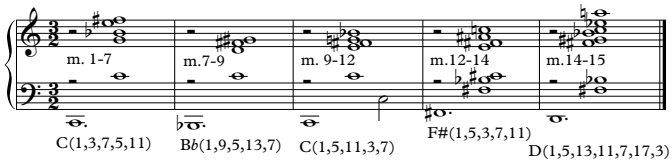
The chord progression in Example 5-b is a reduction of the two opening chords of Schriabin's prelude Op. 48 No. 1 (1905). What Scriabin does, is what was implicit in the chord from Dallapiccola discussed above. The triton E♭-A (enharmonically respelled as D♯-A) is first in the context of F and immediately afterward in the context of B. The two chords can be analyzed as F (1, 7, 10, 13) followed by B (1, 5, 7, 11, 12). Notice that in addition to the two common tones the F is also enharmonically respelled as E♯, albeit in a very different register. From a harmonic viewpoint Scriabin plays here with the possibility of creating a different harmonic context for a few pitches that are held as common tones between two chords. Scriabin uses this harmonic strategy relatively frequent, in particular in his later works.

Example 5-c shows Measure 7 of Messiaen's "Le rouge gorge" from "Petites esquisses d'oiseaux" (1985). These five chords can be analyzed as follows: A (5, 6, 13+, 8, 9, 13-, 17); D (6, 7, 8, 10, 13, 15); G (5, 6, 13+, 8, 9, 13-, 17); B♭ (6, 7, 8, 10, 13, 15); A (3, 4, 5, 13-, 9, 11, 15, 17). These chords are more complex due to the number of chord tones involved and due to the higher partials that are represented by the chord tones as shown in the analysis. This can lead to another kind of ambiguity: instead of one virtual fundamental for a chord, there can be multiple fundamentals. This tension between the two analytic approaches creates a different kind of ambiguity. In the five-chord sequence, chords 1 and 3 are transpositions, as well as chords 2 and 4. Let us have a closer look at chord four. Instead of the analysis given above, it is also possible to consider the following analysis: B♭ (6, 7, 8, 10) and D (1, 5, 3) with the D being a common tone between the two. It seems plausible to hear this chord with the B♭ as fundamental and some colorful extensions in the higher parts. But it seems equally possible to hear this chord with a B♭ as fundamental together with a D major triad on top.

A similar analysis can be given for the last chord: A (3, 4, 5) for the lowest three pitches and then with the C♯ as common tone C♯ (1, 5, 7, 9, 3, 13). It seems less important to find the "correct" analysis but rather to find multiple perspectives on how the harmony can be perceived and how the composer uses these aspects, or not.

2.8. Harmonic Consonance in Unsuk Chin's "Piano Etude No. 1"

The first piano etude by Unsuk Chin is titled "In C" (1999/2003). In this composition she controls the harmony to create a clear sense of harmonic tension. Example 6 shows a harmonic reduction of measures 1–15. In this reduction the bass notes are given together with the prominent notes in the middle register. The high register has been omitted as these pitches have less impact on the harmony.



Example 6. Harmonic Reduction of Piano Etude No. 1 "In C" (m. 1–15) by Unsuk Chin

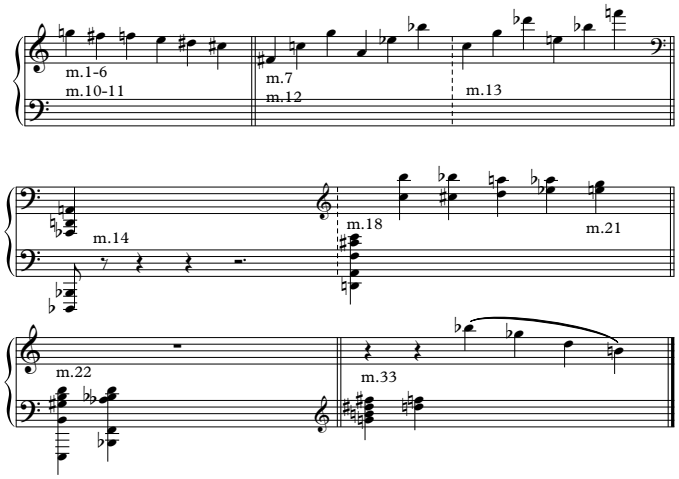
This composition begins very consonant with the overtone series on C prominently present. In measures 7–9 the harmony shifts to B♭ almost as a neighbor motion returning to C in Measure 9. Notice that in this harmonic shift the middle C and the F♯ above are kept in common. Alternatively measures 7–9 can be analyzed as C (7, 1, 9, 11, 13). This analysis is more dissonant than having the B♭ as fundamental, however keeping the C as fundamental stresses the continuity with the preceding and following harmonies. This double analysis is not a problem but a sign of the harmonic richness of this passage. The analysis in Example 6 stresses the autonomy of the harmony, mostly because it is sustained for some time. When the music returns to C (or continues?) in Measure 9, the chord is slightly less consonant compared to the first measures because the pitches are closer together. However Measure 9 is more consonant than the preceding harmony with the B♭ in the bass. This principle has been discussed in Example 4. Compare in particular chords 1, 2, and 3 of Example 4 with the first, third, and second chord respectively of the harmonic reduction in Example 6. Since the F♯ (in measures 9–12) is placed too low in reference to the overtone series, the harmony is less consonant than at the beginning. Next, in Measure 12 the harmony shifts to F♯. Again, the change of harmony is realized with several common tones: notice middle C, E, and F♯. Even though the harmonies become gradually more dissonant, the harmony on F♯ is still relatively consonant (the awkward spelling comes from melodic considerations in the score) with the lower partials voiced in the lower register. Before the pause in Measure 15, the harmony shifts to D. The principle of common tones is still at work; however the harmony is definitely more dissonant with the augmented triad prominently in the lower register and mostly whole tones that define the sonority above the augmented triad. On top is a diminished triad with A as the highest pitch. And while A is very consonant in D, here it is ambiguous due to the dissonance with the whole tones just an octave below.

The harmonic trajectory from the beginning until Measure 15 is a beautifully controlled gradual increase of harmonic dissonance. This composition is an ideal example for our harmonic method and it seems that Unsuk Chin must have had the idea of consonance and the overtone series in mind while composing this etude.

2.9. Magnus Lindberg: A Clash of Systems

Magnus Lindberg uses pitch structures by using the Pitch-Class set theory, and simultaneously he has integrated a strong sense of harmony from spectral music. Perhaps it seems as if these two approaches cannot coexist. Lindberg certainly is interested to let both worlds clash into each other, but he is equally able to let both worlds merge into rich sonorous chords. As a matter of fact, the harmonic approach discussed here does not exclude the Pitch-Class set theory. If the pitches are controlled by the Pitch-Class set theory while the harmonies are controlled – especially the voicing – by the principles of the overtone series, then both systems can work together.

In Example 7 a harmonic reduction is given of measures 1–33 of "Feria" (1995/1997). Lindberg achieves a balance between music that has a harmonic focus and music that is not primarily harmonic in nature. The opening measures result in a cluster, initiated by the melody in the trumpet. A sense of harmony is absent in these measures. This cluster is followed by (and alternated with) a motivic component in Measure 7 (and later 12–13). While the emphasis of the motive is melodic, these passages have a stronger harmonic profile because they can be considered broken chords. The chord on the downbeat of Measure 14 has a strong harmonic impact. Yet it has the same intervallic structure as the preceding measures. The triton A♭-D has a perfect fifth above with the A (similar to the two figures in Measure 12), and a perfect fifth below with the D♭ (similar to the first figure in Measure 13). To this symmetrical chord Lindberg has added a B♭. Only three pitches are



Example 7. Harmonic Reduction of "Feria" (m. 1–33) by Magnus Lindberg

sustained, being a transposition of the motivic figure in measures 7 and 12 (A♭-D-A). However, in this case, due to the low register and the long duration the impact is harmonic instead of motivic. These three pitches can be analyzed as D (11, 1, 3) which is rather dissonant. The transition into the following chord (in Measure 18) is very gradual and smooth, probably because the fundamental is kept the same: D (1, 3, 5m, 15, 9). This chord is voiced in a very consonant way with the triad in the lower register covering more than an octave; the dissonant partials 15 and 9 are in the middle register close together. It should be noted that the 5th partial is represented here as a minor third above the bass, hence "5m" in the analysis. From the clash in Measure 14, Lindberg has brought the music to a beautiful radiant (and relatively consonant) sonority in Measure 18. Immediately after, in the upper registers a cluster is being formed leading to the first climax in Measure 22 built on two harmonic centers: E and B♭. This is shown for clarity in the analysis but the music does not sound bi-tonal. The four lowest pitches form a symmetrical chord with the same motives from measures 12–13, but now the perfect fifth is in the middle with a triton below and above (E-B♭-F-B). Where in Measure 14 the symmetrical chord was only partially sustained (with one harmonic center), here in Measure 22 the symmetrical chord is completely sustained with in addition the reinforcement of both tonal centers in the upper chord tones. The wild orchestral chaos is the result of many parameters, but certainly the harmony supports this outburst. Gradually the music turns to a calm, more introvert moment with a chamber music like setting. While this sounds relatively consonant with the superimposition of thirds, there is an interesting aspect of symmetry here as well: the melody that follows is the inversion of the chord that forms the accompaniment. This is a procedure that stems from serial practices rather than harmonic principles.

Hopefully, this short analysis shows how harmony is at work in the music of Magnus Lindberg. Rarely music is only about harmony, and Lindberg uses elements from the Pitch-Class set theory in his compositional method. The focus on harmony in some places and the (temporarily) focus on other aspects of pitch should not be considered a flaw, but rather a sign of compositional variety.

3. Conclusion: Harmony in Context

The two examples by Lindberg and Chin have hopefully been clarifying. With this in mind we should go back to the importance of the context for harmonic consonance. The wide variety of possibilities to create harmony of different gradations of dissonance all the way into consonance is opening new compositional perspectives. But from a theoretical perspective it can be troubling that each composer (or even each composition) can have vastly different chords acting as "consonance". This requires a familiarity with the musical work before an adequate analysis can be made. One should develop a sense of what is specific and then the analysis can find out how this works technically. Discovering a work in this manner and learning a composer's musical language is an investment of time, however not necessarily unlike studying tonal repertoire from the past.

While this article is about harmony and how harmony can be an important factor in post-tonal composition, a complete analysis of a musical work should investigate the music from different perspectives. As stated at the beginning of this article, the musical narrative in post-tonal music can be built on many different parameters

of which harmony is only one. Some composers do not focus on harmony, which does not mean that their pitches are randomly chosen, only that the focus of their music is elsewhere. For example rhythm is often the focus in minimal music; and a focus on sound can be achieved by using extended techniques. Therefore the relevance of harmony will vary for different composers. This is a richness of our time, and it means that the harmonic aspect is not necessarily the primordial aspect for musical coherence as it used to be in the past. However, it is my hope that this article has offered a method for investigating harmony, that is the vertical pitch component in post-tonal music.

References

Deliège, Célestin (2001). L'harmonie atonale: de l'ensemble à l'échelle [Atonal Harmony: from PC Sets to the Overtone Series]. In: *Musique contemporaine – Perspectives théoriques et philosophiques* [Contemporary Music – Theoretical and Philosophical Perspectives]: 85–108; Sprimont, Belgium: Pierre Mardaga.

Hasegawa, Robert (2006). Tone representation and just intervals in contemporary music. In: *Contemporary Music Review*, 25:3: 263–281.

Helmholtz, Hermann von (1875). *On the Sensations of Tone as a Physiological Basis for the Theory of Music*. London, Longmans, Green and Co, translated by Alexander J. Ellis.

Morris, Robert (1995). Equivalence and Similarity in Pitch and Their Interaction with PCSet Theory. In: *Journal of Music Theory,* Vol. 39, No. 2: 207–243.

Parncutt, Richard (1988). Revision of Terhardt's Psychoacoustical Model of the Root(s) of a Musical Chord. In: *Music Perception,* 6: 65–94.

Terhardt, Ernst (1984). The concept of Musical Consonance: A Link between Music and Psychoacoustics. In: *Music Perception: and Interdisciplinary Journal,* Vol. 1, No. 3: 276–295.

Garso aukštis ir harmonija: racionalus metodas, paremtas intuityvia girdimąja patirtimi

Santrauka

Garso aukštis ir harmonija yra probleminiai šiuolaikinės muzikos praktikos aspektai, tad būtų daug lengviau nurašyti juos kaip tam tikras atgyvenas. Akivaizdu, kad didžioji dalis šiais laikais rašomos muzikos koncentruojasi į kitus parametrus, tokius kaip išplėstinė technika, triukšmas, aleatorinės sistemos, garso artikuliacija grįstos struktūros, faktūros, gestai ir t. t. Šiose srityse matome daugybę naujovių, o garso aukščio klausimai lieka kone antrame plane. Vis dėlto visi garsai pasižymi tam tikra garso aukščio kokybe, kartais silpnai išreikšta, kartais kombinuota su triukšmu, bet tono egzistavimas yra sunkiai paneigiamas. Tad kaip traktuoti garso aukštį ir harmoniją kompoziciniu aspektu?

XX a. atsirado daug garso aukščio teorijų, pradedant dodekafonija, kuri yra ypač racionali. Sudėtingos garso aukščio struktūros dažnai sunkiai siejasi su mūsų girdimąja harmonijos patirtimi. Netikslu manyti, kad horizontalios (t. y. melodinės) ir vertikalios (t. y. harmoninės) garso aukščio struktūros iš esmės yra tapačios. Tai akivaizdu, pavyzdžiui, setų teorijos atveju, kur akordų balsavada yra beveik negvildenama. Taigi šiame straipsnyje siūloma integruoti *intuitio* ir *ratio* pagal harmonijos principą, kai balsavada yra neatsiejama akordų charakteristikos dalis.

Išeities tašku tampa garso aukščio percepcija. Čia turime pasitelkti racionalų paaiškinimą: harmonijos suvokimo ypatybė yra ta, kad ne visus vienu metu skambančius garsus girdime vienodai – kai kurie iš jų sustiprina vieni kitus, kiti tarpusavyje disonuoja („susidaužia"). Obertonų spektras ir virtualus fundamentinis tonas yra parankus modelis, paaiškinantis šį fenomeną; jis padeda suformuluoti konsonanso ir disonanso teoriją. Kompleksiniai akordai, kurių tęstinės skalės priešinguose poliuose yra konsonanso ir disonanso kraštutinybės, gali būti adekvačiai charakterizuoti.

Minėtas teorinis modelis remiasi kitų tyrėjų darbais, tokiais kaip Célestin Deliège *L'harmonie atonale: de l'ensemble à l'échelle* ir Roberto Hasegawos *Tone Representation and Just Intervals in Contemporary Music*. Jis gali būti parankus įvairioms derinimo sistemoms (tarp jų ir mikrotoninėms); kompleksiniai ir/ar dviprasmiai akordai gali būti charakterizuojami pagal percepcijos dėsnius. Šį modelį galima taikyti intuityviai (remiantis klausa) ar realizuoti naudojantis programine įranga (pvz., *Open Music*). Modelį iliustruoja išsamiai išnagrinėti du muzikos pavyzdžiai: Unsuk Chin *Piano Etude No. 1* (1999–2003) ir Magnuso Lindbergo *Feria* (1995–1997).

Percepcijos principais grįstas metodas leidžia laisvai plėtoti muzikinę mintį: tiek intuityviai, tiek ir racionaliai. Nors įtampa tarp šių dviejų sferų gali ir neišnykti, tačiau jos gali būti derinamos, kadangi tiek intuityvi, tiek racionali plotmės yra skirtingi vienos sistemos aspektai ir apeliuoja tiek į loginį paaiškinimą, tiek ir į tiesioginę girdimąją patirtį.

Manos Panayiotakis

From Massive Clouds to C major: Aspects of Tension and Release in Krzysztof Penderecki's *Polymorphia*

Abstract. Since the beginning of the 20th century, the gradual decline in the domination of the Tonal System promoted intense artistic research by composers, in their attempt to find innovative methods to create levels of tension and release, along with new ways of tension fluctuation and interaction in the context of a music form. Initially, tonal relationships of the cycle of fifths, the extended functional harmony and the super-chromaticism are "replaced" by new, previously unheard, interactive cores of tension and release, the creation of which is prominently based on the motif structure and the relevant melodic and harmonic intervallic ratios. After being systemised by the Second Viennese School and later by the integral serialism composers, this primary idea led to the development of numerous creative disputes and, ultimately, of new perceptions and fresh aesthetic trajectories in the matter of alternating the tension within a music work. Many composers of the late 1950s generation utilised methods diametrically opposed to the rationalism of integral serialism, in order to achieve sonic tension and release, through intuitively organised sound clouds and textures. Looking indicatively at Iannis Xenakis' article "The crisis of serial music", a collective quest for alternative methods of tension organisation can be noticed within a whole generation of composers. This quest generates numerous technical, musicological, psychoacoustic and philosophical extensions, some of which will be presented and further discussed in the present paper, on the occasion of Penderecki's *Polymorphia*. In summary, driven by the unexpected concluding C major chord of *Polymorphia*, the following points are examined in this paper: 1) the C major triad as a link between the compositional thinking of the distant past and the contemporary era; 2) micro- and macro-structural examination of specific extracts of tension and release within this particular work; 3) the relative perception and individual interpretation of tension and release within a music work.

Keywords: Penderecki, polymorphia, tension, release, sound masses, tonic, dominant.

Krzysztof Penderecki composed his *Polymorphia* for Strings in 1961, in a period where a new compositional style was introduced, characterised by the use of sound masses as primary musical material. The harmonic density generated by the formation of the intervals becomes the primary sonic material to be shaped and elaborated, as well as to establish the overall structure of the work. According to this specific compositional language, each of the acoustic phenomena is perceived as a geometrical sound shape, determined by parameters such as length and width (Mirka 2014). Along with the monumental *Threnody for the victims of Hiroshima* for 52 strings, composed one year later, *Polymorphia* is one of the most representative examples of Penderecki's compositional style during the early sixties. As it is widely known, the abstractly-ternary A-B-A_1 structure of *Polymorphia* is based on the fluctuations of massive string-sound clouds which are finally released into an non expectable C major triad. This specific ending is often interpreted as an ironic reference to the past, since tonality used to be more than a forbidden fruit for contemporary composers during the fifties and later (Bernard 1999).

Thus, the choice of *Polymorphia* as a focus point of this paper was not a result of random selection. The characteristic finale of the work triggers a whole discussion on what tension and release actually are and how those levels are perceived in a non-tonal sonic environment. Before getting deeper into specific extracts from *Polymorphia*, the following table includes some of the common ways, utilised by composers in different historical eras and styles, in order to achieve a satisfactory release of tensive sonorities:

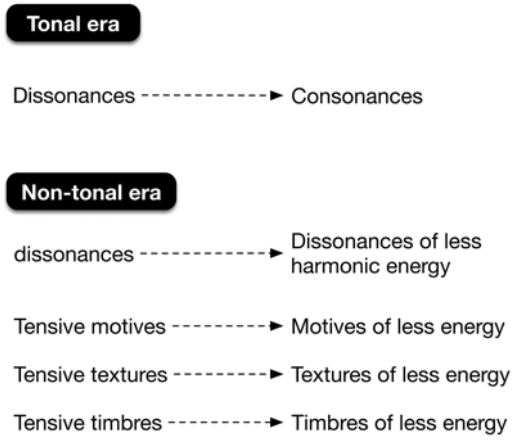


Figure 1. Ways of Resolution

From the earliest found music fragments, such as the Seikilos' *Epitaph*, dated between 200 BC and 100 AD, levels of tension and release can be clearly perceived through the development of the melodic line, powerfully supporting the meaning of the text. For example, the first phrase of the *Epitaph* has its peak on the respective European pitch E, which appears above the most important words: *ζῆς* (Eng. live) and *φαίνου* (Eng. be light-hearted)[1]. From the very beginning, tension is achieved with a skip of the perfect fifth (European respective pitches A-E) leading to the repetition of the pitch E, thus representing the duration and the importance of the meaning of life, exactly as the text describes in this specific phrase. Immediately after, the same peak point is utilised again, this time being approached by two ascending steps (from respective pitches C sharp to D and E), which set to music the second important word of the phrase, *φαίνου*. Finally, the initial skip to pitch E is released by a step to the opposite direction:

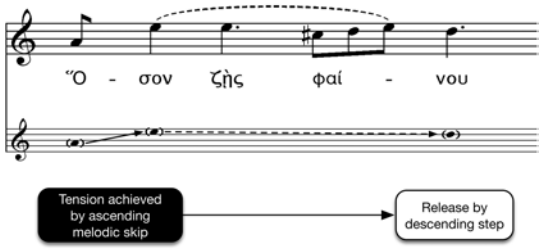


Figure 2. Seikilos' *Epitaph*

At this point, it should be highlighted that the act of using a contrary direction step in order to balance the tension generated through a melodic skip, appears to be a common compositional practice followed later in the centuries, during the Renaissance, often taught as a stylistic rule for the 16th century's modal counterpoint:

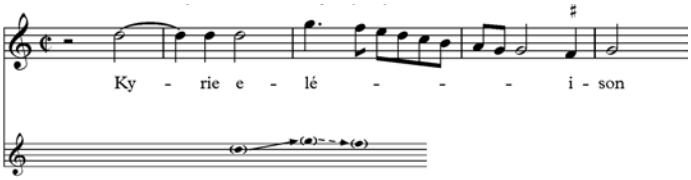


Figure 3. Palestrina, *Pope Marcellus Mass* (Kyrie)

In Tonality, dissonances search for resolution in consonances. On the contrary, in most of the non-tonal contemporary styles, resolution is often achieved by fluctuation of the energy of a music passage. Thus, dissonances are often released into either consonances or dissonances of less energy, a common practice followed by the dodecaphonists. In the same way, tensive motifs are released into motifs of less energy, as it happens, for example, in most of Steve Reich's counterpoints. Tensive timbres are released into timbres of less energy, stating Helmut Lachenmann or Salvatore Sciarrino as representative composers. Finally, tensive textures are released into textures of lesser density. Here, composers who wrote music using masses of sounds, such as Penderecki, Lutosławski, Ligeti, Xenakis and others should be included.

Based on the overall structure of *Polymorphia*, the following types of tension can be identified and analysed later on:

Types of tension in Polymorphia:

Tension caused by:

1) Duration of sound
2) Textural density
3) Rhythmical mobility
4) Dynamics
5) Register

Figure 4. *Polymorphia's* types of tension

[1] See Burkholder, J. Peter, and Claude V. Palisca (2014). *Norton anthology of Western music* (Volume 1).

In addition, there are many passages which can be characterised as temporary tension, which are interpreted as release due to immediate change into more tensive parts. Consequently, there are numerous cases where tension or release is perceived as such due to interaction with the following sonority. If a passage which implies tension is followed by an even more tensive sonority, then the first is almost automatically perceived as release. On the contrary, if a less tensive sonority appears after the first – seemingly tensive – passage, then the perception of the initial tension is verified.

In the first category, "tension by duration", a reference to the first five bars at the very beginning of the work will be made. The texture of this particular passage consists of a static unison in a very low dynamic level (*pianississimo*). Thus, for seventy-six seconds, Penderecki builds a loose texture, where all its characteristics seem to create an impression of release at first sight. Even when the first canonic *glissandi* appear to change the textural range from a single pitch C to the harmonic interval D quarter-tone sharp-F sharp (fourth bar of the work), none of the other components of the passage seems to introduce any notable change to the overall tension. However, this particular sonic event lasts for enough time to develop an intensive waiting for what might possibly follow. Hence, a static texture like this, bears a strong tension due to its relatively long duration[2]. Here, it should be noted that the duration of a sonic event is often a parameter of high importance, as a factor which raises the initial tension of the specific sonority. A sound which is sustained, after some seconds, begins to unsettle the receiver's waiting, thus intuitively triggering the wondering of what might follow. The greater the waiting, the more tensive a sustained sonority is perceived as such.

Another notable example, which provides a double tensional identity can be extracted from the violins part in the twenty-forth bar of *Polymorphia*. Here, the *legno battuto* undoubtedly functions as a release point to the previous massive glissandi-texture, creating also a timbral contrast between metallic (*arco/normale*) and wooden (*arco/col legno battuto*) timbres (Mirka 2003). Nevertheless, the kinetic character of this new part, which occurs due to its prolonged duration, implies a gradually built tension, formed by persistent rhythmical patterns which are generated by the rapid, irregular repetition of this percussive idea. Therefore, this, initially "quiet", pointillist idea, due to its very complicated rhythm, soon enough becomes adequately tensive and it is progressively spread to all the instrumental groups, covering a major part of the string orchestral range. Along these lines, the sounds starting from bar twenty-four may initially be perceived as release, compared with the previous very tensive harmonic surface.

These two distinct textures could be optically illustrated by two square geometrical shapes In order to express the degree of density for each harmonic texture. The first square could be represented with a solid colour, which depicts the high density of the massive harmonic texture established during bars 11 to 24. On the contrary, the pointillist *legno battuto* texture in bars 24 to 32 could be illustrated as the same geometrical shape, filled with irregular, dot-like micro-elements. The formation of the dots and the gaps that are created, represents the intense rhythmical mobility of this second texture. A subtraction between the two shapes returns a visualisation of the difference between the two levels of tension, achieved during these utterly distinct passages.

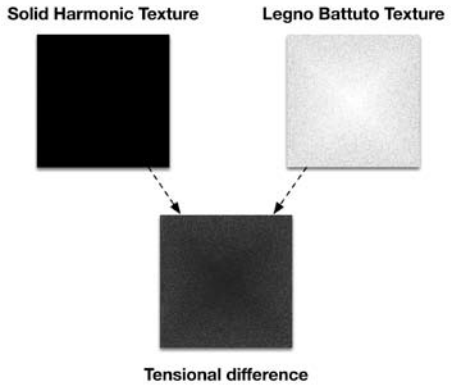


Figure 5. Visualisation of tensional difference (bars 11–24)

[2] See Penderecki, Krzysztof (1963). *Polymorphia* für 48 Streichinstrumente [*Polymorphia* for 48 stringed instruments]. Celle: H. Moeck Verlag.

The texture of bars 24 to 32, described above as pointillist, offers the compositional advantage of rhythmical mobility. The continuous feedback of this specific texture increases the auditor's waiting to a degree even higher than the one generated from the sustained sounds, which were discussed previously.

Then, from Bar 33, the rapid repetition of the *pizzicato* highest possible pitch by the violins, creates an energetic rhythmical surface which appears to be a canvas for the development of a pivot passage, leading to Bar 37, where a new part of the work begins. Inside this sonic environment, Penderecki creates a second kinetic layer by placing irregularly distributed *sforzando* chords. This sequence of sound events decisively develops a tensional crescendo, supported by the rhythm of the passage and the high dynamic points. It is worth mentioning that this rhythmical idea consists of two different sub-layers. The string ensemble is divided into two groups. The first includes violins 1 to 4, violas 1 to 4 and violoncellos 1 to 4 and generates the primary rhythmical layer of the passage. The second group includes violins 5 to 8, violoncellos 5 to 8 and double-basses 5 to 8, missing the violas. This second group functions more as a secondary rhythmic sub-layer, which consists of a rhythmical line creating almost irregular upbeats to the first. Both sub-layers are unified in Bar 36, which is the last bar of this part, unified where all chords sound simultaneously by the whole string orchestra. The unification of the two sub-layers is also supported by the tempo alteration, as Bar 36 lasts for three seconds, contrary to all previous ones, which last for five seconds, creating an impression of an *accelerando*.

The following figure illustrates the interaction between the two *pizzicato*, rhythmical layers:

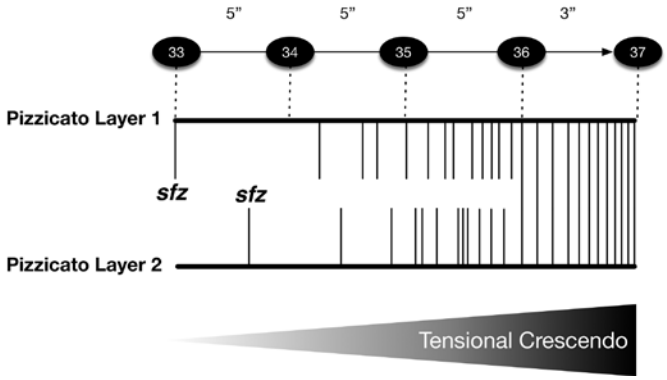


Figure 6. Tensional crescendo through pizzicato layers interaction

After this complicated type of *accelerando*, the auditor's waiting may become gradually more provoked, searching for the very next sonority. Either of the two following sound paths might occur: a passage which will probably release the tension that has already been built, or a passage of even a higher level of tension. Penderecki chooses to utilise this tensional *crescendo* as a link to the next part, which begins in Bar 37. Here, the rhythmical mobility is even more tensive, while all the strings irregularly repeat a notated pattern which consists of rapid, interlocking *pizzicato arpeggios*[3].

After establishing its own identity, the carried tension comes to the foreground, uncovering the kinetic components of which it consists.

As the part A of *Polymorphia's* ternary A | B | A_1 | dissolves into the kinetic part B, Penderecki seems to have taken advantage of the use of dynamics to set up a new level of tension. Danuta Mirka (2000), in her journal "Texture in Penderecki's sonoristic style", describes *Polymorphia's* B as a part based on the opposition between spatial mobility and immobility, according to the level of tension and release achieved.

Contrary to A, from Bar 24 to the end of B (Bar 46), release is established by transforming the previously solid texture of the work into granular, by the employment of repeated incessant short sounds. On this sonic canvas, there are sufficient, wide spread points of tension, which are achieved by abrupt change of dynamics. Hence, the granular harmonic surface, generated by the *col legno* sounds, functions as release to the previous *glissandi* part and uncovers gradually its own tension because of the duration. Finally, even higher levels of tension are developed by means of dynamics.

For the fact of building up tension according to register, it would be useful to focus on the tenth bar of *Polymorphia*, where a line of *sul tasto* sounds, performed by the violins is introduced in the highest possible register of the instrument. If this specific line is examined independently, it could be noticed that it is

[3] See Penderecki, Krzysztof. 1963. *Polymorphia*, für 48 Streichinstrumente.

static, almost monophonic and in a very low, *pianississimo* dynamic level. Taking all these parameters under consideration, it may be expected from the listener to perceive it as a release point. Nevertheless, the violins line, combined with the one of the double basses, generates a frame of this part's overall texture. This specific texture is undoubtedly of high tension, as it can be clearly noticed between the fifteenth and the twenty-first bar. The viola group is the one to fill the "textural gap" unfolding the entire texture of this particular part. The same practice seems to be followed by Penderecki in the middle part of *Polymorphia* (from the thirty-second bar to the end of B), where the violin groups frame such a texture with percussive sounds. Both examples lead to the conclusion that a musical idea which initially implies release later becomes the peak point of a tensive passage due to its register.

Instead of a summary, I would like to refer to the final relationship between tension and release in *Polymorphia*, which, in my opinion, has a great impact due to its drastic contrast between the two parameters. This final relationship has not only shaped the title of this paper, but has also inspired a potentially new and majorly intuitive perspective – at least on my behalf – towards the perception of tension and release. Beyond any reference, symbolism, irony or nostalgia towards the past (Fanning 2001: 101–140), Penderecki uses a C major triad as a release of an extra-solid, microtonal sound mass in the finale of *Polymorphia*, which results into a combination of tension from the contemporary era and release from the recalled tonal past. And this particular resolution appears to be absolutely satisfactory. Penderecki himself, during an interview for the journal "Composer" (Penderecki & Monastra 2000), claims that C major triad was not used in any terms of tonality or symbolism. It was a conscious choice to further explore and to highlight the importance of the interaction between tension and release levels in a musical work. At the same time, the ending of *Polymorphia* opens Pandora's box for discussion on what actually the terms of "tonic" and "dominant" might mean in different historical eras. A possible – but not the only – answer might be found in Scott Murphy's journal (2007): "A model expectation for some neo-romantic music of Penderecki", where he mentions tonic and dominant as "two poles of a continuum of expectancy profiles, whose length is measured by a number of most probable continuations". A closer look to J. S. Bach's tonal answers indicates the existence of only two harmonic areas: the dominant and tonic, which represent tension and release respectively. Due to the nature of the harmonic series, which forms a full-major triad within partials 1 to 6, as well as to plenty of tonal acoustic experiences from the tonal system, a major triad is mostly perceived more as a tonic rather than as a dominant-seventh, due to its non-temperated seventh harmonic partial.

In *Polymorphia's* bars 63 to 65, tension reaches its highest level throughout the whole work with repeated pitches, solid microtonal texture and high dynamics.

The establishment of the triad – perceived as a tonic – follows at the very end of *Polymorphia* and leads to the perception that everything that was heard before was within the dominant harmonic area. Hence, Penderecki draws an abstract form of the dominant which rises from all the previously-heard sound masses. Reflecting back on the various forms of tension and release in the whole work, these relationships can be perceived as abstract micro-structural pairs of dominant and tonic. From a macro-structural perspective, even the whole work could be perceived as a long, gradually developed dominant with fluctuating tension, released into the non-abstract final tonic.

In an attempt to further extend this assumption, a broader discussion could begin, regarding the content of *Polymorphia* seen as a dialogue between consonance and dissonance, in general. The existence of a tonal, consonant sonic event – C major triad – generates a very powerful type of contrast, representing general consonance and dissonance, which brings back to mind the fundamental principles of the tonal harmony of the past, next to contemporary massive micro-tonal harmonic relationships. Along these lines, since there was no other consonant harmonic impression during the whole composition before the very end of the work, every dissonant sonority that sounded previously, however tensive, seems to function as a fundamental component of a long, gradually developed, abstract type of dominant, released into the final, non-abstract C major tonic triad.

As one might expect, *Polymorphia* belongs to a vast number of works where the C major triad is used not only for its tonal colour, but also as a sound with many symbolic extensions. In 2001, Professor David Fanning published his paper "The present-day master of the C major key". The major part of his paper consists of a list including a large number of music works by various composers from different historical eras, where the C major triad seems to function more than a tonal chord. For example, Arnold Schoenberg, in his first *Satire* for four-part mixed choir (1925), uses pitches C, E and G as the first three partials of a dodecaphonic series, in order to underline the radical changes regarding the compositional thinking during the first half of

the 20th century. C major *arpeggio* forms the word "Tonal", while the remaining nine partials of the series fill the phrase "Oder Atonal? Nun sagt einmal" and so on:

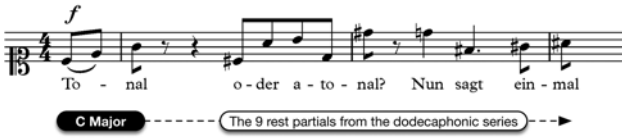


Figure 7. Schoenberg, *Satire* No. 1 Op. 28

In further ways, C major has been used in order to symbolise a vast variety of elements ranging from victory, nature, sunrise, Child-like simplicity, among others, by composers such as Beethoven, Shostakovich, Nielsen, Prokofiev, Stravinsky, Schnittke and many more.

In conclusion, after so many centuries of music creation and so many changes in the musical styles, it seems that the endless interaction between tension and release remains unalterable in its essence. No matter how much this sophisticated game between tension and release varies from era to era, place to place and from one composer to another, it seems to remain still the exact same medium, both to structure a music work, and to maintain the audience's interest on a high level. From the *Epitaph* of Seikilos to a work that is being created at this very moment on a contemporary composer's desk.

References

Bernard, J. W. (1999). Ligeti's Restoration of Interval and Its Significance for His Later Works. *Music Theory Spectrum*, 21, 1 (January 01, 1999).

Fanning, David (2001). "Shostakovich: 'The Present-Day Master of the C Major Key'." *Acta Musicologica* 73, No. 2.

Mirka, Danuta (2000). Texture in Penderecki's sonoristic style. *Music Theory Online*. 6 (1). Retrieved September 10, 2017 from http://www.mtosmt.org/issues/mto.00.6.1/mto.00.6.1.mirka.html

Mirka, Danuta (2003). "To cut the gordian knot: the timbre system of Krzysztof Penderecki". *Journal of Music Theory*, 45 (2).

Mirka, Danuta (2014). The sonoristic structuralism of Krzysztof Penderecki. Katowice: Music Academy in Katowice.

Penderecki, K. & Monastra, P. (2000) Krzysztof Penderecki's *Polymorphia* and *Fluorescences*. [Web.] Retrieved at September 6th 2017, from the Library of Congress, https://www.loc.gov/item/molden000187/

Murphy, Scott (2007). A Model of Melodic Expectation for Some Neo-Romantic Music of Penderecki. *Perspectives of New Music* 45, No. 1.

Penderecki, Krzysztof (1963). *Polymorphia* for 48 stringed instruments. Celle: Moeck.

Nuo masyvių debesų iki *do* mažoro. Krzysztofo Pendereckio kompozicijos *Polymorphia* įtampos ir iškrovos aspektai

Santrauka

Šio straipsnio tikslas yra ištyrinėti galimas įvairių rūšių įtampos ir iškrovos percepcijas Krzysztofo Pendereckio kūrinyje *Polymorphia* (1961). Analizuojant tam tikrų ištraukų faktūras, pristatomi ir aptariami įvairūs įtampos kūrimo pavyzdžiai, kai įtampa kuriama trukme, faktūros tankiu, ritminiu mobilumu, dinamika ir registrais. Finalinio C-dur akordo, kaip iškrovos funkciją po tankios mikrotoninės faktūros atliekančio elemento, panaudojimas kelia klausimų apie tonikos ir dominantės santykių esmę ir jų funkcionavimą netonaliose struktūrose. Straipsnyje taip pat tyrinėjama potenciali šios sąveikos įtaka kūrinio makrostruktūrai; daroma prielaida, kad visas kūrinys gali būti suvokiamas kaip nuoseklus įtampos kilimas iš atonalios dominantės ir iškrova į tonalų akordą.

2

MUZIKOS KŪRINYS KAIP RACIONALIOS IR INTUITYVIOS KŪRYBINĖS VEIKLOS REZULTATAS

MUSICAL WORK AS AN OUTCOME OF RATIONAL AND INTUITIVE CREATIVE ACTIVITY

Mark Konewko

Intuition and Rationality in Olivier Messiaen's *La Nativité du Seigneur*

Abstract. The purpose of this work is to demonstrate the blend of the intuitive and rational compositional methods used by Olivier Messiaen. The organ works of Messiaen transcend both the rational and intuitive thought and experience process. He practices a highly developed cogent design of harmonies, melodies and rhythmic structures in his music. Using original modes of limited transposition that dictate harmonies, birdsong as a model for melody and Hindu tâlas rhythmic structures that emulate the rhythmic flow in nature, Messiaen weaves an original fabric of music. In this investigation, the reconciliation of these two compositional techniques in Messiaen's *La Nativité du Seigneur* (1935) is a seamless illustration of this balance. The perceived dichotomy of intuition and rationality in musical composition is investigated with the writings of Gaston Bachelard, Elijah Chudnoff and others. Messiaen prefaces each movement in *La Nativité du Seigneur* with a sacred scriptural quote. Being a believer of Catholic teaching, Messiaen manifests this belief through his music. This doxastic disposition and a brief discussion of the proof of time, regarding instinct versus reason, could conceivably illuminate, in a new way, the genius of Messiaen's compositional manner.

Keywords: music, organ, intuition, reason, rationality, philosophy, Messiaen, composition.

Introduction

This article examines the early organ work of Olivier Messiaen in *La Nativité du Seigneur* (1935). According to Griffiths, Johnson, and Schloesser, this piece is an important early organ work and continues to be analyzed by numerous authors. This article presents a restricted examination of the intuitive and rational compositional approaches used by Messiaen. His organ works transcend both the rational and intuitive thought and experience process, practicing a highly developed cogent design of harmonies, melodies, and rhythmic constructions. Using his inventive modes of limited transposition that dictate harmonies, birdsong as a model for melody, and Hindu deçî-tâlas rhythmic structures that emulate the rhythmic flow in nature, Messiaen weaves an original fabric of music. In this investigation, the reconciliation of these two compositional techniques in *La Nativité du Seigneur* is a seamless illustration of this balance.

Messiaen prefaces each movement in *La Nativité du Seigneur* with a sacred scriptural quote. Being a follower of Catholic teachings, Messiaen manifests his beliefs through his music (Samuel 1967). This doxastic disposition is a necessary lens through which to view Messiaen's compositional techniques. The perceived dichotomy of intuition and rationality in musical composition is examined with the writings of Henri Bergson, Gaston Bachelard, Elijah Chudnoff (1946, 2013, & 2013) and others. These theorists and others present various facets regarding intuition and reason. Although it is complicated to distinguish intuition and a rational approach in composition, because of the interconnectedness, I will try to distinguish them with the following definitions and observations.

Intuition and Reason

Intuition is the ability to obtain knowledge while lacking verification of actualities and may or may not be a conscious experience. Plato describes intuition as a pre-existent form of knowledge residing in the "soul of eternity". It is a phenomenon through which one becomes conscious of pre-existing knowledge. Influences and environment can shape intuition.

Reason is the ability to construct deliberately the conventions and/or views grounded in original or current information. Reasoning is associated with the process of thought or cognition. Deductive, inductive, and adductive are various approaches to logic through which one seeks a formal proof. The Standard Picture, a normative standard, maintains that good reasoning adheres to a set of rules or principles that support correct logic (Hung and Lane 2017).

Rationality in musical composition appears throughout history but, during the early 20th century, was particularly prevalent with the music of Schönberg and the cultural phenomenon of *musica artificialis*, or a constructed musical rationality (Fulka 2017: 52). Although Messiaen's composition is unrelated to *musica artificialis*, it is highly rational and constructed; however, it is all contained within the intuitive consciousness. The illusive quality of intuition and rationality is evident in the concrete outcome of compositions that interlace the two phenomena into a unified totality. One may or may not preclude the other. As Armstrong (1914: 430) notes, "The writer or the artist experiences his art, as by living experience we penetrate to the vision of our inner selves. But, in the event, intuition proves the instrument of metaphysical knowledge."

Intuition, not theoretical rational thought, takes us into benevolent association with rational reality. Free improvisation is deeply-rooted in intuition whereas composition is grounded in rational thought. According to Bergson (1946: 130), "Of these departures toward an affirmation and these returns to the primary intuition are constituted the zigzaggings of a doctrine which 'develops,' that is to say which loses itself, finds itself again, and endlessly corrects itself." A great improviser on the organ, Messiaen often allowed his inspirations in improvisations to spill over into or become a source of sonic material used in his written compositions. Perhaps a primal seed of inspiration was the impetus for Messiaen's work but the compositions themselves were not spontaneous. Messiaen says, "I've never improvised in my work" (Samuel 1976: 6). One may consider untainted original and unique improvisation a pure form of intuition supported by both technical skill and an abundant ability to creatively react to sonic material. Messiaen demonstrates in his compositions no improvisation but, rather, a disciplined organization of his compositional elements.

Discussing the compositional process of any composer prompts the researcher to delve into the mind of the composer, expecting to glean whatever information about the individual that might spark a musical composition. In what type physical environment, rural or urban, did the composer develop as a youth? What sounds, literature, situation did the composer experience that might have predisposed him or her? Which security factors, religious beliefs, or lack thereof, influenced the individual? These minutiae become the fount for intuition and instinct. The duration or time, inevitable when discussing experience, cannot be separated from the intention to acknowledge the intuition. Both intuition and its conscious recognition become the basis for knowledge and rational advancement.

In his writings, Bergson, a contemporary of Messiaen, he argues that action is a constant progression that suggests a fundamental length of time between a choice and its intended end. Bergson notes:

> The most essential of the primary instincts are really, therefore, vital processes. The potential consciousness that accompanies them is generally actualized only at the outset of the act and leaves the rest of the process to go on by itself. It would only have to expand more widely, and then dive into its own depth completely, to be one with the generative force of life (Bergson 1911: 166).

These "vital processes" are the foundation within the realm of the conscious realization of intuition making the portrayed product a likeness of the conscious direction of expression. Conceivably, without intuition, the vigorous process of composition would not be complete. The balance of intuition and reason within the creative process binds intellect with instinct. Intuition itself might mirror the intellect identifying that life, as intuitions, cannot casually be categorized. Bergson expounds,

> On the one hand, it will utilize the mechanism of intelligence itself to show how intellectual molds cease to be strictly applicable; and on the other hand, by its own work, it will suggest to us the vague feeling, if nothing more, of what must take the place of intellectual molds. Thus, intuition may bring the intellect to recognize that life does not quite go into the category of the many nor yet into that of the one; that neither mechanical causality nor finality can give a sufficient interpretation of the vital process (Bergson 1913: 177).

Early Life Vital Influences

Initial dynamic living circumstances, environment, and beliefs are important developmental aspects for all. Messiaen, in his younger years, recounts the time that he spent in Grenoble, where the mountains influenced his development. The plays of Shakespeare, *Don Giovanni* by Mozart, *La Damnation de Faust* by Berlioz and *Pelléas et Mélisande* by Debussy, along with nature, birdsong, and Catholic theology, all had a profound influence on Messiaen (Johnson 2008: 9). These influences, these flecks of creative realities, are the seeds that would later grow into the material that was Messiaen's intuition. Roupnel, in his important work, *Siloë,* equating instinct with intuition, eloquently states,

> Our acts of attention are extraordinary episodes extracted from that continuity called duration. But the continuous fabric where our mind embroiders the discontinuous designs of act is itself no more than the laborious and artificial construct of our mind. Nothing entitles us to posit objective duration. Everything in us contradicts its meaning, and undercuts its logic. Our instinct is indeed better informed about this matter than is our reason (Roupnel 1927: 109).

The importance given to intuition in the rational thought process is noted. According to Roupnel (1927), the conscious realization of these moments in the continuum of time dwells in the realm of intuition. The free nature of intuition feeds the appetite of reason. An additional consideration of the conscious intuitional process of Messiaen is his devout belief in the teachings of Catholic Church and his love of nature as a perfect creation. In an interview with Claude Samuel, Messiaen states that

> I have an absolute horror of cities, a horror of the one I live in, despite its many beauties – I speak of the French capital – and a horror of all the bad taste man has accumulated around him, whether for his needs or for various other reasons. You'll notice, as I do, that there are never any errors of taste I nature; you'll never find a fault in lighting or colouring or, in birdsong, an error in rhythm, melody or counterpoint (Samuel 1976: 11).

For Messiaen, the perfection in nature is connected to his Catholic beliefs, yet it is autonomous. His raw intuitive process is both filtered and grounded in these two important entities. Observed nature is a wellspring of inspiration and model for his writing. His faith in Catholicism acts as both a tether and a liberating journey. Messiaen is able to draw continually from Catholic teachings to shape his music thematically, yet he is free to formulate modes, manipulate rhythms, and mimic birdsong in his compositions. When asked about the relationship between his faith and nature Messiaen responds:

> Linked, yet at the same time independent. I love nature for itself. Certainly, like St. Paul, I see in nature a manifestation of one of the aspects of divinity, but it's equally certain that God's creations are not God himself. Moreover, all God's creations are enclosed in Time, and Time is one of God's strangest creatures because it is totally opposed to Him who is Eternal by nature, to Him who is without beginning, end, or succession (Samuel 1976: 11).

Doxastic logic is pertinent regarding Messiaen the artist and Messiaen the believer. His fervent belief in the teachings of the Catholic church become the fabric or framework that weaves his compositions. There is an evolution in the expression of his beliefs evidenced by maturity in his later works. "If an intuition is a doxastic justifier, then it plus the fact that you base a belief on it make it the case that your belief is justified" (Chudnoff 2013: 146). The rational role associated with intuition is the justifier role where intuitions and rational composing validate beliefs. Intuition could also focus on yet another rational role based on evidence. In this latter form, intuitions are indications for beliefs. Bachelard notes:

> As for knowledge of the creative instant itself, where is it most certainly attained if not in the experience of a sudden burst of consciousness? Isn't the élan vital most active in that instant, that sudden burst? Why attempt to return to some muted and buried power that has more or less lost its own thrust, unable to realize it fully or even to continue it, when we can witness before our very eyes, in the active present, the myriad accidents of our own cultural growth, the countless attempts to renew and to create ourselves? So let us return to the starting point of idealism, and take our own mind, in its efforts toward knowledge, as our field of experimentation. Knowledge is preeminently the work of time (Bachelard 2013: 10).

Time is experienced as a continuation of events that are irreversible where an individual attempts to understand the past through the present, radically different from trying constantly to elucidate the present through the past. "Duration is made up of durationless instants, just as a straight line is made up of dimensionless points" (Bachelard 2013: 11). These points in time or events are the material that construct knowledge. The instant is the experience of an action or decision. The various events or instants in Messiaen's work form a continuous expression that, when analyzed, are rich durations of time. Each moment, each event, is full of content that addresses the influences that Messiaen transports as his intuition revealed in a rational expression.

Unification of Reason and Intuition

Messiaen addresses the usage of time or duration in his compositions with a system of developed structures taken from Hindu rhythms. Messiaen states, "I consider that rhythm is the primordial and perhaps essential part of music: I think it probably existed before melody and harmony, and in fact I've a secret preference for this element" (Samuel 1976: 33). He elects to use nature and its apparent chaotic rhythms as a model for his compositional style. "Rhythmic music is music that scorns repetition, straightforwardness and equal divisions. In short, it's music inspired by the movements of nature, movements of free and unequal durations" (Samuel 1976: 33). Durations or events in time are similar for Messiaen. Specifically, the structural plan that he employs is from a collection of 120 deçî-tâlas found in a treatise written by thirteenth century Çârngadeva in the *Sangîta-ratnâkara*, which roughly translated means Ocean of Music. This is a concise explanation of this system's general rules in Messiaen's words, "the principle of the addition of a dot; the principle of the increasing and decreasing of one value in two; the principle of inexact augmentation; and that of dissociation and coagulation" (Samuel 1976: 43). These rules appear in Çârngadeva's writing along with religious, philosophical and cosmic symbols.

Messiaen has methodically integrated these rhythms in his music to convey sensations related to Catholic teachings and, in particular, eternity. Messiaen was overcome with interest in these 120 deçî-tâlas. He studied them, analyzed them, and combined them into his composition but never with an explanation why, except for the statement that he thought that they were the pinnacle of Hindu and human rhythmic construction.

The actual stimulus is unclear: "It is impossible to maintain any kind of synchronism between the rhythm of the stimulus and the rhythm of sensation" (Bachelard 2013: 49). His use of deçî-tâlas as rhythmic constructions, the expansion of his modes of limited transposition, and the use of or imitation of bird song are all rationally scrutinized and systematically dissected.

La Nativité du Segneur

An analysis of both the musical and theological importance, as well as the monumental scope of this work is beyond the possibility of this article. What follows is a brief reflection on this opus. As Paul Griffiths points out in his "Poèmes and Haïkaï: A Note on Messiaen's Development," Messiaen's early music is driven by a mystical image in which Messiaen personalizes his conception of God, while his later music is motivated by a more naturalistic idea in which the world is occupied with awe and joy. *La Nativité du Seigneur* is a work of a spiritual image of God.

La Nativité du Seigneur, produced in 1935, is an early work for Messiaen. This period was a tumultuous era marked by social unrest that led to both peril and prospect. The rightist Stavisky riots in February 1934 and the leftist victory of the Socialist Popular front in June 1936 signaled a time of significant uncertainty. Based on theological doctrine, Messiaen initiated a musical upheaval with *La Nativité du Seigneur* that was reflected in the formation of *La Jeune France*, "a musical alliance calling for a generational revolution and new 'nonconformism' in French musical aesthetics" (Schloesser 2014: 228). The renovation of the organ in Trinité during 1934–1935 included a 2 2/3 Nazard in both the Positif and Récit manuals, a 1 3/5 Tierce in the Positif, and the III Cymbale in the Récit. These were new colors, new tonal possibilities, that inspired Messiaen to compose in a new style (Schloesser 2014: 229). This new style was uncharacteristic of the existing French musical aesthetic.

The structure of the work is a product of reason. The compositional choices might very well be an early display of Messiaen's intuition. The individual movements not only have titles, but also include biblical inscriptions and an explanatory preface that procedes the *Technique de mon langage musical* (The Technique of My Musical Language). The preface introduces, for the first time, his modes of limited transpositions. He declares that these modes act as the principal means of expression in his composition. He presents the ideas of enlarged pedals, the added dot, the progressive widening of intervals, and the chord on the dominant.

The work contains nine compositions divided into four books. These nine movements symbolize the nine-month pregnancy of the Blessed Virgin Mary. Messiaen (1936: 1) notes, "Nine pieces in all to honor the maternity of the Blessed Virgin." The first book contains *La vierge et l'enfant* (The Virgin and Child), *Les bergers* (The Shepherds), and *Desseins éternels* (Eternal Designs). The second book has two pieces: *Le verbe* (The Word) and *Les enfants de Dieu* (The Children of God). The third book is comprised of three pieces, *Les ange* (The Angels), *Jésus accepte la souffrance* (Jesus Accepts Suffering), and *Les mages* (The Magi). The fourth book has only one piece, *Dieu parmi nous* (God among Us).

In *La vierge et l'enfant*, Messiaen utilizes the added dot to upset a conventional meter by unbalancing the melodic phrases. He also uses the contour of the Gregorian chant, *Puer natus est* from the *Liber usualis*. The chant is used during the Mass on Christmas Day. The second movement, *Les bergers*, uses a type of ostinato with shifting chords up and down scales – a term "enlarged pedal" that was coined by Messiaen. A slower movement, *Desseins éternels,* again uses the added dot, but its effect is one that elongates time with a pulsation of long sonic gestures. The fourth work, *Le verbe,* uses the chord of the dominant, a harmony with all the notes of the diatonic major scale. The chord is played before the entrance the descent in the pedal. In the final section of this piece, the second mode is used in the extended final section. Here, too, the rhythmic unpredictability in the melodic and harmonic phrases have a great variety. The same rhythmic pattern uses different tones, or the same note, harmonized in another way with nine different harmonizations always ending on G. The bifurcation in the fifth piece, *Les enfants de Dieu*, is notable. Initially, it is agitated and animated, constructing metrically and swelling aurally, to a highpoint followed by a more tranquil peaceful ending.

Les anges, the sixth composition in this cycle, presents two autonomous melodies with dissimilar rhythms that come together. The final sonic gesture is a crystalline toccata of two melodies with the same rhythm ending in a sublime decrescendo that might symbolize angels twirling out of hearing range. *Jésus accepte la souffrance* is a piece that has a noticeably different character – one of profound darkness. The opening rhythmic gesture occurs 7 times through the composition. The number seven holds great symbolism and is related to rest; that is, the seventh day after six days of creation. It is a prime number valued by Messiaen and one that is representative of the sacred. This movement symbolizes the acceptance of Jesus' suffering as a human.

The use of the final C♯ major chord is a clear divine admission of this role. The penultimate piece, *Les mages*, is symbolic of the lengthy voyage of the three magi. The registration that Messiaen seeks is none other than exotic. There are three distinct elements: (1) a melodic line in the pedal with a nazard, mostly descending chords with a bourdon 16', 4', (2) flute and gambe, and (3) a slower moving held chord with a gambe and flute 4'. These three elements come together at the end of the piece – the end of the journey.

The fourth book of *La Nativité du Seigneur* contains one piece, *Dieu parmi nous*, which is the ninth piece in the opus and is the culmination of the entire work, both theologically and symbolically. Messiaen uses three themes in the beginning of the composition. For Messiaen, the symbolic significance of the number three represents the Holy Trinity, which cannot be separated, signifying the undividable God. He views three as the first odd number and comments that it stands for the perfect symbol for divinity. The first theme is based on the two Çarngadeva patterns, lackskmîaç and râgavardhana rhythmic forms. The significance of using two rhythmic patterns offers the simplest representation of humanity, because it technically is a prime number. This brief analysis underlines the highly rational approach to specific choices of numbers to represent a belief system. This first theme includes a descending bass line using the râgavardhana in the pedal, as it represents the glorious descent of the second person of the Trinity taking on human form.

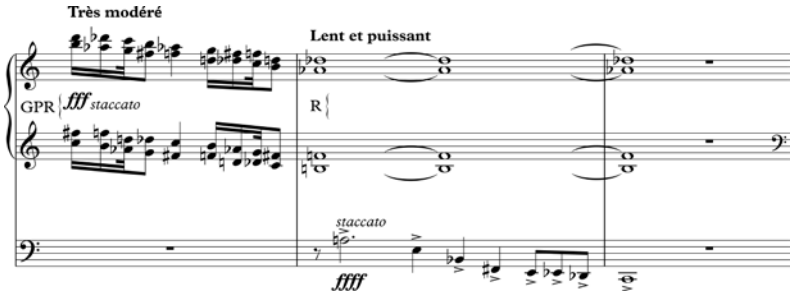


Figure 1. Lackskmîaç and râgavardhana rhythmic patterns presented in the treble and bass respectively. *Dieu parmi nous* from *La Nativité du Seigneur* for organ (1935) by Olivier Messiaen, mm. 1–3

Râgavardhana appears in the pedal as an answer to the primary sonic gesture: ♩ ♩ ♩ ♪♪♪. This particular rhythm enlivens the melody. This second theme powerfully diverges from the first in its character and sound because the organ registration dramatically shifts. The warmth and slow-moving quality communicates the love of Christ for man.

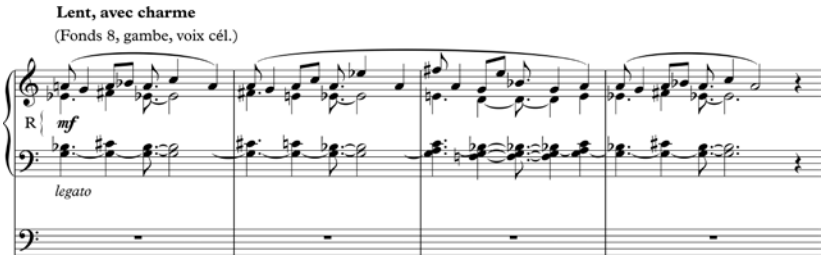


Figure 2. Second theme symbolizing the love of Christ for man. *Dieu parmi nous* by Olivier Messiaen, mm. 4–7

The third theme, in birdsong style, does not directly quote a particular birdsong but is more elaborate and extravagant.

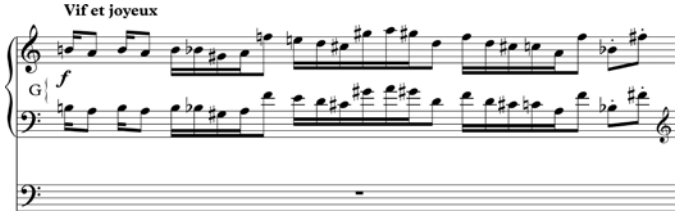


Figure 3. Example of birdsong style. *Dieu parmi nous* by Olivier Messiaen, m. 8

Messiaen has developed, for his compositions, a melodic and harmonic system that is based on what he calls the modes of limited transposition. A brief explanation of these modes follows.

> Based on our present chromatic system, a tempered system of twelve sounds, these modes are formed of several symmetrical groups, the last note of each group always being common with the first of the following group. At the end of a certain number of chromatic transpositions which varies with each mode, they are no longer transposable… All the modes of limited transpositions can be used melodically, and especially harmonically, melody and harmonies never leaving the notes of the mode (Messiaen 1956: 58).

Messiaen's choice of his fourth mode of limited transposition is an interesting one.

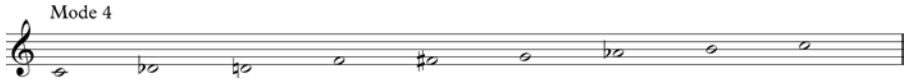


Figure 4. Fourth mode of limited transposition

One can analyze the intervals between scale degrees of mode 4 as 1 1 1 3 1 1 1 3. However, his choice of introducing *Dieu parmi nous*, with a descending version of mode 4, in which the intervals become 3 1 1 1 3 1 1 1 is fascinating. Messiaen begins with the perfect symbol for divinity, three, descending from above to into a human form. He chooses the number one because of its indivisibility, often signifying the indivisible nature of God.

The qualitative information regarding Messiaen's intuitive impact on his compositional style are apparent. The constructed quantitative machinations of the composer's modes of limited transposition, rhythmic polyphony, nonretrogradable rhythms, the procedure of augmentation and diminution, added or subtracted values, and birdsong all support Messiaen's highly developed rational approach to composition. In addition to the aforementioned techniques, the purpose and application of these systems act as a device to connect Messiaen's devout belief in the teachings of the Catholic faith. The intricacy of his rational method is astonishing.

Conclusion

As Chudnoff (2013: 146) states in his writing, *Intuition*, "Intuitions are inputs to theoretical reasoning." In the composition of music, there is an element of primacy implied in this statement. Intuition, or the creative spark, precedes an intention to describe or compose. Intuition also infers conscious awareness of the idea that, for a composer to write down a formulation, it might include the initial intuition. If indeed intuitions are contributions to a cognitive expression, then a conscious awareness at the instant an intuition is generated, supports whatever crafted thought processes composers endear. The wide and astoundingly creative palette that Messiaen used in his compositions causes the examiner of his music to ask, "Where does the ingenious brilliance in this music originate?" Messiaen's music is often analyzed and scrutinized using the systems that he deployed, such as his modes of limited transposition, rhythmic discourse, and melodic procedure. However, the real intuitive process is seldom addressed. The ambiguous concept of belief might be an area where inspiration originates, but it is more than his belief in the Catholic Church – more than the innovative modes, rhythms, melodic usage. Perhaps it is Messiaen's intuition that shines through his work.

References

Armstrong, A. C. (1914). Bergson, Berkeley, and philosophical intuition. In *The Philosophical Review*, No. 4, July, Vol. 23: 430–438.

Bachelard, Gaston (2013). *Intuition of the instant*. Trans. Rizo-Patron, Eileen. Northwestern University Press, Evanston, Illinois.

Bergson, Henri (1913). *Creative evolution*. Translated by Arthur Mitchell. New York: Henry Holt and Company.

Bergson, Henri (1946). *The creative mind*. Translated by Mabelle L. Andison. New York: The Philosophical Library.

Chudnoff, Elijah (2013). *Intuition*. Oxford Scholarship online: January 2014. DOI: 10.1093/acprof:oso/9780199683000.001.0001

Flotz, Carolyn R. (1965). Analysis of compositional techniques used by Olivier Messiaen. In *La nativité du Segneur* [The Nativity of Our Lord]. M.A. thesis, Kent State University, Vol. 47.

Fulka, Vladimir (2017). Arnold Schönberg and *Musica Artificiosa* [Contrived Music]: A rationality in the musical composition. *Musicologica Brunensia*, 69–78. DOI: 10.5817/MB2017-1-7.

Griffiths, Paul (1985). *Olivier Messiaen and the Music of Time*. Ithaca, New York: Cornell University Press.

Griffiths, Paul (1971). Poems and Haïkaï: A Note on Messiaen's Development. *The Musical Times,* Vol. 112 (September 1971): 851–852.

Hassman, Carroll (1971–1972). Messiaen: An introduction to his compositional techniques and an analysis of *La nativité* [The Nativity]. *The Diapason,* Part 1 (December 1971): 22–23; Part 2 (January 1972): 26–27.

Hung, Tu Weiming and Lane, Timothy Joseph (2017). *Rationality: Constraints and contexts*. Oxford, United Kingdom: Elsevier Inc.
Johnson, Robert Sherlaw (2008). *Messiaen*. New York, NY: Omnibus Press, Schirmer Books.
Mele, Alfred R. (2009). Effective intentions: The power of conscious will. Oxford University Press, *Oxford Scholarship Online*. DOI: 10.1093/acprof:oso/9780195384260.001.0001.
Messiaen, Olivier (1936). *Note di l'auteur*", *La Nativité du Seigneur* [English translation]. Alphonse Leduc, Paris: Publisher, Books Info.
Messiaen, Olivier (1956). *Technique de mon langage musical.* Translated by John Satterfield. Alphonse Leduc, Paris.
Roupnel, Gaston (1927). *Siloë.* Translated by Gaston Bachelard. Paris, France: Librairie Stock.
Samuel, Claude (1967). *Conversations with Olivier Messiaen*. Translated by Felix Aprahamian. London, England: Stainer & Bell Ltd.
Schloesser, Stephen (2014). *Visions of amen: The early life and music of Olivier Messiaen.* Grand Rapids, Michigan: William B. Eerdmans Publishing Company.

Intuicijos ir racionalumo apraiškos Olivier Messiaeno *La Nativité du Seigneur* vargonams

Santrauka

Šiame straipsnyje atskleidžiama Olivier Messiaeno taikytų intuityvių ir racionalių kompozicinių metodų sampyna. Kūriniuose vargonams Messiaenas peržengia racionalios ir intuityvios minties bei patirties procesų ribas. Jo muzikai būdingas itin rafinuotas struktūrinis planas. Kompozitoriaus intuityvios improvizacijos vargonais ar gamtos muzikinės reinterpretacijos praturtina susiformavusį racionalų požiūrį į kompoziciją. Pasitelkdamas originalius ribotos transpozicijos modusus, paukščių giesmes kaip melodinius modelius ir indų talas gamtos ritminio judėjimo iliuziją sukuriančioms ritminėms struktūroms organizuoti, Messiaenas audžia savitą muzikinę drobę. Straipsnyje atskleidžiama, kaip tie du kompoziciniai principai dera Messiaeno opuse *La Nativité du Seigneur* (1935) vargonams; kūrinys pateikiamas kaip šio sklandaus balanso iliustracija.

Opusas suskirstytas į keturias knygas, kurias sudaro daug įvairių kompozicijų, išskyrus ketvirtąją (paskutinę) knygą – joje yra tik viena kompozicija *Dieu parmi nous*; tai yra devynių kompozicijų kulminacija – tiek teologiniu, tiek simboliniu požiūriu. Messiaeno intuicijos įtaka jo kompoziciniam metodui nepaneigiama. Visgi konstruktyvios ribotos transpozicijos modusų operacijos, ritminė polifonija, neretrogradiniai ritmai, augmentacijos ir diminucijos technika, pridėtinės ar sumažintos ritminės vertės, paukščių giesmės, – visa tai liudija nepaprastai išplėtotą racionalų Messiaeno požiūrį į komponavimo procesą.

Numanoma dichotomija tarp intuicijos ir racionalumo kompozicijoje yra nagrinėjama pasitelkiant Henri Bergsono, Gastono Bachelard'o, Elijah'o Chudnoffo ir kt. tekstus. Intuicija, arba kūrybinė kibirkštis, yra intencijos rašyti ar komponuoti prielaida. Sąmoningai suformuluota idėja iš pradžių galėjo būti padiktuota intuityvaus impulso. Gamtos įvaizdžius ir tariamai chaotiškus ritmus Messiaenas pasirenka kaip savo kompozicinio stiliaus modelį. Be to, jis yra Romos Katalikų Bažnyčios mokymo sekėjas, giliai tikintis, tad savo tikėjimą išreiškia muzika. Intuityvius aspektus Messiaenas metodiškai integruoja į savo disciplinuotą kompozicinę praktiką. Intuicija papildo žinojimą, o sąmoningas žinojimas vėl generuoja intuiciją ir visa tai susijungia jo kompozicijose. Ši priešingybių dispozicija – instinktas *versus* protas – naujai nušvinta Messiaeno, muzikos genijaus, kūryboje.

Arthur Kaptainis

Intuiting the Rational: Marc-André Hamelin's Toccata on "L'homme armé"

Abstract. Commissioned as the imposed piece for the 15th Van Cliburn International Piano Competition in Fort Worth, Texas, Marc-André Hamelin's Toccata on "L'homme armé" received many more public performances, and much more acclaim, than is typical of a contemporary concert work for solo piano. Written in a tonal but chromatic style, this fantasy on the famous French secular song of the 15th century asserts itself unambiguously as a work in F Minor both through the initial statement of the tune and the deployment of a *fortissimo* dominant pedal before the coda. Yet in the final bar there is a precipitous downward flourish with a firm landing on B Flat. While to end a work in a key other than the clearly established tonic is not unknown in music of the common practice period, it remains a violation of the principles of formal design that (as in the case of Chopin's Ballade Op. 38) is felt to require explanation. Here I argue that Hamelin's apparently spontaneous intuitive feint to the subdominant – which the composer characterizes as "a sudden unexpected open window to future possibilities" or a warning that the "armed man" is still at large – can also be rationalized as a tribute to an era when functional harmony had not been codified and a recognition of the significance of the perfect fourth as the melodic step that endows the "L'homme armé" tune with its identity. Compositional choices that strike the listener as surprising (and therefore intuitive) are not necessarily devoid of rational justification, even if composers are not immediately aware of the logic behind a decision arrived at intuitively. Hamelin's Toccata shows the ways in which *ratio* and *intuitio* are locked in a reciprocal relationship.

Keywords: Marc-André Hamelin, L'homme armé, Toccata on "L'homme armé," Van Cliburn International Piano Competition, Manos Panayiotakis, Guillaume Du Fay, Antoine Busnoys.

1. Status and characteristics of Marc-André Hamelin's Toccata on "L'homme armé"

1.1. Basic style

Marc-André Hamelin's Toccata on "L'homme armé" is as easily likened to solo piano concert music of the late 19th or early 20th century as it is distinguished from most art music written for this instrument in the late 20th century or the 21st. Finished on Dec. 29, 2016,[1] the work in one movement comprises 187 measures, lasts between four and five minutes, and is almost entirely tonal. It can be heard as a variant of sonata form with an introduction, abbreviated recapitulation and extended coda. The initial statement of the principal theme is unambiguously in F minor. At least 100 measures have key signatures (not including those in A minor). While the keyboard writing is demanding, it involves no preparation of the piano, electronics or extended techniques.

1.2. Conclusions in a key other than the tonic

Yet for all its apparent conservatism, Hamelin's Toccata veers sharply from common practice in one particular: it ends not in the fully established tonic of F but in B flat, the subdominant. While ending a work in a key other than the tonic is not unknown in canonical concert music of the 19th century, this choice typically fulfils specific expressive needs. The dominant ending of "Im wunderschönen Monat Mai" from Schumann's *Dichterliebe* reflects its introductory role in the song cycle; in the same composer's piano miniature "Kind im Einschlummern" from *Kinderszenen*, the subdominant conclusion portrays a child's falling asleep. Longer works that apparently begin in one key and end in another, such as Chopin's Ballade Op. 38, provoke detailed analysis and discussion, which typically involve a decision in favour of one of the rival tonics or, in the cases of symphony movements (and entire symphonies) by Mahler and Nielsen, invoke the principle of progressive tonality.

1.3. Expectation in the Toccata on "L'homme armé"

The Hamelin's Toccata differs from these examples by taking its harmonic detour after the deployment of a flamboyantly extended dominant pedal beginning at m. 166. This fairly demands a tonic resolution, and indeed receives one, in the form of a subdued perfect cadence in F major at mm. 175–176. Since there is no overt harmonic or programmatic justification for a supplementary cadence in another key, Hamelin's feint to the subdominant scans as an intervention of the intuitive on an otherwise rational scheme.

Here I argue that like many apparently intuitive incursions on rational procedure, this one can be linked to rational elements that explain why a listener might find the ending surprising and satisfying at once. Having

[1] The date inscribed at the bottom of the last page of the Peters edition.

interviewed the composer on three occasions, I shall be guided by his insights as well as my own observations. If not entirely congruent, my views and his converge in productive ways, which call into question the propriety of the confrontational word "versus" as it is integrated into the title of the 17th International Music and Theory Conference. Hamelin's Toccata, I conclude, illustrates the interdependence rather than the opposition of the intuitive and the rational in music that merits repeated performance and hearing.

2. Marc-André Hamelin and the Van Cliburn International Piano Competition

2.1. The composer

A few words about the composer are warranted. Marc-André Hamelin was born in Montreal in 1961 and emerged in the 1990s as something of a cult figure because of his interest in composers of complex piano music – Charles-Valentin Alkan and Leopold Godowsky are examples – and his unsurpassed ability to play this repertoire. His discography on the British Hyperion label includes much standard repertoire. There are albums of Mozart and Haydn Piano Sonatas. But Hamelin's international renown is for his work on the margins.

International is a fair word. Hamelin's activities in November 2017 began with a recital in Carnegie Hall in New York and concluded with a recital in the Tchaikovsky Concert Hall in Moscow. The pianist is active also as a composer, mostly for solo piano and often, though not always, in a virtuoso idiom. When the Van Cliburn International Piano Competition sought a commissioned work ("the imposed piece", as musicians usually call it) the organization turned to Hamelin, who was also on the jury. The music under discussion was the result.

2.2. Exposure and reception

As the commissioned work in a celebrated contest, the Toccata received 30 performances in the space of a few days in May 2017 by pianists of high calibre to substantial live and streaming audiences that most contemporary composers can only dream of.[2] Peters, the European publisher of John Cage and a house better known for avant-garde repertoire, printed the Toccata in time for the start of the competition. Despite technical difficulties beyond the abilities of an amateur, the sheet music sold more than 300 copies in the gift shop of the Bass Performance Hall in Fort Worth.[3]

The work proved popular among contestants as well. Twenty-one of 30 played it from memory, a formidable testament to its accessibility. "It is technically demanding, but the way the piece is structured and the way he introduces the theme and builds on it is really interesting," was the comment of Daniel Hsu, 19, the Cliburn bronze medallist who also won the special prize for best performance of the commissioned work (Kaptainis 2017: D6). The professional pianist Mari Kodama, like Hamelin a member of the Cliburn jury, said she planned to add the Toccata to her repertoire (Kaptainis 2017: D6).

3. "L'homme armé": Melodic and symbolic elements

Many readers will be aware that the secular Renaissance song on which the Toccata is based has been more beleaguered by rationalism than any tune in the history of music. Almost 50 composers used "L'homme armé" as the basis of a mass. Donald Jay Grout observed that "composers seemed to think that the Armed Man had issued a challenge to their ingenuity which they were obliged to accept on pain of professional disgrace" (Grout 1973: 114–116).

Richard Taruskin is not the only scholar to associate its 31 rhythmic units (roughly speaking, measures) to the 31 Knights of the Golden Fleece. He is quick to stress that this instance of symbolism and various others in Antoine Busnoys's *Missa L'homme armé* of c. 1467 are "unavailable to the listening ear but can be easily grasped and relished by the rational mind" (Taruskin 2006: 495). Readers of his analysis of the Pythagorean relations that operate in this mass might question whether the adverb "easily" is justified. Peter Maxwell Davies in his *Missa super L'homme armé* of 1971 goes the Renaissance masters one better by writing a "mass" for speaker and ensemble in which percussion instruments are at the fore and the famous tune is almost never perceptible.

That tune, in ternary form and normally understood to be in the Dorian mode, is vigorous and memorable (Example 1).

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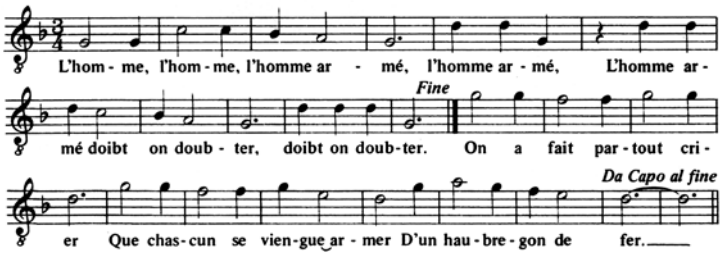
2 The Van Cliburn Competition claims an in-person audience of 40,000 for its 2017 events and video views of 4.8 million, including views through the medici.tv broadcast service (2017 Cliburn Competition).

3 Personal inquiry by the author.



Example 1. "L'homme armé"

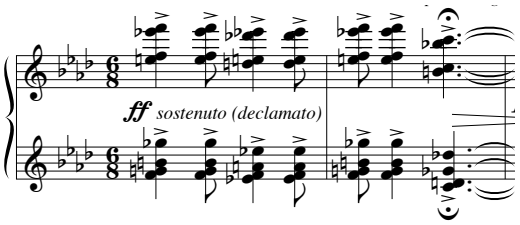
The earliest known inscription of melody and text is the "Naples manuscript" discovered in 1925 by Dragan Plamenac in the Biblioteca Nazionale of this city.[4] No definitive year of composition (assuming the song is not of folk origin) has been determined. Alejandro Enrique Planchart proposes late 1433 or 1434 as the earliest possible years on the grounds that this is when the membership of the Order of the Golden Fleece reached the necessary symbolic threshold of 31 (Planchart 2003: 312). He also settles on Guillaume Du Fay as the composer (Planchart 2003: 356).

The "armed man" has been variously decoded as Charles the Bold of Burgundy, Christ or the Saracen enemy that conquered Constantinople in 1453. Taruskin conjectures that the falling perfect fifth that so distinctively interrupts the flow the melody is in imitation of a trumpet call and evocative of court life in Burgundy (Taruskin 2005: 485).[5] Plamenac in 1929 hypothesized that this figure was a remnant of a polyphonic elaboration rather than an integral part of the secular tune (Plamenac 1929: 376–383). Either way, it is useful as a melodic and rhythmic motif, as we shall see.

4. Toccata on "L'homme armé": analysis

4.1. Thematic and harmonic characteristics

Hamelin's Toccata begins with a two-bar *fortissimo* declaration based on the first seven notes (and four measures) of the B section of the "L'homme armé" tune (Example 2).



Example 2. Hamelin, Toccata on "L'homme armé," mm. 1–2

In their declamatory style and decisive establishment of a dominant, these measures can be compared with the opening of another Toccata: Schumann's. Fourteen bars of energetic semiquavers in alternating hands follow, including a trill on C in m. 13. This introduction prepares the ear for a faithful statement in the tonic, F minor, of the A section (Example 3).

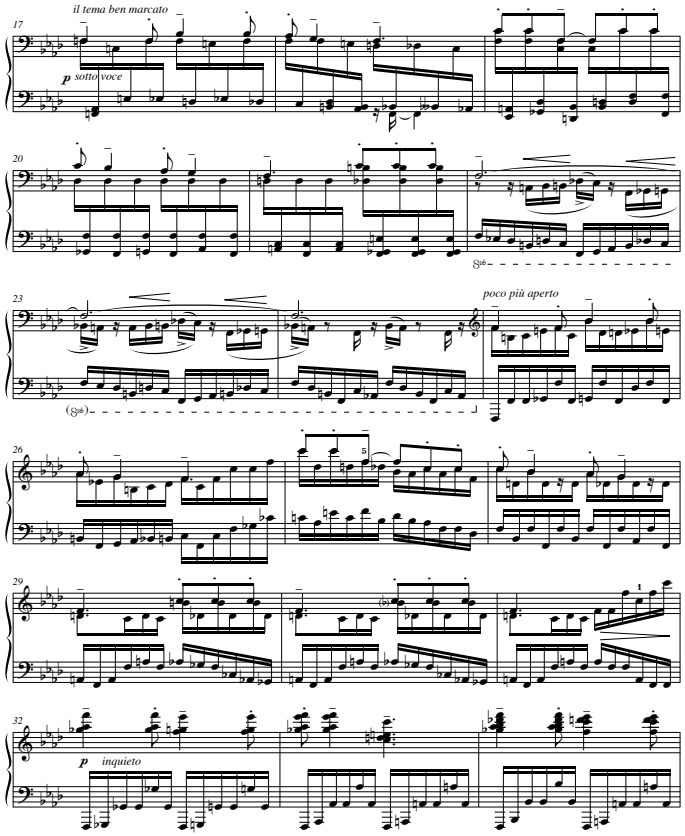
After a partial restatement starting at m. 25, the right hand rises two octaves rather than one at m. 32, an ascent that emphasizes the independence of the B section. Three phrases end on a semibreve C. Modern ears can hardly fail to hear C as the dominant, despite the characteristic Dorian absence of a leading tone. Indeed, the dominant character of C is arguably redoubled by the closing of the "exposition" in the tonic at mm. 44–46, a peculiarity I shall consider later.

4 MS VI E 40, fol. 62v. See https://www.diamm.ac.uk/sources/1013/

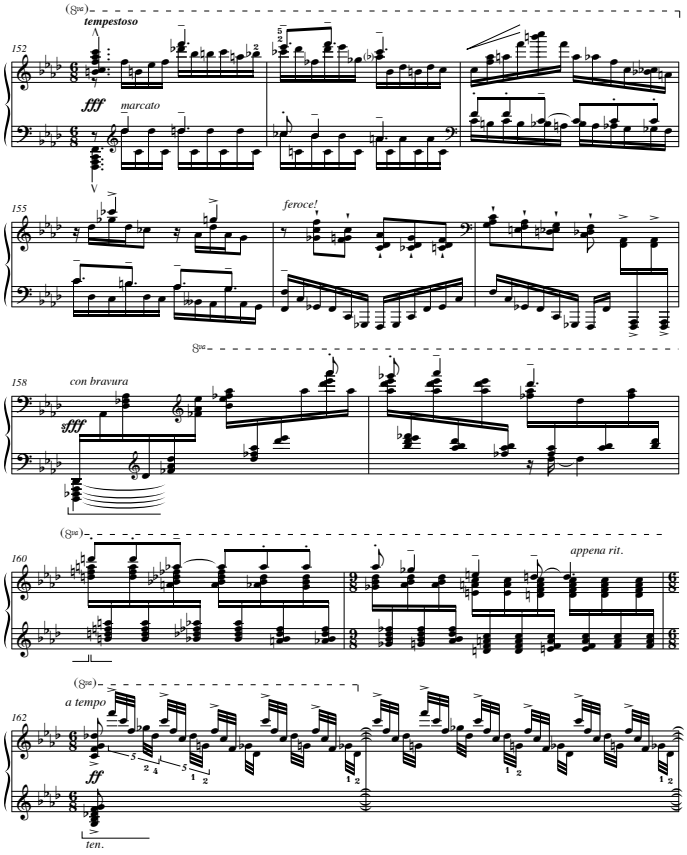
5 Taruskin speculates that a "brass trumpet" purchased by the court in 1364 was still in use a century later (Taruskin 2005: 485).

The development, marked by the double bar at m. 47, begins with a statement of the main theme in the left hand. The descending-fifth fanfare appears at m. 61. There are accidentals and non-harmonic notes by the hundreds but rarely do we feel that the key eludes us. The cancelled flat at m. 66 denotes a modulation to A minor. We are in D minor at m. 85 and – significantly for my thesis – B flat minor at m. 91. There are also a few interludes of B minor, as at m. 106, following more than three bars of V.

Only in mm. 148–149, a sequence near the end of a long *crescendo* and aptly marked *frenetico,* is key identity disrupted. Even here a rising figure in the treble, coupled with a *crescendo*, stabilizes the musical narrative while propelling it forward. In any case, this brief episode of harmonic chaos is resolved promptly by the *fortissimo* assertion of F minor at m. 152, which I have identified, with the assent of the composer, as the recapitulation (Example 4).



Example 3. Hamelin, Toccata on "L'homme armé," mm. 17–34



Example 4. Hamelin, Toccata on "L'homme armé," mm. 152–163

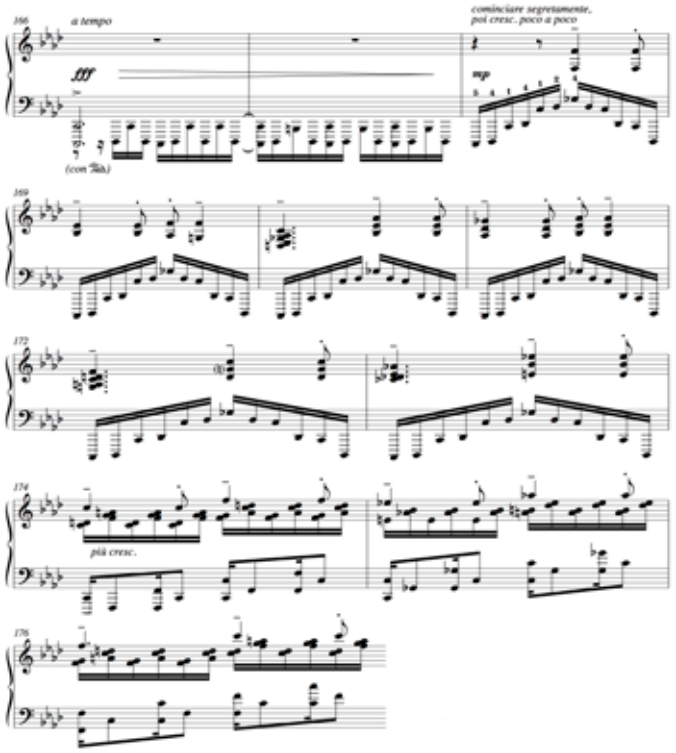
4.2. Dominant pedal and cadence in the tonic

More harmonic than melodic, this greatly abbreviated recapitulation leads at m. 166 to what might justly be called the dominant pedal to end all dominant pedals, a thundering low C doubled at the octave that issues an unequivocal invitation to expect an equally affirmative expression of the tonic. In mm. 168–170 Hamelin has ingeniously combined the A and B sections of the melody in the right hand, with the B section on top. But mm. 166–175 are mostly about the assertion of the dominant with the lowest C available on the piano (Example 5).

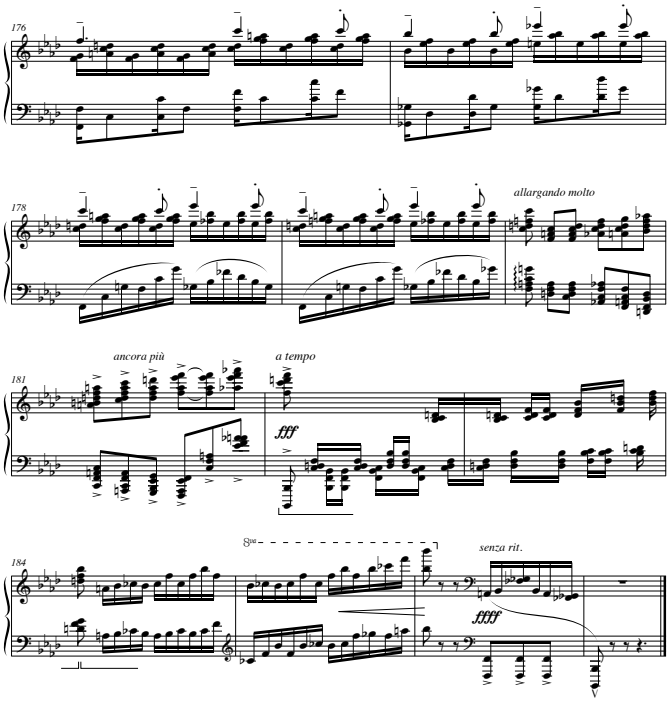
In mm. 174–175 the top line reminds the listener of the rising fourth with which "L'homme armé" begins. Also in m. 175, a rare appearance by the leading tone, E, along with the dominant seventh, B flat, secures a feeling of having achieved a resolution in F major at m. 176. The key is reaffirmed in m. 178 and m. 180, albeit provisionally, as added notes introduce a subversive touch.

4.3. Tonic overturned

This is where we might expect playful post-cadential elaboration, possibly with fleeting modulations to related keys, before an unequivocal restoration of F. But rather than question the tonic, Hamelin overturns it at m. 182 with a *fortissimo* V–I cadence in B flat. The presence of the leading tone and dominant seventh leave no doubt of the new harmonic neighbourhood. Both hands rise in a flurry of semiquavers in mm. 184–185 to B flat in the treble, an ascent that is followed by a descending fifth in octaves in the left hand, Taruskin's trumpet fanfare. Such a gesture, decisive in rhythmic profile and harmonic connotation, will have an air of conclusion to modern ears regardless of key. And thus Hamelin uses it, in the bass register at quadruple forte, to trump the tonic (Example 6).



Example 5. Hamelin, Toccata on "L'homme armé," mm. 166–176



Boston, December 29, 2016

Example 6. Hamelin, Toccata on "L'homme armé," mm. 176–187

5. Subdominant conclusion: discussion

5.1. Thoughts of the composer

The question is why. At this point I shall appeal to the composer, who supplied different answers on three occasions to the question: "Why does the Toccata end in the subdominant?" They are as follows.

1) "Because it does."
2) "One could perhaps see it as a sudden unexpected open window to future possibilities. But that's something I didn't need to explain to myself."
3) "Don't stop worrying. This is a serious problem: the armed man."[6]

The first apparently tautological answer in part reflects surprise at the question. Nonetheless, the answer has significant content. Its implication is that artistic choices are self-explanatory and require no formal justification even if they involve an apparent violation of expected procedure. One might compare the answer with Debussy's oft-recounted (though difficult to verify) response to the registrar of the Paris Conservatoire who asked which rule the young composer would follow: "mon plaisir."

Such logic is impregnable to challenges. But clearly Hamelin gave the matter further thought and a few days later offered the more illuminating second explanation, in which he recognizes in non-pejorative language that the subdominant conclusion can be viewed as a violation. He adds, however, that he did not perceive the ending as being irregular during the act of composition. The self-analysis is entirely after the fact.

His final answer, offered at a third interview months after the competition, invokes the 15th-century text, which advises listeners to be wary of the unidentified armed man, avers that the alarm is already widespread and recommends chain mail as protection. Few people hearing the Toccata would know the words. Nevertheless, the subject of the armed man and imminent danger he poses has a clear influence on (and perhaps determines) the stalwart and martial character of the tune. To modern and early-modern ears alike, "L'homme armé" surely does not sound like a love song. By ending his Toccata in B flat, Hamelin denies us the peace of mind and sense of finality that comes with a tonic conclusion for the good reason that the armed man is still at large. He might turn up anywhere (including the subdominant).

5.2. Further explanations

Hamelin's explanations for the conclusion in the subdominant do not invoke melodic characteristics of the song or his harmonization of it. Yet there are significant "musical" aspects to be considered in assessing the effect of the ending.

First, the rising interval of a perfect fourth represents the inaugural thumbprint of the melody. An educated listener hearing the first three notes rendered in unison by a male chorus, even as vocalise, might reasonably guess the song to be "L'homme armé." The strength of B flat as a melodic identifier[7] inevitably privileges the key of which it is the tonic. Nor are exceptional powers of aural perception required to recognize the descending fifth of the final bar of the Toccata as an inversion of this inaugural rising interval. The inversion as embodied in the familiar "fanfare" phrase (the inherently conclusive nature of which I have discussed) creates a strong sensation of closure. One might even venture the opinion that the gesture closes the Toccata "because it does."

Second, B flat minor is no stranger. I have mentioned its appearance in m. 91. There is another in m. 110. For 10 bars starting at m. 131, the left hand plays nothing but Fs and B flats. I do not propose that these appearances, whether fleeting or extensive, justify ascribing to the Toccata a double-tonic complex, even assuming that such a thing can exist. Nevertheless, the frequent visitations make B flat a more acceptable pretender to the tonic throne than other related keys might be. And the failure of the section I have identified provisionally as the exposition (mm. 7–46) to end in the relative major (and thus destabilize the tonic as it would in a traditional sonata allegro) paradoxically gives the tonic the sound of a host who has monopolized the conversation. The displacement, to some listeners, will come as a welcome one.

Finally, the unexpected shift to the subdominant pays homage to the modal character of the tune and recognizes its origins in an era when the need to end in the tonic was not entrenched. Innumerable works of the Renaissance begin and end in different keys. Often the terminal tonality is the subdominant. The most famous of all Renaissance masses, Palestrina's *Missa Papae Marcelli*, offers a handy example. Its Kyrie opens in G and ends in C.

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6 For a discussion of the identification of the armed man with the "Turk" see Wegman (1999): 175–214.

7 When performed in F. The more typical key is G.

C is also the key in which the work as a whole concludes.[8] Palestrina's scarcely less admired *Stabat Mater* establishes A as the tonic with repeated cadences before ending in D.

As I have mentioned, "L'homme armé" is in the Dorian mode. This circumstance makes a detour away from the tonic more feasible for the modern listener than it would be in the case of a more conventionally diatonic melody with a leading tone. As Hamelin points out, the armed man of the mid-15th century remains a threat. He has not been captured or subdued. This is to say that he is unshackled by a leading tone. Furthermore, his escape via the subdominant is entirely consistent with the harmonic practice of his age.

6. Conclusion

6.1. Declining prestige of the tonic

Let me acknowledge in conclusion that my reasoning potentially involves a circularity. I have assumed that ending in the tonic is rational and that any other choice is intuitive. This assumption is not equally valid for all genres of music in all periods. Clearly the tyranny of the tonic is not what it once was for composers of concert music. Many contemporary works move up and down within a certain ambitus and change tempo and texture without ever establishing a key centre or creating a feeling of functional harmonic motion. Manos Panayiotakis has spoken of the search in the 1950s for an alternative to tonal tension and release and the appearance of C major at the end of Krzysztof Penderecki's otherwise atonal *Polymorphia* – a conclusion even more surprising in its context than Hamelin's subdominant in the Toccata.

It is common to hear jazz arrangements that end inexplicably in a key other than the tonic. Sudden modulations up a tone or semitone, ostensibly in the interest of heightening excitement, are clichés of popular music, as is the harmonically inconclusive fadeout. Most Sousa marches, including *The Stars and Stripes Forever*, end in the subdominant. This is a choice of convenience, since the B section of a Sousa march is typically in the subdominant. Nevertheless, failure to restore the tonic might also reflect in a subtle way the open-endedness of military music. Who can determine in advance when a battalion should stop its marching?

6.2. Balancing *ratio* and *intuitio*

All of these examples merit investigation. Yet as I have tried to demonstrate, Hamelin's Toccata occupies another aesthetic world. It behaves, until its final page, like a tonal piece of the common-practice period. It is, in short, the sort of work one expects to end in the tonic.

Opinions might differ on whether the Toccata's conclusion in the subdominant is fully satisfying. I regarded it as surprising on first hearing and felt the need to seek an explanation as to why it "worked." Without this element of surprise, there would, of course, have been no such quest. And surprise, by definition, is caused by a departure from expectation, which is itself established by schematic and rational order.

There are levels of listener satisfaction, which will vary according to the individual. In all cases, however, satisfaction is related to a balance of intuitive and rational procedures. Where the intuitive is absent, and the trajectory of music is entirely predictable, listening becomes passive and engagement is futile. Where rational antecedents are missing – as they arguably are in, for example, the more chaotic works of Charles Ives – the intuitive becomes a synonym for the irrational, and spontaneity becomes a euphemism for disarray. The appropriate proportion of the rational and intuitive in a given composition may be difficult to establish in objective terms. Nevertheless, this proportion will continue to determine, at least in part, the aesthetic merit individual listeners attribute to any piece of music.

References

2017 Cliburn Competition website. See https://www.cliburn.org/2017-cliburn-competition/

Anonymous (c. 1450). *L'homme armé* (manuscript). Biblioteca Nazionale Vittorio Emanuelle III, Naples, Italy: MS VI E 40, fol. 62v. See https://www.diamm.ac.uk/sources/1013/

Grout, Donald Jay (1973). *A History of Western Music* (Shorter edition, revised). New York: W. W. Norton & Company.

Hamelin, Marc-André (2016). *Toccata on "L'homme armé."* Leipzig, London and New York: C.F. Peters Corporation. See http://www.edition-peters.com/product/toccata-on-lhomme-arme/ep68577?TRE00000/

Kaptainis, Arthur (2017). Marc-André Hamelin's imposing Toccata takes Texas. In: *Montreal Gazette*, June 17. See http://montrealgazette.com/storyline/arthur-kaptainis-marc-andre-hamelins-imposing-toccata-takes-texas

[8] It needs to be borne in mind that like all masses of this era written for liturgical use, the *Missa Papae Marcelli* would not be heard as an uninterrupted composition.

Plamenac, Dragan (1929). Zur 'L'homme-armé'-Frage. In: *Zeitschrift für Musikwissenschaft* 11.
Planchart, Alejandro Enrique (2003). The origins and early history of L'homme armé. In: *Journal of Musicology* 20/3. University of California Press.
Taruskin, Richard (2005). *The Oxford History of Western Music*, Vol. 1. Oxford University Press.
Wegman, Rob (1999). Mensural Intertextuality in Busnoys. In: *Antoine Busnoys: Method, Meaning, and Context in Late Medieval Music*, ed. Paul Higgins (Oxford: Clarendon Press).

Racionalumo intuityvinimas: Marco-André Hamelino *Toccata* „L'homme armé" tema

Santrauka

Marco-André Hamelino *Toccata* „L'homme armé" tema, užsakyta 15-ajam Vano Cliburno tarptautiniam fortepijono konkursui, yra artimesnė XX a. pradžios solinių fortepijoninių kūrinių stilistikai. Nors ir virtuoziškai parašytas, kūrinys yra beveik grynai tonalus, be elektronikos ar išplėstinių technikos priemonių. Dvidešimt vienas iš trisdešimties Vano Cliburno konkurso dalyvių 2017 m. gegužės mėn. atliko šį kūrinį mintinai. Prancūzų pasaulietinė daina „L'homme armé" buvo viena iš labiausiai Renesanso meistrų plėtotų temų, o Hamelino *Toccata* gali būti traktuojama kaip sonatos formos variantas f-moll tonacija. Ši tonacija prieš pat pabaigą yra galutinai įtvirtinama dominantiniu pedalu (*fortissimo* dinamika) ir aiškia (nors ir kiek užslėpta) tobuląja kadencija. Vis dėlto po jos eina dar viena tobuloji kadencija, B-dur tonacijos, o bosinė *si*♭ nata yra eksponuojama *ffff* dinamika. Nors pabaigti kūrinį kita tonacija (nei aiškiai įtvirtinta tonika) nėra analogo neturintis reiškinys koncertinio repertuaro praktikoje, tai visgi yra formalios struktūros pažeidimas (kaip ir Chopino Baladės op. 38 atveju), kurį reikėtų paaiškinti atskirai.

Straipsnyje argumentuojama, kad akivaizdus spontaniškas nukrypimas į subdominantę (jį pats kompozitorius apibūdina kaip „staigų, netikėtą, atvirą langą su ateities perspektyvomis" arba kaip įspėjimą, kad „ginkluotas žmogus" vis dar aktualus) gali būti aiškinamas grynosios kvartos manifestavimu, juolab kad šis melodinis šuolis „L'homme armé" dainos atveju yra vienas ryškiausių jos atpažįstamumo atributų; kartu tai ir duoklė erai, kai moderni funkcinė harmonija dar nebuvo kodifikuota ir perėjimai į kitas tonacijas (tarp jų – subdominantines) buvo įprastas reiškinys. Kompoziciniai sprendimai, kurie sukrečia klausytoją kaip netikėti (vadinasi, intuityvūs), nebūtinai neturi racionalaus paaiškinimo, net jei kompozitoriai negali iškart įvardyti už jų slypinčios tam tikros logikos. Hamelino *Toccatos* pavyzdys rodo glaudų *ratio* ir *intuitio* susipynimą ir byloja apie šio abipusio santykio svarbą gvildenant platesnius estetinius klausimus. Per daug racionali eiga be netikėtumo momento galiausiai kelia nuobodulį; pernelyg intuityvus procesas be jokio racionalaus pagrindo sukelia frustraciją. Klausytojai gali skirtis nevienodu šių aspektų proporcijų poreikiu, bet tam tikras balansas yra muzikos, kaip vertybės, kertinė sąlyga.

Mark Vuorinen

At the Intersection of *ratio* and *intuitio:* Arvo Pärt's *Como cierva sedienta*

Abstract. Much study has been done on Arvo Pärt's celebrated tintinnabuli style and the methods by which his earlier works were created using a fastidiously followed process of composition. But what replaces Pärt's rational processes when he seemingly breaks free of the traditional tools of the tintinnabuli language as he did in his 1999 work for solo soprano/unison women's chorus and full orchestra, *Como cierva sedienta?* The work is described by music critic Alex Ross as having "a strikingly vibrant, almost Fauvist orchestration and a richly ornamented vocal line; it is very nearly opulent" (Ross 2002). Said in relation to the music of many other composers this statement might well go unnoticed. But, Pärt's music has never been accused of such a quality. The description of near 'opulence' suggests something very new in his music. The paper uses my thorough analysis of *Como cierva sedienta,* as the basis of a discussion revealing the ways in which the composer has eschewed the traditional tintinnabuli language and methods to link text to music, only to replace them with a series of new, more intricate processes designed to intimately and intuitively paint the text in ways not observed in Pärt's music before or since. In *Como cierva sedienta*, Pärt established new processes that control virtually every aspect of the music. Guided by the inflection of the Spanish text, Pärt designed mechanisms to generate orchestral material (such as inversion canon, complicated motives related to grammatical syntax and word-stress, or homo-rhythmic orchestral passages derived from retrograde, retrograde-inversion and transposed retrograde melodies, for example). Pre-compositional devices infuse a work rich in colour, orchestration and tonality, resulting in a piece that set a new benchmark in the development of this composer's unique voice.

Keywords: Arvo Pärt, *tintinnabuli*, *Como cierva sedienta*, *Passio*, analysis, inversion, canon, retrograde.

In 1999, the Canary Islands Music Festival commissioned Arvo Pärt to compose *Como cierva sedienta,* a work for large orchestra and soprano solo (or unison sopranos). Patricia Rosario and the Copenhagen Philharmonic Orchestra, under the direction of Okko Kamu, premiered the work in Spain. Pärt is an experienced composer of orchestral pieces, but most of these works are from his serial period in the 1960s.[1] *Como cierva sedienta,* a setting of Psalms 42 and 43, is among his largest-scale works, both in terms of length and instrumentation. In five distinct movements, each with clear subdivisions, Pärt offers a work of substantial scope, drawing on a compositional language developed over more than twenty years. Although the older voice of the tintinnabuli technique is still recognizable, Pärt has expanded the palate from which he paints, making *Como cierva sedienta* an important benchmark in the development of this composer's unique voice.

Inspired by the themes of the 17th International Music Theory Conference: Principles of Music Composing, this paper uses an analytical lens to apply the idea that the phenomena of rationality and intuition are considered to be contrasting yet complementary poles in the compositional process. What are the ways by which, and to what end, did Pärt augment his unique tintinnabuli language in *Como cierva sedienta*? To what extent does the composer rely on the pre-compositional processes that have served his music so well? What replaces Pärt's traditional tools of the tintinnabuli language as his melodic, harmonic, and timbral expression expands?

Much study has been done on Arvo Pärt's celebrated tintinnabuli style and the methods by which the works in this musical language were composed. Works in this style, which have dominated his oeuvre since the late 1970s, in essence, involve a two-voice texture.[2] The first voice, which he refers to as the melody-voice, is normally scalar, and usually is limited (at least in the early works) to an octave or less. The second voice, called the tintinnabuli-voice, is entirely triadic and is normally attached compositionally to the melody-voice. The process for 'attaching' the tintinnabuli-voice is worked out in the pre-compositional design of each piece and, at least with respect to his earlier works in this style, is followed fastidiously throughout the work. At the point of pre-composition, intuition presides, while rationality follows the prescribed process through to its end.

Conductor and Pärt scholar, Paul Hillier, best defines the relationship and the fusing of the two voices in his 1997 Oxford University Press monograph on Pärt and his music. He describes the intrinsic relationship shared by the melody- and tintinnabuli-voices:

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1 Of all of his works written since 1977, only *Litany* (1994), *Cantique des degrés* (1999), *Cecilia, vergine romana* (2000) and *In principio* (2003) calls for a full orchestra.

2 For an in-depth discussion of the principles of Pärt's *Tintinnabuli* composition see Paul Hillier's book *Arvo Pärt,* pp. 86–97. The language of analysis (with respect to the terms *melody-voice, tintinnabuli-voice,* and the relationships between them) used in the present study is based on Hillier's introductory chapter on *Tintinnabuli.*

> The harmonic framework has been tilted sideways to form a musical line and the relationship between two different kinds of melodic movement creates a harmonic resonance, which is essentially the triad and fluctuating attendance of diatonic dissonances. What we hear might be best described as a single moment spread out in time (Hillier 1997: 90).

In Figure 1, a passage from his 1982 work, *Passio,* one can see this relationship play out between the tenor (T-voice) and bass (melody-voice). The attendant relationship of the T-voice to the M-voice is known as 1st position-alternating and used frequently in Pärt's tintinnabuli compositions. The term 1st position-alternating, here, refers to the T-voice using the pitch closest to the M-voice, alternating above and below.[3]

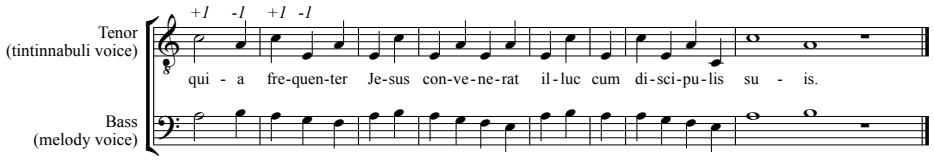


Figure 1. Pärt, *Passio,* rehearsal 7, tenor and bass tintinnabuli relationship

Many authors, including me[4], have ascribed symbolic significance and theological meaning to Pärt's fastidious pre-compositional design and methods of composition.

Como cierva sedienta, however, is a decided move away from the codified procedures of tintinnabuli common to the 1980s. The orchestral colours are at times rich and warm, with far more expansive use of harmony than previously experienced. Alex Ross, music critic of the New Yorker, describes the piece as having "a strikingly vibrant, almost Fauvist orchestration and a richly ornamented vocal line; it is very nearly opulent" (Ross 2002). Said in relation to the music of many other composers this statement might well go unnoticed. But, Pärt's music has never been accused of opulence; this statement suggests something very new in his music. Ross is recalling the strongly coloured paintings of Henri Matisse and André Derain as a visual parallel to Pärt's music. This reference to the visual arts, by Alex Ross, refers first and foremost to the expanse of orchestral colour present in this work. However, more importantly, the increased colour of the sonic experience is directly related to a softening of the tintinnabuli procedures and expansion of new process-driven compositional technique. This softening allows for a more varied harmonic language. To be sure, signs of the old Pärt are still present. Conjunct melody lines largely define the sung material, while orchestral voices are often inextricably paired with triadic tintinnabuli-voices. The mono-chordal use of tintinnabuli of earlier years, however, has been expanded, now moving between multiple tonal centres. Immediately, a listener recognizes the expanded tonal palette. Interestingly, Pärt himself recognizes, somewhat sheepishly, his move away from the strict procedures of the earlier tintinnabuli music in this interview Ross:

> The composer acknowledged his latest tendencies with a guilty smile. "Yes," he said. "I got a little crazy, didn't I?" He mimed a gesture that suggested a flamenco dancer throwing tennis balls (ibid.).

The distance travelled by Pärt from the strictly controlled tintinnabuli procedures of *Passio* to the greatly expanded tonal palette of *Como cierva sedienta,* didn't occur all at once, of course. Rather, the continued development of this composer's music, like so many other composers, moves along a continuum. At times, the continuum moves away from strict procedures, towards greater compositional freedom. At other times, Pärt looks back seeming to entrench the process-driven practices of the past in new ways.

This paper uses my analysis of *Como cierva sedienta,* as the basis of a discussion revealing the ways in which the composer has eschewed the earlier tintinnabuli methods, on which he relied, to link text to music, only to replace them with a series of new more intricate practices, each of which in their own way, integrally connect these sacred words of the psalms to the orchestral music that surrounds them.

Guided by the inflection of the Spanish text, he has designed procedures similar to those of earlier works to guide the creation of a vocal line, or M-voice, but has developed entirely new mechanisms to generate the orchestral material that accompanies it. In some cases, the mechanisms can be observed within every note and phrase. At other times it is observed, that the process at work is only visible from a greater distance. Nevertheless, these pre-compositional devices infuse a work rich in colour, orchestration and tonality, resulting in a

[3] Paul Hillier's 1997 study, *Arvo Pärt* (Oxford University Press) offers an insightful introduction to tintinnabuli and forms the basis of the language used in this study.

[4] See: Vuorinen, Mark, "Symbolic Chiasm in Arvo Pärt's *Passio." Circuit,* Vol. 32, No. 1 (2011), pp. 45–59.

piece that sets a new benchmark. In earlier works, it was observed that the composer found sufficient musical food in the simplest seeds of a single triad and scale.

In *Como cierva sedienta,* however, Pärt defines the musical setting of each verse of biblical text with a discrete musical texture and orchestration, thereby painting the text to a greater extent than previously seen. The methods vary dramatically from one verse to the next resulting in a highly colourful and tonally variant work.

Inversion: Canon and Reflection

The inversion of a melody-voice or M-voice, has long been one of Pärt's primary tools of textural development. Early works in the tintinnabuli language often used melodic inversion to develop a two-voice texture into a four-voice texture. Figure 2 shows an excerpt from *Passio,* in which a two-voice 1st position alternating tintinnabuli relationship is developed by adding a second two-voice pair in inversion to the first pair.

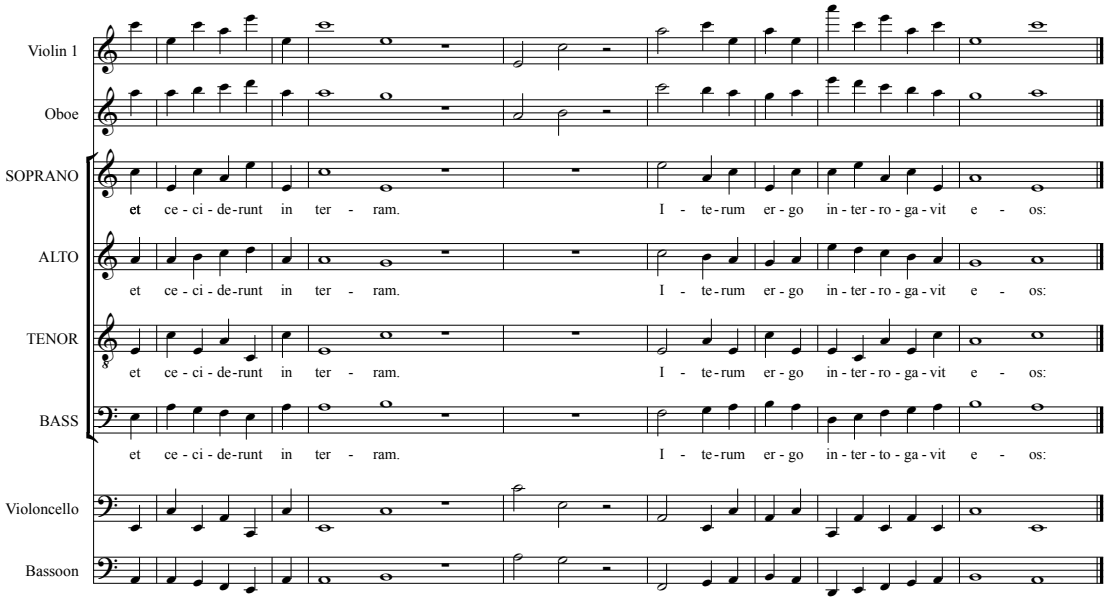


Figure 2. *Passio,* rehearsal 20, tintinnabuli inversion

In *Como cierva sedienta,* however, inversion takes on new roles, heard in a variety of forms. The opening of the third movement is an excellent example of how Pärt embeds text into the orchestral fabric through the use of an inversion canon. In this excerpt, a conjunct melody-voice, shaped by Spanish inflection related to accented and unaccented syllables and vowel sounds such as diphthongs, delivers the text of Psalm 42, verse 6.

A second M-voice is heard, played by the celli. This second melody is an inversion-canon of the soprano line, at the unison, and is delayed by one beat. The interval of inversion also starts anew with the beginning of every new word.

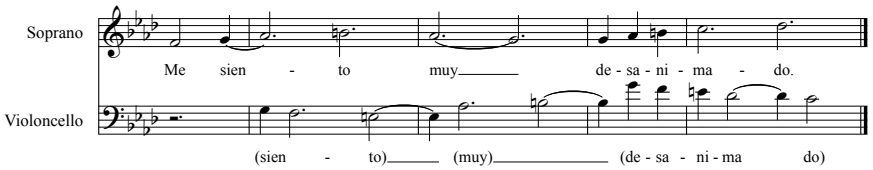


Figure 3. *Como cierva sedienta,* E, mm. 1–5

To develop this texture, Pärt pairs this melody and its inversion with two tintinnabuli-voices in F minor, heard in the first and second violins. Unlike the note-to-note tintinnabuli pairings in *Passio,* seen in Figures 1 and 2, the T-voice in the first violin is attached directly to the soprano M-voice and plays according to a three-note repeated pattern in 1st position-alternating for every word of text. The first two tintinnabuli pitches fall on the accented syllable of each word, while the third is heard during the final, unaccented syllable of text. This treatment is consistent. Single-syllable words are not accompanied by either an inversion canon or by tintinnabuli pitches.

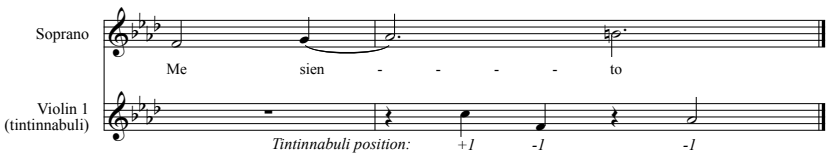


Figure 4. *Como cierva sedienta,* E, mm. 1–3

The T-voice in the 2nd violin is attached to the inversion canon, and offers only one pitch, in 1st position superior, during what corresponds to what would be the accented syllable of the word being inverted by the celli. The same measures of music, as Figure 4, are shown here in Figure 5, with text included in parentheses.

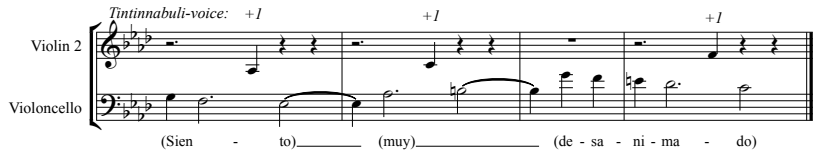


Figure 5. *Como cierva sedienta,* E, mm. 2–5

This inversion canon, then, wordlessly shadows the M-voice of the soprano, thereby embedding the text into the orchestral fabric, while the familiar sounds of the T-voice silhouette the poetic inflection of the Spanish text. Inversion in this form is found accompanying several verses of text throughout the work.

In another example of M-voice pitch content creating orchestral gestures, we can look to the end of movement four. Beginning with the words of Psalm 42.11 the composer creates four brass chorales each of which separate the textual phrases of this verse. Each of the instrumental passages contains traditional M-voice and T-voice relationships as well as elements not part of that language. To compose the M-voice for the brass chorale, Pärt reverses the melody pitches of the soprano's last word, *desanimarme.* The first occurrence is seen in Figure 6.

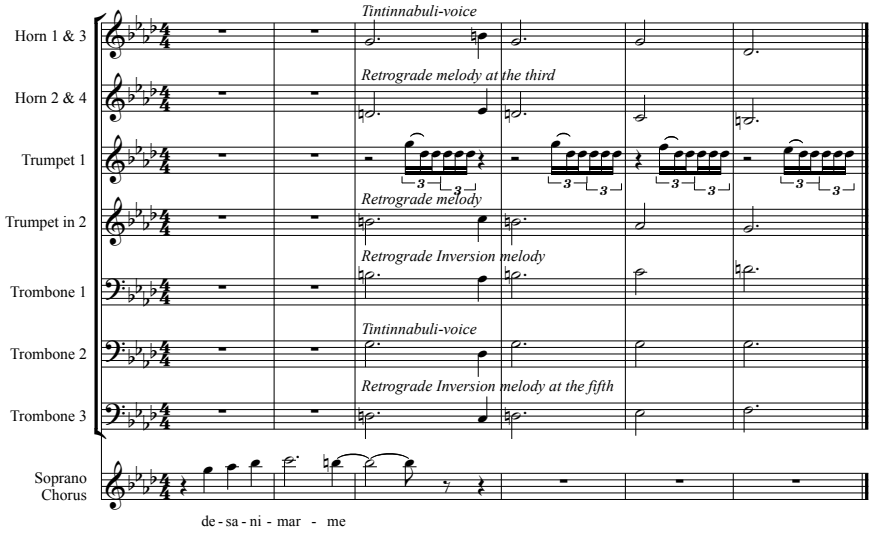


Figure 6. *Como cierva sedienta,* J, mm. 3–8

The retrograde melody is played by 2nd Trumpet and is doubled a 6th lower by Horns 2 & 4. An inversion of the retrograde-melody is also present as a third melody-voice in this passage (Trombone 1), and in turn the retrograde inversion is also doubled a 6th lower (Trombone 3). The passage has two T-voices, in G major, 'attached' to the M-voice transpositions (horn and trombone). A rhythmic gesture of 16th-note triplets creates a contrasting element to the sustained chords heard in the rest of the instruments. The pitch content of this repeated figure outlines the contour of the inverted M-voice. Every note of this text-less phrase originates from the M-voice setting the word, *desanimarme.* Yet, the passage, and the three brass passages that follow, engender entirely new and seemingly free-form phrases linking the textual phrases of Psalm 42.11.

New Approaches to 'tintinnabuli' Voices

In *Como cierva sedienta,* Pärt relies less on the use of a traditional T-voice than in many earlier works. When one is present, however, it contributes to Alex Ross's impression of "Fauvist opulence," in part because the composer uses as many as nine different chords, including on a number of occasions, a diminished triad and a diminished seventh chord, adding tonal variety to an already unusual work. But, there are several new ways in which the composer "attaches" pitch content to the text through their association to the M-voice in ways that mirror the tintinnabuli approach.

In the 2nd movement of the work an extraordinary passage of new compositional mechanisms is begun, setting the words of Psalm 42.5.[5]

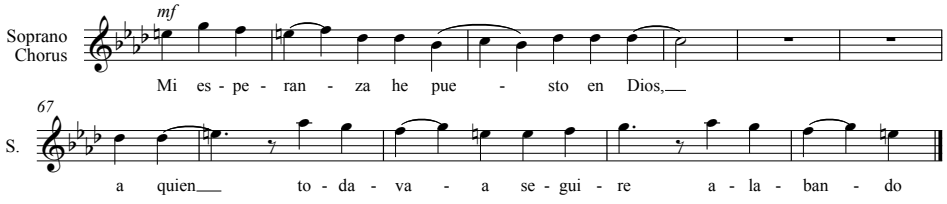


Figure 7. *Como cierva sedienta,* D, mm. 61–71

In Figure 7, the M-voice rises and falls according to its poetic stress, or inflection, while a second stratum of music is heard in the remaining string parts.

In tintinnabuli-like fashion, pitch-classes a diatonic third away from the M-voice are alternated above or below. In this way, Pärt has created a gesture that, by its attachment to the M-voice, follows tintinnabuli-like rules.

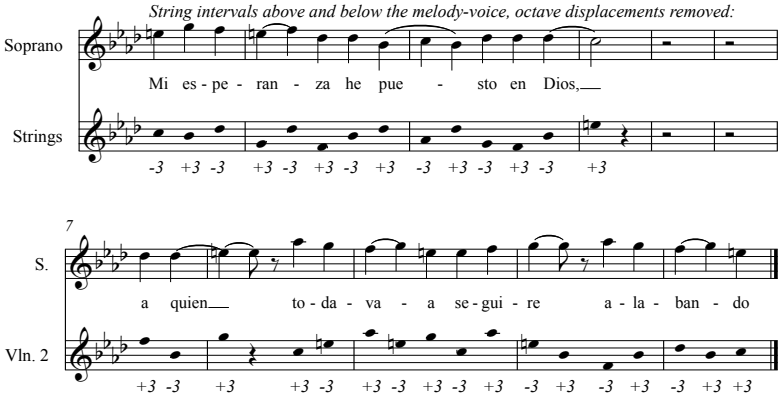


Figure 8. *Como cierva sedienta,* D, string relationship, mm. 61–71

The new voice, shown in Figure 8, alternates with regularity and maintains rigorous adherence to the rule set for its use in a variation of 1st position alternating. At the same time, it offers greater harmonic variety than a T-voice in the traditional sense, since the pitches are not connected to a single triad, but rather are always found a diatonic third away from the M-voice. In the phrase shown in Figure 8, all seven pitches of the mode are used at least once.

Meanwhile, Pärt also 'attaches' two- and three-note instrumental motives to the pitches of the soprano M-voice. In Figure 9, the motives, as assigned by Pärt, are shown next to the M-voice pitch to which they are attached.

[5] Psalm 42.5: Why art thou cast down, O my soul? And why art thou disquieted within me? Hope thou in God: For I shall yet praise him, who is the health of my countenance, and my God (as translated in the Preface, page vi, *Como cierva sedienta*).

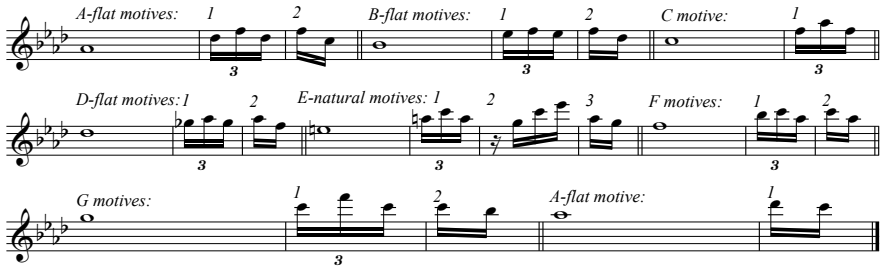


Figure 9. *Como cierva sedienta,* accompanimental motives, D, mm. 61–71

It is further observed that there are two motives for each M-voice pitch. The first is a group of 16th note triplets; the second is a pair of 16th notes. Pärt reserves the former for M-voice pitches that coincide with accented syllables of text, including single-syllable words, and the latter are attached to non-accented syllables. An additional motive of three sixteenth notes, following a sixteenth-note rest is assigned to words whose accent falls on its final syllable.[6] The instrumentation for these motives also follows a pre-determined pattern. The triplet 16th motive is played by the oboe and clarinet in a pattern of 1 oboe motive, followed by 2 clarinet motives. The motives associated with non-accented syllables are played by the piccolo. Each of the parameters, described above is shown in Figure 10.

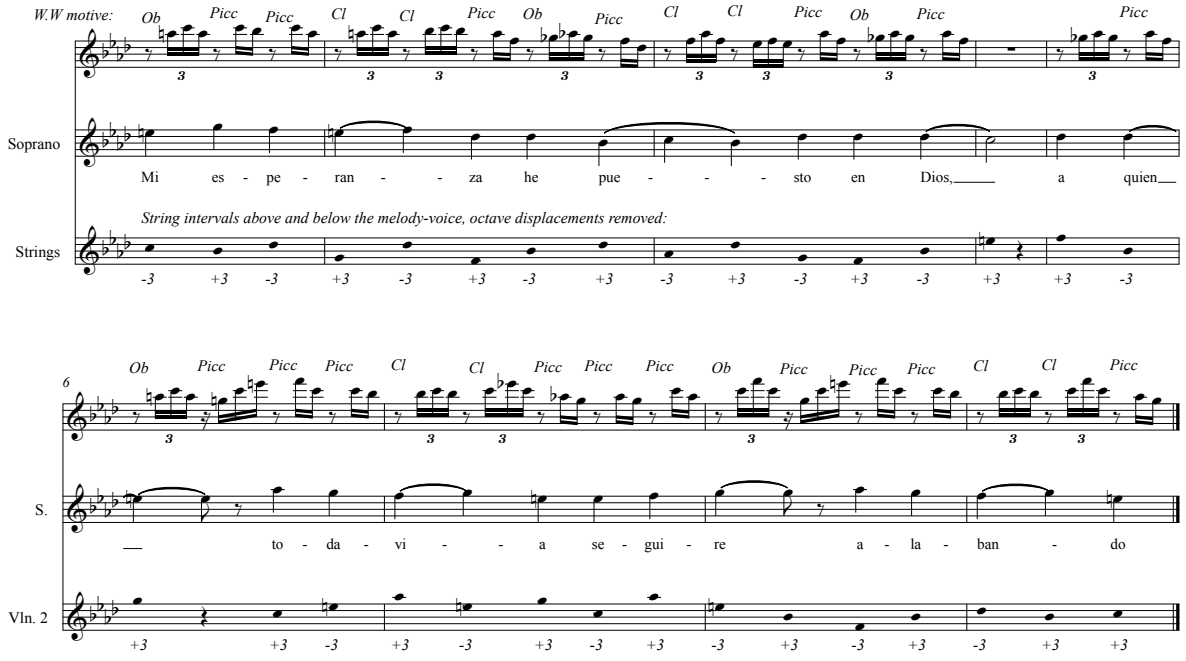


Figure 10. *Come cierva sedienta*, D, mm. 61–71

In this way Pärt links textual inflection to both motivic pitch content and also orchestral timbre. The result of these overlapping musical elements is a new musical palate, far richer in both harmonic and rhythmic variety than traditional tintinnabuli. Yet, the factors by which this music is controlled or governed are manufactured and managed in precisely the same way as Pärt's 1960s forays into serial music and the early tintinnabuli music.

Pärt develops this idea of attaching orchestral motives to M-voice pitches in later verses. And the manner in which he assigns the various motives has a profound impact on the affect of the setting.

[6] This scenario occurs only once in this passage, and is represented by motive 3 associated with the pitch, E-natural.

Orchestral Motives

For the treatment of Psalm 42, verse 7, in the third movement, Pärt makes use of a full orchestration of woodwinds, brass, percussion and strings.[7] The melodic material, or M-voice is once again governed by the text, and in turn, the M-voice controls the pitch and rhythmic content of the accompanying material.

First, the text is treated in a consistent and formulaic manner. Single-syllable words are set as quarter notes and multi-syllable words are treated according to where the natural word stress lies. In this passage, accented syllables of text are always given a two-note setting where the first note is a quarter note, and the second always a half note. The two notes move in step-wise motion and can either ascend or descend. When a final unstressed syllable follows, it is set as a half note and repeats the second pitch of the two-note stressed syllable setting. The M-voice material for the beginning of this passage is shown in Figure 11.

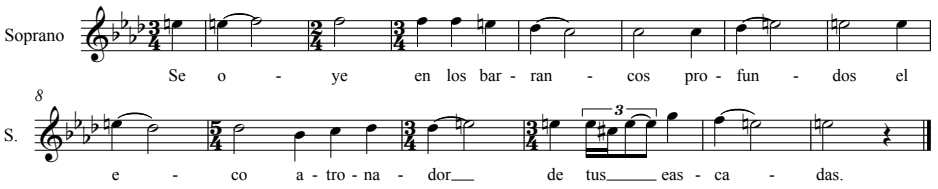


Figure 11. *Como cierva sedienta,* F, mm. 1–14

If there are one or more syllables at the beginning of the word, before the stressed syllable, they are set as quarter notes and approach the stressed-syllable pitches in conjunct motion.

The orchestral material throughout this section also rigorously maintains a pattern according to the text it accompanies. Four orchestral gestures attach to various parts of the text according to its poetic inflection. In the same way, the M-voice is governed by the placement of stressed and unstressed syllables, the orchestral gestures are also 'attached' to the M-voice according to its word stress. In this way, Pärt echoes his older tintinnabuli works, in which M-voice material exclusively governs the way in which T-voices are used. The same general principals are at play here, though the content has changed dramatically. As in other parts of the piece, single-syllable words receive no other treatment.

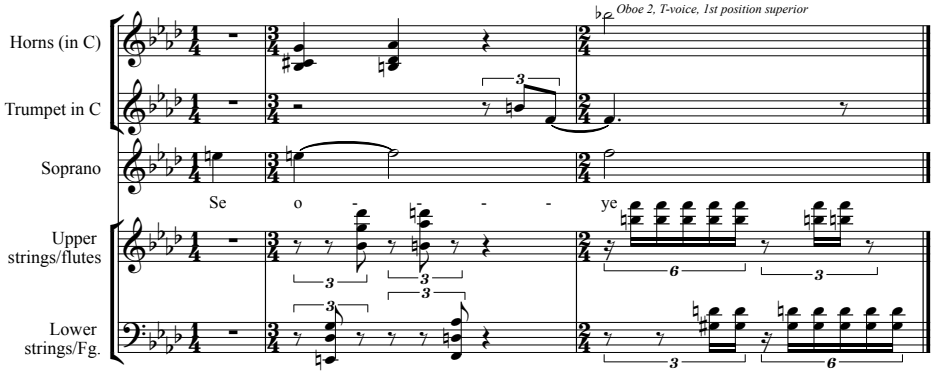


Figure 12. *Como cierva sedienta,* F, mm. 1–3

Figure 12 illustrates the orchestra gestures associated with each syllable of text. The three beats it takes for a stressed-syllable to be sung are treated instrumentally exactly the same way for each of the 10 multi-syllable words found in verse 7 and with each, three instrumental gestures can be observed:

1. For the first 2 beats, two seventh chords built on the M-voice pitch, are articulated in two ways. They are heard as solid chords, articulated by four instruments (horns and trumpets).
2. At the same time, the chord is also expressed in triplets, spread throughout the strings and wood wind instruments.
3. A melodic tritone is heard in the trumpet to close the treatment of a stressed syllable of text.

[7] This music begins at rehearsal F, on page 40 of the full score.

These three elements accompany each stressed syllable of text. The pitch content is directly related to the pitch classes of the M-voice. In each case the pitch of the melody becomes the root of the seventh chord, which is heard in the manner described above. The tri-tone heard as two triplet eighth-notes in the trumpet is likewise comprised of two pitches from the seventh chord heard one beat earlier.

For final unaccented syllables in the same word, a separate instrumental gesture is heard. Again, a seventh chord is build using the M-voice pitch as a root. In this case, the pitches are distributed using a sextuplet figure of repeated pitches heard in two or more instruments, as seen in Figure 12.

The sextuplet figures and M-voice pitch itself always last two beats for these final unaccented syllables of text. A secondary gesture is present on final unaccented syllables for the first half of the verse. The second oboe plays a note of a B flat minor triad at the same time as the unaccented syllable is heard.[8] The note has a typical and predictable tintinnabuli relationship to the melody note to which it is attached, though its use is more discreet as it's heard only in mm. 3, 6, 8, 10, 14. It is always found in the 1st position superior.

The last orchestral gesture heard in this 2nd section of the third movement occurs when one or more unstressed syllables of a word precede the accented syllable of the same word. Here, the pitch is accompanied by a scalar passage, which follows the overall contour of the M-voice. If the M-voice ascends to the next pitch, the scalar passage also ascends, and vice versa. In almost all cases, the scale begins on the pitch a third below or above the M-voice pitch, depending on the direction of motion. Rhythmically, the scale is set as a nontuplet of thirty-second notes. If there is more than one unaccented syllable, a scalar passage appears 'attached' to each of them. An example of this sort of setting occurs on the word *atronador* (*thunderous*), Figure 13, whose accented syllable is at the end of the word. There are three scalar gestures, one for each of the three unstressed syllables.

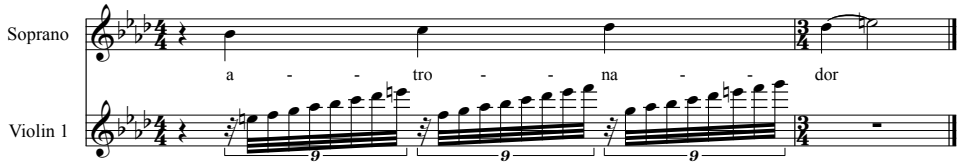


Figure 13. *Como cierva sedienta,* F, mm. 10–11

In Figure 14, each constituent part of the orchestration, described above, is represented and reduced to two staves. Pärt is rigorous about maintaining the rules set out from the outset with respect to accented and unaccented syllables. The reduction of m. 17–18, shown in Figure 14, is typical of this verse's setting.

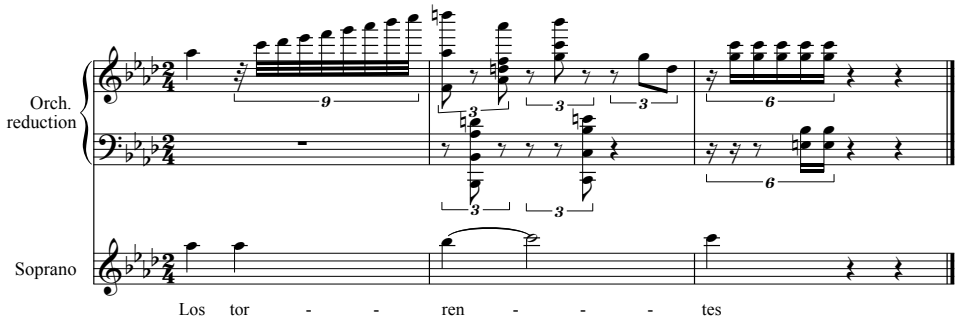


Figure 14. *Como cierva sedienta,* F, mm. 17–19

Motivically, the music that follows shares many of the same 'rules of engagement' as that which precedes it.[9] Pärt continues to use the concept of 'attaching' orchestral gestures to M-voice pitches based on their word stress. In verse 8, the gestures are decidedly different in character than the preceding verse. There is a greater

[8] In a unique development of the tintinnabuli language, only the unaccented last syllables of words in this section are set with a tintinnabuli-voice in B-flat minor. These occur in mm. 3,6, 8,10,14 (oboe 2).

[9] The setting of Psalm 42.8 begins at rehearsal G, on page 49 of the full score.

emphasis on sustained, *legato* gestures, keeping in line with the meaning of the text.[10] Typical examples of each type of accompaniment are shown in each measure. The text, *De dia*, represents a single-syllable word, a stressed syllable, and an unaccented final syllable.

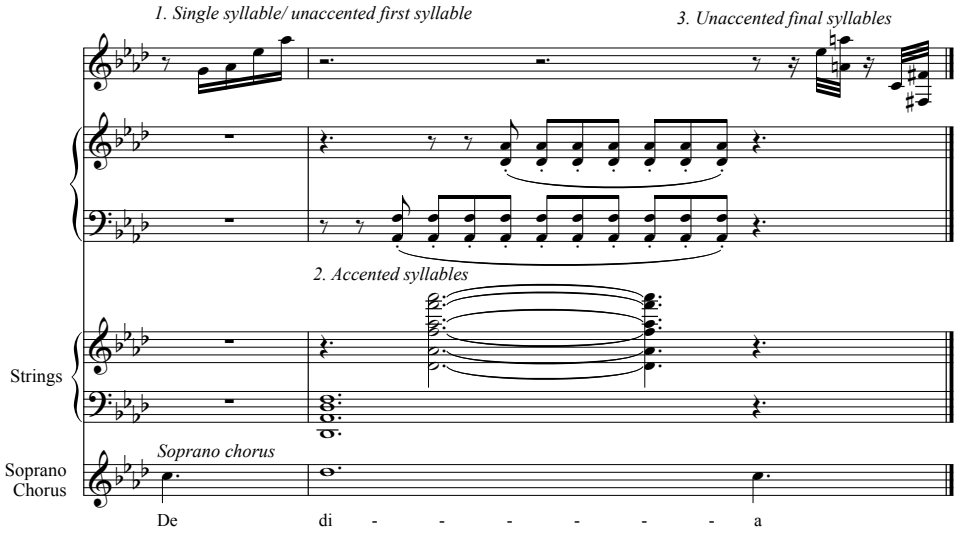


Figure 15. *Como cierva sedienta,* G, mm. 1–2

The approach Pärt takes in setting verses seven and eight of Psalm 42, are virtually the same. Orchestral gestures are created for each of the four kinds of word stress present (single syllable words, unaccented syllables coming before a strong syllable, accented syllables, and unaccented final syllables) in the text. Pärt is fastidious about applying the gestures to the M-voice throughout the two verses. Clearly, the musical materials have changed, but the process of 'attaching' gestures to M-voice pitches has its roots in the process-driven compositions of Pärt's earlier works. While the affect of verse seven and verse eight are very different from one another, the concepts for 'attaching' them remain identical. Here, it seems, Pärt makes a nod to word painting in a way that has not been observed in such an apparent manner before. Verse seven with its scalar passages, jarring triplets, melodic tritones, and sextuplets on unaccented final syllables is a clear reference to the 'thunder, waves and billows' in the text. This music can be compared to the relatively sedate and sustained motives composed to create the accompaniment to the words of Psalm 42.8. Given the remarkably similar process used to compose the two verses, it is striking that Pärt chose to so obviously paint the text of these two verses with such differing accompanimental motives side by side. It can be recalled in *Passio,* for instance, that more than an hour of music passes by without so much as a change of harmony in the tintinnabuli-voice, making the narrative of Christ's arrest, trial, and crucifixion sound remarkably similar for an extended period of time. In *Passio,* the creative phenomenon of rationality takes precedence. Meticulously pre-planned procedures are executed to create a work full of symbolic meaning. From the opening chords of the work, to the final sounds of Amen, Pärt crafted meaningful symmetry and chiastic constructions embedded with theological insight. In *Como cierva sedienta,* however, Arvo Pärt set off into new musical territory. The examples described above are but a few of many ways Pärt has made this work unique to his oeuvre using new and more complex pre-compositional processes expanding his tonal language allowing intuition to reign. Elements of his earlier tintinnabuli music are surely present, however, it is clear that it is the new processes observed throughout the work, and connected intimately to the text, that drive its creation.

Guided by the inflection of the Spanish text, Pärt designed mechanisms to generate orchestral material. In some cases, the mechanisms can be observed within every note and phrase. At other times it was observed, that the process at work is only visible from a greater distance. Nevertheless, these pre-compositional devices are responsible for a work rich in colour, orchestration and tonality.

[10] Psalm 42.8: By day the Lord commands his steadfast love, and at night his song is with me, a prayer to the God of my life.

Referring to *Como cierva sedienta,* the composer quipped to Alex Ross of the *New Yorker:*

"Yes," he said. "I got a little crazy, didn't I?"[11]

[The author gratefully acknowledges support of this paper by the Academic Research and Development Fund, Conrad Grebel University College.]

References

Hillier, Paul (1997). *Arvo Pärt.* New York: Oxford University Press.

Pärt, Arvo (2002). *Como cierva sedienta.* Wien: universal edition.

Pärt, Arvo (1982). *Passio.* Wien: universal edition.

Ross, Alex (2002). Consolations: The uncanny voice of Arvo Pärt. In: *The New Yorker,* December 2. https://www.newyorker.com/magazine/2002/12/02/consolations

Vuorinen, Mark (2011). Symbolic Chiasm is Arvo Pärt's *Passio.* In: *Circuit,* Vol. 32, No. 1: 45–59.

Ratio ir *intuitio* sankirtos: Arvo Pärto *Como cierva sedienta*

Santrauka

Šis straipsnis pagrįstas išsamiu teoriniu Arvo Pärto kūrinio *Como cierva sedienta* sopranui (arba moterų chorui unisonu) ir dideliam orkestrui (1999) tyrimu, kuriame aptariamas kompozitoriaus nusigręžimas nuo jam būdingo *tintinnabuli* (varpų skambesio) stiliaus siekiant sukurti naujas, kur kas sudėtingesnes konstrukcijas. Reikia pažymėti, kad šiame kūrinyje esama ir senojo Pärto stiliaus apraiškų. Dainuojamąją medžiagą daugiausia sudaro sujungtos melodinės linijos, o orkestrinės partijos dažnai yra pripildytos tercinių *tintinnabuli* faktūrinių pavidalų. Kartu šioje muzikoje yra kažkas nauja, ko iki šiol Pärto kūryboje nėra buvę.

Straipsnyje analizuojamas racionalumo ir intuicijos, kaip kontrastingų, bet kartu ir komplementarių komponavimo proceso polių, fenomeno pritaikymas. Čia iliustruojama, kaip metodiškai Pärtas pritaiko *tintinnabuli* stiliui būdingus racionalius procesus, kartu leisdamas jiems kisti. Dėl to klausytojui susidaro įspūdis, kad *Como cierva sedienta* buvo sukurta labiau reiškiantis intuicijai ir kompozicinei laisvei. Straipsnyje atskleidžiama, kad iš tikrųjų šiame kūrinyje Pärtas sukūrė naujus, beveik visus muzikos aspektus kontroliuojančius parametrus. Jo taikomi prekompoziciniai metodai suteikia kūriniui spalvinę įvairovę, orkestruotės ir tonacinio plano ypatumų. Taip suformuotas kūrinys tampa nauju savitos kompozitoriaus muzikos kalbos raidos atskaitos tašku. Straipsnio autorius aptaria, kaip Pärtas naudojo kanono ir retrogrado techniką, siekdamas naujų tikslų ir efektų; taip pat apžvelgia metodus, kuriais remdamasis kompozitorius kuria orkestrinius gestus, derina juos su dainuojamojo teksto poetiniu ritmu (pvz., akcentuotas skiemuo, neakcentuotas skiemuo, vienskiemeniai žodžiai). Be to, išryškėjo nauja *tintinnabuli* muzikos kalbos traktuotė bei nauji šiam stiliui būdingi komponavimo procesai. Žinoma, visi šie metodai nebuvo taikomi iškart. Tai yra jo nuoseklaus, beveik du dešimtmečius trukusio *tintinnabuli* muzikos kalbos tobulinimo rezultatas. Visgi tokiu mastu kaip kad *Como cierva sedienta* šios priemonės nebuvo naudojamos nei ankstesniuose, nei vėlesniuose Pärto kūriniuose. Interviu žurnalui „The New Yorker" kompozitorius šmaikštavo: „Taip, aš čia šiek tiek pakvailiojau, ar ne?" (Ross 2002).

[11] Alex Ross, "Consolations: Arvo Pärt." From the New Yorker, December 2, 2002. (Accessed online October 12, 2017). https://www.newyorker.com/magazine/2002/12/02/consolations

Chris Williams

Embodied Music Theory and Improvised Composition: Bill Evans, the Architect

Abstract. This article explores the connections and implications between a solo improvisation by Bill Evans, "Peace Piece"; a contemporaneous music theory, George Russell's *Lydian Chromatic Concept* (LCC); and my own analytical measurement, Pythagorean Height. I introduce the idea of Pythagorean Height to articulate a harmonic logic I hear in Evans' performance. Like "Peace Piece", Pythagorean Height resonates in many ways with Russell's ideas, but also differs in crucial details. It is these resonances, as well as the discrepancies, that form the body of the article. Russell has referred to the Pythagorean 'prototype' of his 'Lydian proclivities' (Russell 2001: 53). The idea of Pythagorean Height builds on the possibilities afforded by this 'prototype' and my contention is that Bill Evans' improvisation on "Peace Piece" is similarly built upon this prototype. Though there are historical and contextual connections between Evans and Russell, the article is not one of historical exploration, but rather a consideration of how three related ideas help to clarify, illuminate, re-enforce and critique one another. In discussing a personal propensity to "consciously abstract principles and put them into [his] own structure", Evans noted that "a painter" should be "a draftsman, too, and an architect". In adopting and following on from this metaphor, the article sets up two apparent dichotomies, rhetorically, between embodiment and improvisation on the one hand, and theory and composition on the other. The intent is that the article will emphasise the falsities of these dichotomies to be understood as 'straw men' framing the paper's discussion.

Keywords: Bill Evans, George Russell, Pythagorean Height, Lydian Chromatic Scale, the Lydian Chromatic Concept, modal jazz, jazz theory.

1. Introduction

In this article I consider "Peace Piece", a solo improvisation on Bill Evans' 1959 Album "Everybody Digs Bills Evans", and its relationship to George Russell's *Lydian Chromatic Concept* (LCC), a contemporaneous music theory. I introduce my own analytical measurement, Pythagorean Height, in order to articulate a harmonic logic I hear in Evans' performance. This measurement, like "Peace Piece", resonates in many ways with Russell's ideas, but also differs in crucial details.

Russell's Lydian Chromatic Concept organises a select number of scales, and the equal-tempered chromatic pitch-classes of western music, into an order according to Russell's ranking of their 'distance' from (and hence consonance with) a 'Lydian tonic'. His fixation with the idea of the Lydian scale comes from the observation that the stacking of fifths above a note creates a Lydian mode on that note once seven pitch-classes have been generated. My own measure, Pythagorean Height, continues this same process, instigated but not followed by Russell, into chromatic space, thereby arriving at a slightly different chromatic ordering than Russell.

The 2001 edition of Russell's book on the Lydian Chromatic Concept refers to the 'Pythagorean prototype'[1] of the Concept (Russell 2001: 53). I understand this 'Pythagorean prototype' to mean the continuous stacking of fifths, in our case equal-tempered fifths, in order to construct specific pitch-class spaces, just as we might construct a diatonic scale in Pythagorean tuning by tuning a stack of 'pure fifths' above a given bass. It is this 'prototype' that provides a remarkably apt insight into Evans' improvisation on "Peace Piece" as well as a ground for the idea of Pythagorean Height.

Unlike Russell's ideas alone, Pythagorean Height offers us an elegant structural description and explanation of "Peace Piece" that has aural credibility, and an analytical insight otherwise unavailable to us. In addition to Pythagorean Height articulating the piece convincingly, it is also my contention that the measurement has broader applications. This notion is posited explicitly, though perhaps indirectly, by Russell and is explored explicitly by Evans in his performance. It is also, seemingly, re-enforced by commentaries on Evans' performance that identify, without being able to specifically articulate, a structure illuminated by Pythagorean Height.

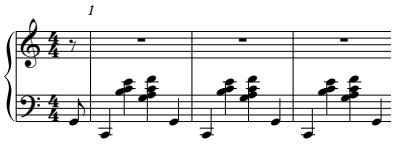
In this way, my analysis is outward looking, just as my analytic method is inward looking. To use Russell's parlance, the former is "outgoing" the latter "ingoing", terms that for Russell, and us, simultaneously imply both position (distance) and motion (direction).

Russell's own attempts to generalise his observations should be treated skeptically. They are at once grandiose and vague, and challenging in their inconsistencies. That the theoretical basis of the Concept might be applied more broadly, however, seems to be an animating force for Evans. Even if we are skeptical of the truth value of Russell's claims, there is no denying their practical impact for Evans.

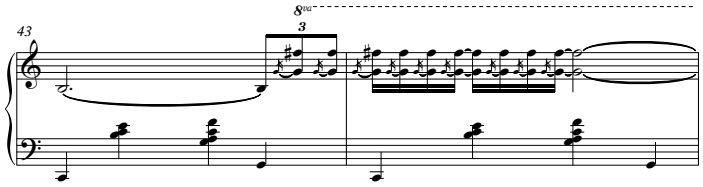
[1] Throughout this article double quotations are used for direct quotes while single quotes are used within direct quotes, when paraphrasing, to identify nonstandard or unusual terms, or to draw the reader's attention to some kind of special usage.

2. Finding Peace (Piece)

At 3:37 in Bill Evans' recorded performance of "Peace Piece", something remarkable happens. After an entirely diatonic opening, Evans' finger strikes a confident F sharp that punctures the well-established structure beneath (Evans 1959). This emphatic question mark sounds above the unrelentingly established C bass and ostinato in C, which will continue through the entire piece (see Ex. 1). Evans repeats his question mark, doubling down as if to underscore its importance (Ex. 2).



Example 1. Evans, "Peace Piece", mm. 1–3, ostinato (Aitkin 1980: 46)



Example 2. Evans, "Peace Piece", mm. 43–44 (Aitkin 1980: 48)

This question mark does not, however, articulate an ending for Evans so much as the rhetorical *beginning* of a harmonic exploration quite unlike anything in the preceding three and a half minutes of the piece. This F sharp is crucial to coming to terms with the entire piece, as Evans' re-articulation makes clear. He is making a point, drawing our attention to the start of a musical argument he is about to construct 'before our ears'.

One might suggest this F sharp is the predictable – probable – deviation from the given diatonic set. We could, for example, note that F must be sharpened in order to arrive at the 'first secondary dominant' – the dominant of the dominant – of C. That is to say, it is the leading note of G. This gives us an immediate and intuitive sense of an F sharp's 'nearness' to the diatonic set, but seems to misconstrue its function within, and the stylistic conventions of, a piece where secondary dominants play no direct or apparent role. We should, however, hold on to this instinct of 'distance', which will contribute to our understanding of both Evans and Russell.

Viewed another way, this F sharp immediately – almost garishly – seems to evoke Evans' colleague, collaborator and former teacher, George Russell, and the theoretical idea that made him both famous and infamous: the Lydian Chromatic Concept. Grove acknowledges the significance of this idea by noting that it was "immediately received as the first major contribution by a jazz musician to the field of music theory" and it is a concept still (anecdotally) important to, and held in high esteem by, jazz pedagogues.

Russell is adamant that the Lydian scale is the 'natural' scale above a given bass (above a 'Lydian Tonic', as he would put it). I will remain agnostic on this point, which I think answers a question 'of its time' in a way that is also 'of its time'. It is enough, at this stage, to know that Russell held this view as sacrosanct and that it is – in the broadest possible sense – the central tenet of his musical theory. At this moment in "Peace Piece", Evans seems to make the same argument, or at least posit it as his hypothesis.

The next non-diatonic note Evans strikes, however, is an almost apologetic C sharp. He lowers the dynamics, slows the rhythm, softens the attack and moves to the very top of the piano. The emphatic F sharp and apologetic C sharp help us to construct a comprehensive and compelling understanding of the piece. We will return to C sharp in a moment but first I want to provide an overview of the Lydian Chromatic Concept.

3. The Lydian Chromatic Concept(s)

To refer to "the Lydian Chromatic Concept" as singular – as it is always done – is fundamentally misleading. There are many components to the Concept, and although Russell is keen, philosophically and poetically, to emphasise "unity" as a value (even "cosmic unity") (Russell 2001: 223), we should not downplay the difficulties of deploying the Concept that arise, in part, from its many constituent parts.

In bringing Russell's ideas to bear for our own purposes, we must invariably shape and reduce them. Just as the Concept – and indeed any theory – attempts to clarify by generalising, I too will have to generalise

Russell's theory. I will not, for example, spend much time on the cosmological or philosophical components of Russell's theorising, which are conceivably foundational. These are, in contrast to more formal aspects, harder to critique and assimilate, though this should by no means invalidate their importance. It is also the formal aspects discussed in this article that provide new and interesting insight. So if we accept that the Concept is singular, we must do so while acknowledging it is multifaceted and mediated.[2]

Aside from these multiplicities, the other difficulties in evoking the Lydian Chromatic Concept fall into two general categories: that of its publication history, and of its terminology/expression.

Burt has hinted at some uncertainty around publication dates for "The Lydian Chromatic Concept of Tonal Organization" (Burt 2002: 109). The new Grove dictionary of jazz lists the publication history of the book as having 1 edition in 1953 and 2 editions in 1959 (Roy et al. 1988/2002: 474). The copy of the book at the British Library, however, which is listed as being an edition from 1959, has no identifying features on the book itself about which edition it is and contains an appendix by Russell dated 1964. In 2002, Grove makes no mention of what Russell refers to as the "fourth and final edition" of the book allegedly published in 2001 (Russell n.d.).[3]

Amidst these uncertainties, significant changes in the details of the Concept emerge through the publication history. These changes must also – to some degree – argue against the ahistorical claims inherent in Russell's often declamatory style of writing. And while it is claimed the book exists in a number of *editions*, this too is misleading. The introduction, written by Andy Wasserman, to the "fourth and final edition" of the book claims that the knowledge of the Concept has been "distilled" (Russell 2001: ix) and yet the 1959 'edition' is 50 pages, where the 2001 'edition' is 237 pages.[4] A large chaser has been added and the mix allowed to ferment, certainly, but it has hardly been "distilled". Rather than a different edition of the same book it has become a different book with the same title.

Grove is appropriately guarded about Russell's book, even after acknowledging its significance. It notes the "purported scientific and musicological basis which Russell claimed for his Lydian concept might well be met with skepticism by anyone who has had at least a modest amount of professional training in the history of music theory, but there is no question of its practical impact" (Roy 1988/2002: 474).

Peter Burt, whose article "Takemitsu and the Lydian Chromatic Concept of George Russell" presents a unique and comprehensive attempt to bring Russell's theoretical ideas to bear in a different context – that of Takemitsu's music (in light of the composer's stated admiration for the Concept) – states similar caveats to Grove.

He begins by saying that the Concept has "acquired something of a reputation for intimidating complexity", noting that "the apparent 'complexity' of Russell's theory is actually due to a certain imprecision in the basic concepts and terminology, coupled with confusion in the manner in which the composer's ideas are argued and presented." (Burt 2001: 74) He goes on to note how this, in turn, led to some rigorous attacks on the Concept in the German magazine "Jazzforschung" in the 1980s (Burt 2001: 79).

Burt argues of the Concept, nonetheless, that "its basics are simply stated … [Russell's] method is designed to help jazz musicians modal improvisations over single chords or sequences of chords." (Burt 2001: 74) This eloquent reduction suits the older editions of the book more than it does the later edition.[5]

My own attempt at a reduction, which is perhaps slightly more geared towards our own purposes here, is that the Concept is fundamentally a hierarchical ordering of pitch, which takes place on two levels of structure, that of the individual pitch, and of the mode. First, on the level of individual pitch, the interval of a fifth is given absolute prominence, or "tonical authority" as Russell puts it (Russell 2001: 3). Thus, in a perfect fifth, the higher note "yields" to the lower, its tonic. A fifth is called "the basic unit of tonal gravity" by Russell (2001: 11).

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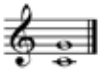
2 Takemitsu, a composer who held Russell's ideas in very high esteem, has perhaps the most insightful summary of Russell's thoughts when he says they are not "simply a musical method – we might call it a philosophy of music, or we might call it poetry." (Russell n.d.)

3 Russell is keen, in his books and website, to both historicise and market himself and his ideas in such a way that should make us particularly vigilant about verifying details from these sources.

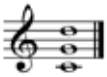
4 As if to tantalise further, both books hint at the existence of a second book that will further expand and clarify the content of the book. If completed, these second books don't appear to have ever been published.

5 This is unsurprising, as, although both list 2001 as their publication date, the 2001 edition of Russell's book does not feature in Burt's bibliography so we can safely assume he was not able to, or at least did not, consult this 'edition' of the book, nor this version of the theory.



Example 3. A perfect fifth above C

In Example 3, G 'yields' to C, its 'Lydian Tonic', below.



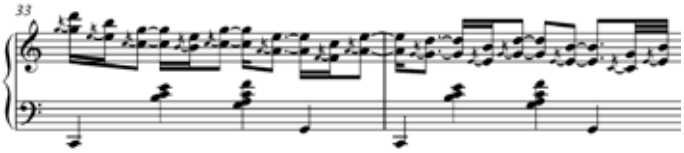
Example 4. A stack of two perfect fifths above C

In Example 4, D "yields" to G, which in turn must "yield" to C.

3.1. The first return

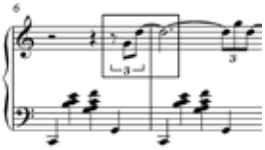
Before outlining Russell's second level of hierarchical pitch organisation, I would like to bring this first notion back to "Peace Piece" itself. Just as Bill Evans' F sharp – the characteristic note of the Lydian mode on C – evokes the Lydian mode (and therefore Russell), Evans seems to underline Russell's belief in the prominence of fifths from the opening gestures of "Peace Piece".

At a surface level, Evans' improvisation heavily emphasises this fundamental unit from Russell. From Bar 20 to 42 of the transcription (where the right hand plays simultaneous notes, rather than individual notes, for the first time) there are 65 dyads played. Of these, there are 17 thirds, 3 fourths (or inverted fifths) and 45 perfect fifths (see Ex. 5 for a characteristic example of Evans' performance).

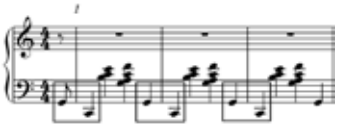


Example 5. Evans, "Peace Piece", mm. 33–34 (Aitkin 1980: 47)

In Chuck Israels' Musical Memoir of Bill Evans, Israels observes that the "opening motive" of "Peace Piece" (Ex. 6) is an inversion of the descending fifth in the bass of the piece's ostinato (Ex. 7) (Israels 1985: 113). We can now also observe that the D "yields" to the G and the G yields to the C in terms of what Russell calls variously "Tonical Authority" or "Tonal Gravity". Evans, then, follows this same logic fairly rigorously – almost didactically – in a generative way. Let us consider the first right hand phrase he plays, in full (Ex. 8).

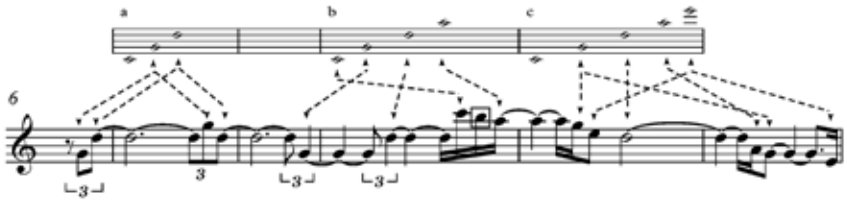


Example 6. Evans, "Peace Piece", mm. 6–7 (Aitkin 1980: 47)



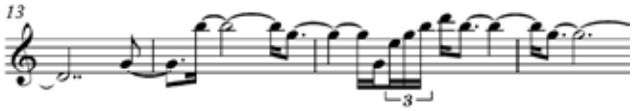
Example 7. Evans, "Peace Piece", mm. 1–3 (Aitkin 1980: 47)

With the exception of the passing-note B ('boxed' in Ex. 8), Evans' melody sketches out a series of stacked fifths shown in reduction above Example 8 (8a, 8b and 8c). If we were to continue this abstraction, the next pitch-class would be B. As if to affirm our suspicions, and allay any doubts about his theoretical viewpoint – indebted to Russell – Evans makes B the focal point of his next phrase (Ex. 9).



Example 8. Evans, "Peace Piece", mm. 6–11 right hand only (Aitkin 1980: 46)

The note B is emphasised in the second right hand phrase, extending the previous collection of pitches, by adding an additional fifth 'above' the preceding collection.



Example 9. Evans, "Peace Piece", mm. 13–16 right hand only (Aitkin 1980: 46)

This construction, using only fifths introduced sequentially, provides us with all the pitch material in the right hand for the first 42 bars (of a 76 bar transcription). It is here that Russell and Evans propose the same idea, building a scale of increasing 'height' in an abstract pitch space as a 'natural' harmonic process. It is when moving out of this diatonic pitch space that Russell and Evans part ways.

3.2. The second level of organisation in the Concept – the Principle Scales

The additional, perhaps more characteristic, level of organisation in the Lydian Chromatic Concept happens at the level of the mode, or scale. Here, Russell offers a ranking of scales that are increasingly 'outgoing' from a Lydian Tonic. This information is summarised in Table 1. The ordering is important here, as Russell contends that with each level from top to bottom we move further from the tonic. He also identifies the first three scales, accumulatively, as separate nested structure, "the Nine Tone Scale" (Russell 1959: xxx) constituting the "consonant nucleus" of music. Russell also notes that the grading of intervals is "based upon the graduating order of dissonance of five of the six scales" (1959: xxvii). He excludes the Auxiliary Diminished Blues from this ranking. In this framework, dissonance is graded and linked to distance from a Lydian Tonic within a fully chromatic pitch space.

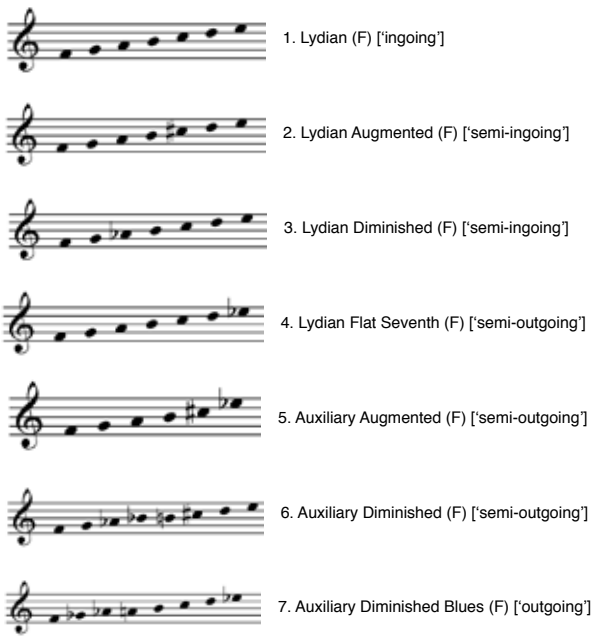


Table 1. The Lydian Chromatic Concept – Seven Principle Scales (Russell 2001: 13)

At this stage, however, we must again acknowledge the difficulties presented by the publication history of Russell's theory. The 'Eleven Member scales' (and "five tonal orders") of the Lydian Chromatic Scale (7 'vertical modes' as above, plus 4 additional 'horizontal scales') listed in 2001 were originally just the 6 scales of the Lydian Chromatic Scale in 1959 (plus 2 additional scales, the major and the blues, included for their "social and historical significance" rather than any particular function within the Concept). The ordering of these scales is also changed slightly (see Table 2). The Lydian Flat Seventh was not originally included and the Auxiliary Diminished and Auxiliary Augmented are swapped in their ranking.

2001	1959
1. Lydian ['ingoing']	1.Lydian
2. Lydian Augmented ['semi-ingoing']	2. Lydian Augmented
3. Lydian Diminished ['semi-ingoing']	3. Lydian Diminished
4. Lydian Flat Seventh ['semi-outgoing']	4.Auxiliary Diminished
5. Auxiliary Augmented ['semi-outgoing']	5. Auxiliary Augmented
6. Auxiliary Diminished ['semi-outgoing']	6. Auxiliary Diminished Blues (which "makes no important contribution to the chord categories" (Russell 1959: xxvii)
7. Auxiliary Diminished Blues ['outgoing']	
+ Major Scale, Major Flat Seventh Scale, Major Augmented Fifth Scale, and the African-American Blues scale.[6]	+ Major Scale and Blues Scale

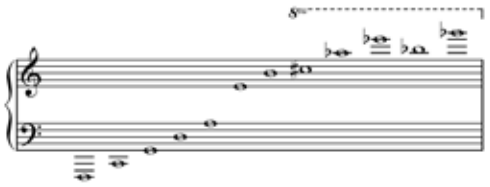
Table 2. Historical comparison of constituent scales
of the Lydian Chromatic Scale in the Lydian Chromatic Concept

Though a variety of explanations and demonstrations are offered by Russell for the ultimate prominence and necessity of the Lydian scale, explicating its properties as a scale as well as the implications of the overtone series for the scale, his explanation of the ranking of the other scales is somewhat opaque. In 2001 Russell suggests, though 'I think the theorist doth protest too much', that "Member scales are not arbitrarily selected because they "sound good"[6]; their identity is determined by compliance to specific criteria." (Russell 2001: 12)

He lists this "specific criteria" as "a scale's capacity to parent chords considered important in the development of Western harmony", "a scale as being most representative of a tonal level of the Lydian Chromatic Scale" and "the historical and/or sociological significance of a scale."

Within the first two points there is a certain amount of circularity to the reasoning whereby the theory is justified by its capacity to replicate the theory. The third point – and even the qualification included in the first point – allows an enormous amount of alteration and speculation such that even if we were able to meaningfully quantify these "specific criteria" there is no attempt to demonstrate the "compliance" of the scales provided and their ranking.

In 2001, Russell offers the series in Example 10 as a demonstration of the Lydian Chromatic Scale, parsed in accordance with his ranking of the principle scales. Here, distance from the left coincides with distance from the Lydian Tonic.



Example 10. Lydian Chromatic Scale as illustrated by Russell (2001: 12)

Note, particularly, that Russell breaks the logic of the 'Pythagorean Prototype' at the seventh note to the right of the Lydian Tonic. Here, instead of another perfect fifth, which would produce an F sharp, the 'flat 2' degree of the scale, a tone is inserted producing a C sharp, the augmented 5th.[7] The F sharp is relegated to the furthest note from the Lydian Tonic, disguised as a G flat. Just as in "Peace Piece", we find ourselves bumping into the relationship between F sharp and C sharp. In Russell's own words:

6 As if this measure would at once devalue and exclude the theory's merits.

7 Perhaps better understood in context as its enharmonic equivalent, the 'flat 6' degree.

"The Pythagorean ladder of twelve intervals of a fifth is the prototype for the tonal gravity field of a Lydian Chromatic Scale. However, in order to accommodate the evolution of the five main Western chord types (major, minor, seventh, augmented and diminished), the Lydian Chromatic Scale skips the seventh fifths (i.e., the interval of a fifth from B to F# in the key of F Lydian). As a result of this transition from the uninterrupted ladder of successive fifths, the Lydian Chromatic Scale is also referred to as the WESTERN ORDER OF TONAL GRAVITY." (Russell 2001: 53)

4. Pythagoras in Lydia – Pythagorean Height

"A ladder of fifths proceeding upwards from the tonic … produces the first seven tones of the Lydian Scale, thereby creating a unified tonal gravity field… The establishment of the interval of a fifth as the strongest harmonic interval represents the most important contribution of the overtone series to the fundamental principle of the *Lydian Chromatic Concept of Tonal Organization* – the Principle of Tonal gravity." (Russell 2001: 3)

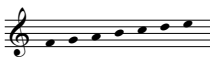
My own term, Pythagorean Height, is simply a measure of the number of equal-tempered fifths required to obtain a complete set of given pitch-classes (see examples 11 and 12). The given set need not contain all of the pitch-classes required to generate the set, meaning non-commensurable sets are comparable (compare Ex. 11 to Ex. 12).[8]

One pertinent advantage here is that this approach speaks to an aural intuition in as much as it allows us to acknowledge the 'Lydian implications' of Evans' F sharp against his C bass in "Peace Piece". This interval has the same Pythagorean Height as the Lydian scale, and so also allows us to articulate the characteristic nature of this interval for this mode.

What I contend this means is that any pitch classes that fall within the Pythagorean Height of an interval are audibly plausible additions to that set, more than notes that would increase its height. In this sense, the height can be seen as a kind of harmonic 'limit' for the ear as it is for my ears.

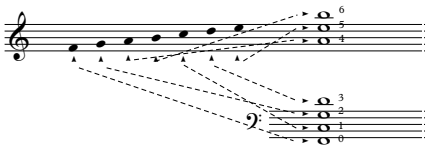
As noted above, for reasons that are not entirely clear or explicit, Russell deviates from the 'ladder of fifths' in arranging his own ranking of pitches and scales. I contend that Evans challenges this deviation in his performance, and Pythagorean Height simply removes Russell's – somewhat arbitrary – 'skip' in the ladder of fifths.

Pythagorean Height can, thus, be viewed as a way to simplify, generalise and standardise some of Russell's ideas while imposing its own point of view, critical of the more internally inconsistent conditions in Russell's theory.



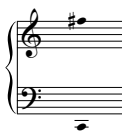
Example 11a. Lydian scale

The Pythagorean Height of Ex. 11a is 6.



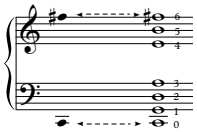
Example 11b. The 'pythagorean construction' of Example 11a

[8] Depending on your perspective this is either a benefit of the measurement or a fatal flaw, flexibility or an intolerable imprecision. If you believe that only sets with the same or similar number of notes can or should be compared, then this measure will be of no use to you. One valid critique has been that it is unreasonable to compare an interval with a scale, since the *possible* Pythagorean Height of any number of notes n will be (n-1). For 2 notes, the smallest possible height will be 1, while the smallest possible height for 7 notes will be 6. While this is true, its significance depends upon *for* what you are comparing sets. My contention, from my own ears, is that Pythagorean Height identifies an aural similarity that is more helpful than not even if it links sets that are otherwise to be understood as being different in kind, not just degree. One simple demonstration of this kind of difficulty would be to consider intervals under transposition. There is no doubt, no argument, that a dyad of C and F sharp sounds different to a dyad of B to F, however, because of transposition we recognise that there is something significant, audibly, that they share even though they are materially and audibly distinct. I maintain that Pythagorean Height identifies an aurally meaningful similarity that can be helpful, even though it does not speak to other completely credible and valid differences between sets of notes.



Example 12a. The interval of C to F sharp

The Pythagorean Height of Ex. 12a is also 6.



Example 12b. The 'pythagorean construction' of Example 12a

One aim of Russell's, most explicit in the 1959 edition of his book, is an attempt to order and rank all possible relations in a fully chromatic pitch space of equal temperament. The number of component parts to his theory, and their sometimes vague explication and application, makes this difficult to achieve coherently. I have a similar interest in finding hierarchical relations within a chromatic pitch space, and Evans' performance proposes his own ranking based upon the 'Pythagorean prototype' of the Lydian Chromatic Concept. Pythagorean Height can be used to quantify these relationships.

In many ways, Pythagorean Height is the most controversial idea in this article and much relies upon the reader's willingness to accept its value as a premise. One common way of discussing 'distance' in music, is to discuss how many semi-tones there are between the upper and lower notes of an interval. This, however, may offer little in terms of 'audible distance' or distance in any other sense. C and D flat are 'close' in pitch space, but distant as tonal areas. However, if measurement is done in fifths, rather than semi-tones, as it often is done structurally – for example, around the circle of fifths – then we have more of a sense of the 'harmonic distance' 'within' that interval. Pythagorean Height calculates fifth based distance (or, perhaps fifth based 'space'), within a single harmony (broadly construed) rather than between harmonies as would often be done in any traditional tonal analysis. In this way it assimilates accepted ideas in tonal analysis within a more set-theoretical mindset.

5. Returning to Peace (Piece)

Miles Davis held "Peace Piece" in such high esteem he wanted to include it in the "Kind of Blue" sessions (Pettinger 1998: 84–85).[9] Though the authorship on "Kind of Blue" has been highly contested, Russell's and Evans' ideas, including those explored in "Peace Piece", clearly contributed to this iconic album (see Israels 1985: 114 and Lyons 1983: 219). It is also worth noting that despite "Peace Piece's" potential drawbacks within the broader context of Evans' output – an apparently simple, solo work, at the end of an early album – Israels' musical obituary of Evans' contains a great deal about this piece in particular. In fact, it has generated a surprising amount of commentary over the years.

I would first like to reflect on what has already been said elsewhere about the piece in order to develop some impression from which we might work and to which our analysis might speak. First, Israels notes that Evans allows his melodic invention:

> "more freedom than he would in an improvisation tied to a changing accompaniment. He takes advantage of the ostinato as a unifying element against which ideas flower, growing more lush and colourful as the piece unfolds. Polytonalities and cross rhythms increase in density …The improvisation becomes increasingly complex against the unrelenting simplicity of the accompaniment, until, near the end, Evans gradually reconciles the two elements." (Israels 1985: 113)

Mawer, whose interest lies chiefly in identifying and clarifying antecedents for Evans' work within the Western Classical Music Canon, identifies and describes the same musical journey as Israels in these terms: Evans' "ever more virtuosic variations – replete with scalic and chromatic figuration – inhabit that elusive realm between composition and quasi-spontaneous, improvised performance" (Mawer 2014: 234). Elsewhere,

[9] Pettinger goes even further noting "the solos [on 'Kind of Blue'] were born out of the Concept and mood of "Peace Piece"; without that precedent "Flamenco Sketches" would not be." Russell's direct theoretical influence on Kind of Blue has also been explicitly considered elsewhere, see (Boothroyd 2010) and (Titus 2010).

Mawer notes that "in the middle and towards the end … Evans's palette is more piquantly dissonant than is his typical practice … the melodic line invokes a much wider, fluid modality with sharpened tendencies. We may reference Ionian, Lydian, wholetone, chromatic and blues-inflected collections" (Mawer 2014: 235).

Pettinger notes the mood of "Peace Piece" as "rarified and introspective" (Pettinger 1998: 85), going on to say that

> Evans felt unable to oblige subsequent club requests for 'Peace Piece'. It was a unique performance – or almost, so, for after a first take Orrin Keepnews wrote on his recording sheet that Bill was not quite happy, and the next take was used. 'It's completely free-form,' Evans said… Except for the bass figure, it was a complete improvisation" (Pettinger 1998: 69).

Pettinger also succinctly described the piece as Evans having been "hypnotized into a 'one-off' pursuit of a line, increasingly decorative" (Pettinger 1998: 68).

What emerges from this commentary is that "Peace Piece" is rich in contradiction. Though allegedly a one-off performance that Evans felt unable to repeat, it was recorded twice. In fact, his girlfriend at the time suggests it was a piece Evans practiced regularly, drifting into the piece from Bernstein's "Some Other Time", the song from which Evans took the ostinato for "Peace Piece" in the first place (Pettinger 1998: 68). Gretchen Magee, Evans' theory teacher at Southeastern, goes further to suggest that "Peace Piece" (or some variation thereof) was actually a written out composition exercise (Pettinger 1998: 69).

Further, the piece's apparent simplicity is in direct contradiction to the complexity definitively and repeatedly observed within it. It is a complexity that commentators struggle or are unable to articulate with any precision or clarity. Without identifying the time code 3:37, they are commenting on this section of the piece, and the F sharp question mark noted above is at the heart of these close listenings to the piece, at the heart of what is remarkable about this polarised, though seemingly never polarising, work.

On the one hand, Evans certainly contributed to the vagueness of the commentary by emphasising the idea of the piece being "free form" and a "complete improvisation" (Pettinger 1998: 69). On the other hand, he nonetheless stressed elsewhere the "importance of form and structure in his own work … the overall framework of a number" (Pettinger 1998: 34). Barrett observes, of the liner notes for "Kind of Blue", that "Evans famously overstates the freedom afforded the players and the spontaneity of the sessions" (Barrett 2006: 185), suggesting that 'freedom' was something to which Evans aspired and was inclined to overemphasise, rhetorically.

The observation of 'piquant dissonance', Mawer's haphazard list of scales, 'fluid modality', 'polytonalities', 'sharpened tendencies' 'increasing complexity' and the 'increasingly decorative' trajectory of the piece all seem to point towards a clearly audible presence or structure in the piece which is not – cannot – be precisely or clearly articulated.

Mawer ventures only briefly into a closer examination of pitch stating that "the effect of Evans's ever-changing melody over the Bernstein bass is to create new harmonic inflections, such as the expressive superimposition of Ab/A, creating simultaneous minor/major ninths, over G" (2014: 231). The identification, indeed the creation, of "new harmonic inflections" is something we should encourage. However, this tentative attempt at close analysis seems to collapse almost immediately under the weight of traditional harmonic language, ill-suited to the object of observation.

5.1. The very height of complexity

Table 3 is a graph demonstrating the Pythagorean Height of each bar in "Peace Piece". I believe it articulates the trajectory hinted at, vaguely expressed, by the commentary above, and also my own aural intuition about the harmonic logic of the piece. Table 3 outlines a very specific measure of the piece, and reveals a remarkable amount of structure. In this graph we can see what Israels identifies as happening "near the end", where "Evans gradually reconciles [the] two elements" (1985: 113). From the 'highest' bar, 63, we see a local and general reduction of the height that finally returns us to the same height as the diatonic opening.[10]

We can see the journey, identified by Mawer, that "in the middle and towards the end … Evans's palette is more piquantly dissonant". She identifies Pythagorean Height's steady growth in this section of the piece.

[10] It is the interesting paradox of pitch space that we seemingly arrive – return – to C in two ways at once. The A sharp at Bar 63 'returns' us to F – as the next fifth in the stack, which is already present in the ostinato from the beginning and is a fifth below C. Evan also returns by gradually lowering the Pythagorean Height of his improvised lines towards the end of the piece.

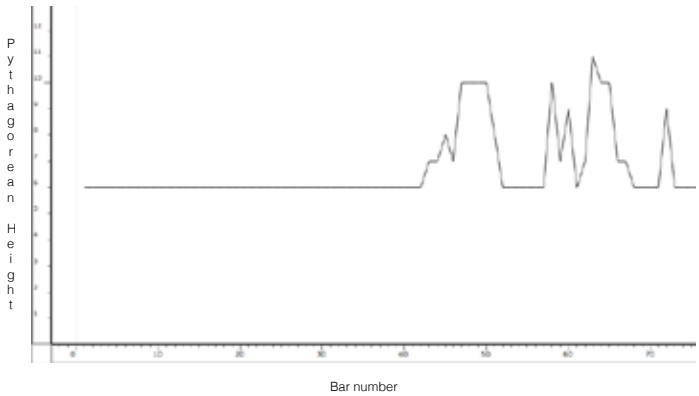


Table 3. The Pythagorean Height[11] of each bar in "Peace Piece"[12]

Despite his ekphrasis, Israels concedes elsewhere that this 'free' and 'complex' work might have been a "practiced improvisation" (Pettinger 1998: 69), and without apparent contradiction singles out this improvisation as "an example of the depth of Evans' *compositional technique*" (Israels 1985: 113).[13] At the time of Evans' death, Israels observed that "Few have gone deeper into his [Bill Evans'] work to find the underlying principles" (Israels 1985: 109). Mawer noted much more recently that this has "changed relatively little" since his death (1994: 217). Pythagorean Height is a way of viewing and expressing some of these underlying principles and can be offered as a tentative step in this direction.

In fact, if we return to Example 8, which demonstrates Evans' right hand as it generates melodic material in ascending fifths, it is easy to see how this process within a 'diatonic height' (i.e. a Pythagorean Height of 6 or less) is clearly replicated, and extended, once he moves into the chromatic space of "Peace Piece". Table 4 considers the shape of the piece, if only taking account of Bill's right hand. Though differing in the detail, it seems to clearly replicate the overall shape of Table 3.

The 'progression', expressed by Pythagorean Height, in which each fifth 'yields' to the fifth below in a ladder of fifths (which, of course, becomes a circle under its own weight within equal-temperament) is entirely in accord with the Lydian Chromatic Concept, though pursued in a different way. Evans, whose "greatest contribution to the development of jazz lies beneath the surface" (Israels 1985: 109), seems better reflected by this analytic measure than in the attempts, quoted above, to describe his work in words. Ironically, Evans' own words, about "freedom" and "improvisation" can be viewed as creating a context into which further analysis might have seemed inappropriate or without reward. Pythagorean Height, in contrast, allows us to broaden this context and understand with clarity his embodied theoretical perspective.

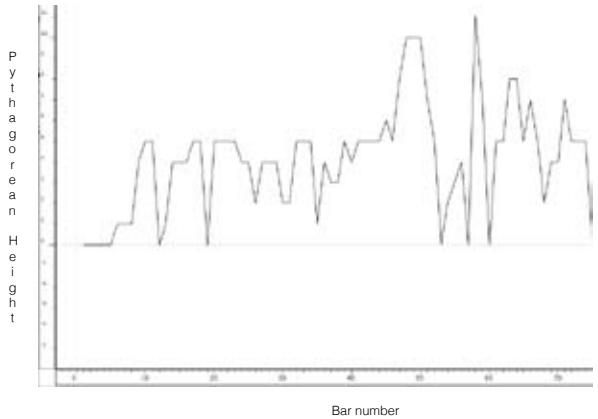


Table 4. The Pythagorean Height of each bar in "Peace Piece" taking only the right hand notes

[11] Although we have considered the 'Lydian implications' of Bill Evans' F sharp against a C bass, to be strict in our quantitative analysis we calculate the Pythagorean Height from F natural, present in the ostinato from the beginning, rather than the clearly articulated tonic focus of C.

[12] Choosing the duration of a bar is, of course, fairly arbitrary, though a convenient way to avoid subjective biases entering the analysis. It also provides a degree of resolution that seems appropriate in this case.

[13] The emphasis here is mine.

6. Concluding Comments

6.1. Dissenting voices

There is, arguably, a certain circularity here, wherein the idea of Pythagorean Height could be seen to come, in part, from a critical listening – an analysis – of "Peace Piece" (though it does not) and is then the tool by which an analysis of that piece is undertaken. The logical fallacy of circular reasoning is often levelled at analysis. Russell's own theory suffers at points from this kind of self-replication, the theory articulating the music which articulates the theory without providing greater insight into the musical experience. While it is simple to point out that the idea of Pythagorean Height arose from my own compositional work before I first heard Evans' "Peace Piece"; that hearing his improvisation lead me to consider it analytically, and this in turn lead me to Russell (thereby reversing the historical record of events), this would also misconstrue and simplify the purpose of discussing the three ideas in conjunction with one another.

A straightforward chain of causality linking Russell to "Peace Piece" and "Peace Piece" to Pythagorean Height, which in turn circles back to re-enforce Russell and Evans could be constructed, but doesn't strike me as a useful or insight-provoking project. Russell certainly offers a historically and contextually compelling antecedent for Evans' piece, and Pythagorean Height may be readily demonstrated by "Peace Piece" (as well as vice versa). However, we should not think of these as causal, circular or linear, but rather perhaps a network of nodes that inform one another and interact in surprising and compelling ways. There is a dialogue between Russell, Evans, and me that treads common ground while traversing different, if intertwining, paths. The three pillars of this article, therefore, are not offered as mutual proof of one another, but instead as related ideas that help to clarify, re-enforce, illuminate and critique one another.

Len Lyons notes that "Russell's idea of applying the Lydian mode to jazz improvising had a strong impact on Evans" (1983: 219). The extent of this influence in a historical sense does not, however, concern us here. It is enough to acknowledge it, and while "Peace Piece" in particular seems to point us towards Russell's Concept, it also points us away from it at the same time, expressing some of Russell's ideas while challenging others. Evans both accepts and critiques Russell's theoretical standpoint in his performance. We are, then, informed by the tension between the two ideas, which have a relational valency. In this, I hope my analysis of "Peace Piece" will be seen as a demonstration of an idea with broader implications, rather than an endpoint.

6.2. Justifying Russell

Pythagorean Height might also be offered as a partial justification for Russell's own ordering of his Principle Scales. The two lists below demonstrate the ordering of the Principles Scales of the Lydian Chromatic Concept alongside their Pythagorean Heights.[14]

With the exception of the Auxiliary Diminished Blues scale, whose 'flat 2' scale-degree Russell deemed to be much further from his tonic than Evans does in his performance, the Pythagorean Heights are in accordance with the different 'levels' suggested by Russell. They even present a plausible reason, something Russell does not attempt, as to why the Auxiliary Augmented and Auxiliary Diminished scales might have been swapped as they were.

2001 Principle Scales	**Pythagorean Height**
1. Lydian ['ingoing']	6
2. Lydian Augmented ['semi-ingoing']	8
3. Lydian Diminished ['semi-ingoing']	9
4. Lydian Flat Seventh ['semi-outgoing']	10
5. Auxiliary Augmented ['semi-outgoing']	10
6. Auxiliary Diminished ['semi out-going']	11
7. Auxiliary Diminished Blues ['out-going']	10

[14] Without going into the details, Pythagorean Height could be constructed either by fixing the tonic, as we will do here, or by finding the 'most efficient' construction in fifths of a given set, which would produce slightly different results.

6.2.1. Consonance

McGowan has suggested that the notion of consonance and dissonance is problematic when simply 'applied' from the western classical tradition to jazz (McGowan 2008: 101–102). In his universalising claims, Russell is keen to address dissonance, equating it with distance. Understanding consonance and dissonance in terms of distance might be helpful in addressing McGowan's concerns about the semantics of dissonance in jazz, by offering an alternative path to the simple 'application' of western theoretical models.

But there is a central paradox to Russell, too. On the one hand he wants to offer insight into 'the nature of music', something that would have to be universal were we to believe in such a thing. On the other hand he is keen to present his proclaimed shift from Ionian to the 'more natural' Lydian scale as the difference between western classical music and jazz, thereby emphasising the contingency, rather than the universality, of these forms of musical expression.

There is a comparable tension for Evans, well-known for his study of and interest in the classical canon. His performance on "Peace Piece", seems firmly grounded in both Ionian and Lydian, classical and jazz, perhaps taking more from Russell's unifying instincts than his divisions. Evans defied the simple 'application' of models of dissonance, instead embodying a different view of music theory and consonance from first principles, in tandem with, and deviating from Russell. His offering, if read seriously as above, is the offering of a beginning, not the summary of an ending.

7. Final Returns

Evans has said he thinks "of all harmony as an expansion from and return to the tonic" (Lees 1988: 162). Pythagorean Height allows us to see this process of expansion and return clearly in "Peace Piece". We might also observe that Evans' sentiment is expressed in two different ways at the same time in "Peace Piece". Each bar is, literally, a simple return to the tonic from the dominant in the left hand's ostinato. Evans' improvisation exploits the fifth relationship between tonic and dominant in a different way too, though – guided by Russell's thought – in ascending a ladder of fifths until it too has returned to the tonic.

And so we return to the F sharp at 3:37. It clearly evokes Russell, but the apologetic C sharp that follows immediately embodies Evans' own critique of Russell. According to The Lydian Chromatic Concept and its 'tonal gravity', this C sharp is a violation, an aberration, a sudden jump to the most extreme position from a Lydian Tonic. If Evans followed Russell's logic, this note is the most dissonant position possible above a tonic on C. Evans rejects Russell with his C sharp, but does so with the reverence of a student and colleague, apologetically. Instead, he simply plays through a generative process, using fifths that traverses the entire chromatic space of equal temperament. Pythagorean Height allows us to capture, view and articulate this strategy.

Acknowledgements

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References

Aitkin, Jim (1980, June). Bill Evans: Peace Piece. Transcription. In: *Contemporary Keyboard Magazine*, 46–49.

Barrett, Sam (2006). Kind of Blue and the economy of modal jazz. In: *Popular Music*, No. 2, Vol. 25: 185–200.

Boothroyd, Myles (2010). Modal Jazz and Miles Davis: George Russell's Influence and the Melodic Inspiration behind Modal Jazz. In: *Nota Bene: Canadian Undergraduate Journal of Musicology*: Vol. 3: Iss. 1: 47–63.

Burt, Peter (2002). Takemitsu and the Lydian Chromatic Concept of George Russell. In: *Contemporary Music Review*, No. 4, Vol. 21: 73–109.

Evans, Bill (1959). Everybody Digs Bill Evans. New York: Riverside Records RLP 12-291.

Hughes, William (2012). Complete transcription: Bill Evans, "Peace Piece." Retrieved from http://drwilliamhughes.blogspot.com/2012/09/complete-transcription-bill-evans-peace.html

Israels, Chuck (1985). Bill Evans (1929–1980): A Musical Memoir. In: *The Musical Quarterly*, No. 2, Vol. 71: 109–115.

Lyons, Len (1983). *The Great Jazz Pianists: Speaking Of Their Lives And Music*. New York: W. Morrow.

Mawer, Deborah (2014). *French music and jazz in conversation: from Debussy to Brubeck*. New York: Cambridge University Press.

McGowan, James (2008). "Consonance" in Tonal Jazz: A Critical Survey of Its Semantic History. In: *Jazz Perspectives*, No. 1, Vol. 2, 69–102.

Lees, Gene (1988). *Meet me at Jim & Andy's: jazz musicians and their world*. New York; Oxford: Oxford University Press.

Pettinger, Peter (1998). *Bill Evans: How My Heart Sings*. New Haven: Yale University Press.
Roy, James G.; Moore, Carman; Kernfeld, Barry (1988/2002). "George Russell" *The new Grove dictionary of jazz*. Edited by Barry Kernfeld. New York: Grove.
Russell, George (1959). *The Lydian Chromatic Concept of Tonal Organisation for Improvisation*. New York: Concept Publishing Company.
Russell, George (2001). *Lydian Chromatic Concept of Tonal Organisation: The art and science of tonal gravity*. Brookline, MA: Concept Publishing Company.
Russell, George (n.d.). George Russell. Retrieved from http://www.georgerussell.com/
Titus, Jason R (2010). *Miles Davis' "So What" as Modal Jazz Case Study*. University of Rochester.

Įkūnyta muzikos teorija ir improvizuota kompozicija: Billas Evansas – architektas

Santrauka

Yra trys šio straipsnio atraminiai taškai: Billo Evanso solo improvizacija *Peace Piece*, šiuolaikinė muzikos teorija, t. y. George'o Russello *Lydinis chromatinis konceptas* (LCC), ir autoriaus analitinis instrumentas – pitagoriškas aukštis. Vis dėlto straipsnyje nepateikiama priežastinė ar nuosekli šių trijų aspektų argumentacija, jie traktuojami kaip istorinis susikirtimo taškų, papildančių vienas kitą ir sąveikaujančių netikėtais ir įtikinamais būdais, tinklas.

Autoriaus metodas – pitagoriškas aukštis – pasitelkiamas analizuojant Billo Evanso atlikimą, kadangi jis aiškiai artikuliuoja kūrinyje girdimą harmoninę logiką ir siejasi su tuo, ką George'as Rusellas nurodė kaip savo lydiško chromatinio koncepto pitagorišką prototipą. Tai leidžia Evanso atlikimą traktuoti ir kaip komponavimą, ir kaip improvizaciją. Iš tiesų Evansas pats išreiškė savo asmeninį norą „sąmoningai abstrahuoti principus ir diegti juos į [jo] paties struktūrą", kaip kad „tapytojas" turėtų būti „ir braižytojas, ir architektas". Remiantis šia metafora straipsnyje bandoma parodyti supaprastintų dichotomijų (viena vertus, tarp įkūnijimo ir improvizacijos, kita vertus, tarp teorijos ir kompozicijos) ydingumą.

Stephen Guokas

Nationalist Tendencies in the *De Profundis* Cantata of M. K. Čiurlionis

1. Introduction

"A composer may naturally imbibe certain styles and approaches, but careful thought is necessary to integrate them into a larger whole, and much conscious study of musical technique is an inevitable part of the process." So writes Michael Beckerman in the opening pages of his seminal work regarding nationalism, *New Worlds of Dvořák* (2003: 10). This concept – that a composer might acquire naturally, subconsciously even, some musical traits of his or her own native music – leads directly into the concept of national music: that music can display specific characteristics that betray, or rather identify, its origin. Beckerman's continuation however, that "much conscious study of musical technique is an inevitable part of the process" (2003: 10), leads naturally to the topic of this conference: namely how the rational and the intuitive, the conscious and the unconscious, the native experience and the conservatory education combine within a composition to form the whole.

This paper examines the harmony and contrast of *intuitio* and *ratio* within the *De Profundis* cantata of Mikalojus Konstantinas Čiurlionis. Why the *De Profundis*? It has long been established that the composer's two tone poems, *Miške* and *Jūra* are at least somewhat nationalist in nature; however, *De Profundis* predates both of these by at least two years.[1] Further, the cantata was written as Čiurlionis completed his studies at the Warsaw Conservatory – and can thus be viewed as his first mature work; though he wrote music prior to the *De Profundis*, they are considered student compositions. Finally, the cantata contains both vocal and instrumental music, allowing not only the ability to compare Čiurlionis's text setting with melodies and harmonies commonly found in Lithuanian folk song (and his other vocal works, including *his* folk settings, Mass Ordinary, and Psalms), but also the opportunity to compare his orchestral writing with his nationalist tone poems, *Miške* and *Jūra.*

2. Čiurlionis's Musical Background Prior to the *De Profundis*

Mikalojus Konstantinas Čiurlionis was raised in a musical household; his father was a church organist in Druskininkai, and his sister writes that when the relatives would visit, the family would often congregate together and sing Lithuanian folk songs, with the boy Čiurlionis often singing the highest voice in those songs (Čiurlionytė 1973: 35). Lithuanian musicologist Vytautas Landsbergis supports this when he writes "[b]oth [of Čiurlionis's] parents knew many Lithuanian songs and loved to sing them [around the home]" (1992: 24).

Funded by the Polish prince Michal Oginski, Čiurlionis studied composition, piano, and counterpoint at the Warsaw Conservatory. It seems that Čiurlionis's interest in folk music persisted when he attended conservatory; indeed multiple letters to his brothers and other friends, dating from those years, reveal that he composed works either based upon or employing Lithuanian folk melodies. Unfortunately, many of these works are now lost, and were used as student and practice compositions for Čiurlionis. Those works that do survive are primarily small student works, including piano works in the style of Chopin, a Mass Ordinary (for counterpoint exercises) and other short pieces. For Čiurlionis's graduation in 1899, he completed the *De Profundis* cantata for choir and orchestra.

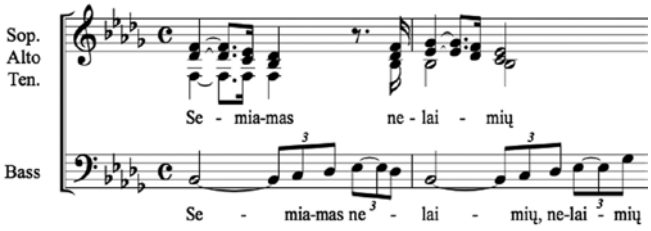
3. Elements of *Intuitio* in the *De Profundis* Cantata

Elements of Lithuanian folk song can be found in nearly every facet of Čiurlionis's *De Profundis* cantata; to streamline this analysis this paper will proceed individually through each category. It will begin by examining Čiurlionis's use of rhythm, both within the choral setting and the orchestration. From rhythm, the analysis will advance to melodic construction. Finally, a brief examination of harmony will be presented as well as arguments for why certain characteristics can be considered Lithuanian.

[1] For additional scholarship regarding nationalism in *Miške* and *Jūra*, see Vytautas Landsbergis, *M.K. Čiurlionis: Time and Content* (1992).

3.1. Rhythm

Rhythm is very important within Lithuanian folk music, particularly a long-short-long dotted rhythm, especially when presented as an ostinato (see Ex. 1). In the *De Profundis*, Čiurlionis wastes no time in displaying this feature; indeed the first choral sections present the long-short dotted rhythmic pair in the initial statements of the soprano, alto, and tenor (mm. 7–8). As if to emphasize this point, Čiurlionis further presents these three voices homorhythmically, so that the listener cannot help but identify this hallmark of Lithuanian folk music.



Example 1. Čiurlionis, *De Profundis*, mm. 7–8, choir

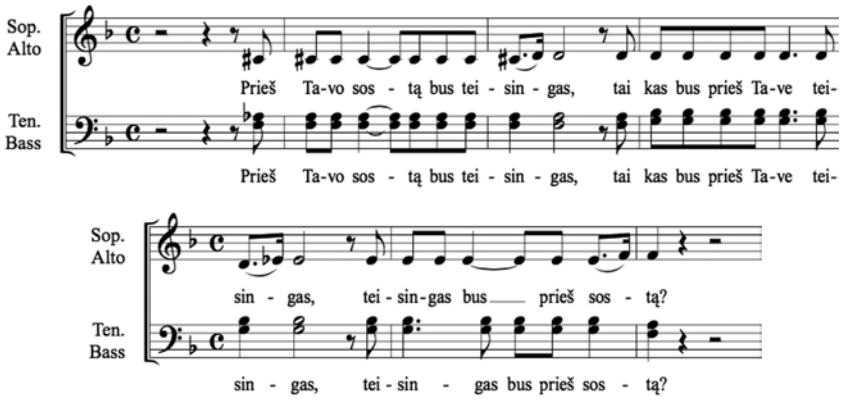
This rhythm is found throughout the piece; Čiurlionis uses it no fewer than six additional times, and by employing this rhythm, he clearly hearkens back to the folk songs he would have heard in his youth. Further, both Čiurlionis (1910: 66) and modern musicologists, such as Danutė Staškevičius (1994: 453–458), identify this rhythm as being a hallmark of Lithuanian folk song, and one can find this rhythm in works from the entirety of Čiurlionis's compositional career. In early works, such as his settings of Psalm 29 (1898) and 66 (1899), Čiurlionis treats this rhythm in a similar manner to the *De Profundis*, presenting it within initial motives that he then treats imitatively throughout the piece. In his middle period works, such as his Op. 8, No. 1 for piano from 1901, Čiurlionis utilizes the rhythm as groundwork for the left hand, driving the piece forward. Finally, in later period works, including his final compositions, such as Op. 33 for piano, completed in 1909, Čiurlionis uses this rhythm throughout all voices and tessituras, ensuring that the listener will clearly hear and identify it as an aspect of Lithuanian folk music.

Beyond the writings of Čiurlionis and Staškevičius, however, how can one be sure that this rhythm can or should be interpreted through a nationalist lens? The simple solution is to examine Lithuanian folk song, and a cursory glance through a folk song collection allows one to see that this rhythmic motif (or a similar one) can be found in much of Lithuanian folk music, including *Subatos vakarėly, Kai mes augom, Ne tėviškėlėj, Kareivužėlis,* and *Beauštanti aušrelė*, to name a few. In total, this long-short rhythm appears in approximately one-third of Čiurlionis's folk song arrangements.

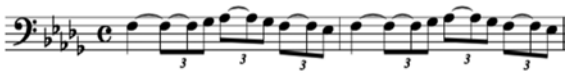
In addition to the long-short dotted pair, another characteristic rhythm of Lithuanian folk song is monotony often presented as a consecutive collection of eighth notes that move homorhythmically and homophonically within each voice. Čiurlionis himself identifies this within his writing, *Apie muziką*; he writes, "[even the] unaccustomed ear of a foreigner will immediately sense a certain monotony [of] our rhythm" (1910: 66). Within his folk song settings, one can find this musical trait in *Prapuoliau močiute, Ganau aveles, Anksti rytą kėliau*, and others. Both Čiurlionis and musicologist Daiva Račiūnaitė-Vyčinienė (2006) consider this an important characteristic of Lithuanian folk music, and its presence within the *De Profundis* cantata is neither disguised nor hidden.

Although Čiurlionis first presents strings of eighth notes in the vocal part in mm. 30–33 and 40–46, the voices do not move homorhythmically until mm. 47–48 in the alto, tenor, and bass voices. The technique appears again in the alto, tenor, and bass in mm. 66–68, and in mm. 68–72, the soprano finally joins the other three voices (see Ex. 2). Čiurlionis's Psalm settings confirm this to be a musical trait that he knew intrinsically; in both the homophonic and fugal sections of his Psalm 130, Čiurlionis presents these strings of eighth notes with a syllabic text setting (mm. 9–12) similar to that employed here.

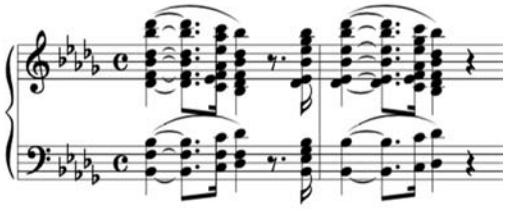
Nationalist concepts within the orchestral rhythm of the piece closely mimic those that are identified within the choral sections. For example, the opening bassoon motive, displayed in Example 3 demonstrates the long-short rhythm so commonly found in Lithuanian folk song. It must be noted, however, that the long-short motive is not simply found in individual orchestral parts, but also employed by the entire orchestra, for example, in mm. 29–30 (see Ex. 4). The rhythm employed as such is truly unavoidable – it is even marked *fortissimo*!!! – and constitutes part of Čiurlionis's "imbibed" Lithuanian folk song style. This long-short rhythm is also found within the second theme of his tone poem *Miške.*



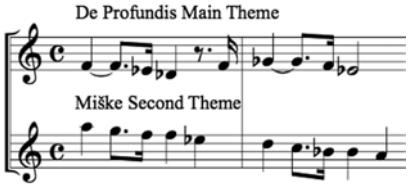
Example 2. Čiurlionis, *De Profundis*, mm. 66–72, choir



Example 3. Čiurlionis, *De Profundis,* mm. 1–2, bassoon



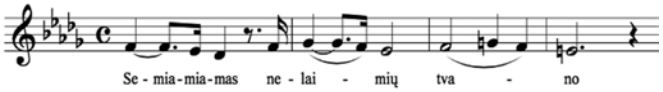
Example 4. Čiurlionis, *De Profundis,* mm. 29–30, orchestral reduction



Example 5. Comparison of rhythmic thematic material:
Čiurlionis, *De Profundis* main theme and *Miške,* second theme

3.2. Melody

Within Čiurlionis's writings, a great deal of time is spent discussing melody. As mentioned prior, he exhorts young composers to use a limited melodic range, writing that a truly Lithuanian song should contain, "[a] simple melody that does not expand across the entire octave, often making [do] with four of five notes" (1910: 68). Throughout the majority of Čiurlionis's folk-inspired compositions, this limited melodic range is evident, and the *De Profundis* is no exception.



Example 6. Čiurlionis, *De Profundis*, mm. 6–9, soprano

Example 6 displays the melody of the first vocal phrase of the work (mm. 6–9). Note that throughout the imitative phrase the melody moves only a perfect fourth; further, each sub-phrase is even more limited in scope, moving only a major or minor third. Čiurlionis often employs this musical characteristic in imitation, and it is found throughout the *De Profundis*, from the initial vocal entry in m. 6 through the final vocal close in m. 11.

This limited melodic range mirrors that which one finds within Čiurlionis's folk song settings. Throughout his arrangements, including *Kai mes augom*, and *Linelis*, Čiurlionis employs the melodic range of a fifth or less. This limited melodic range can also be found in transcriptions of these folk songs, including those by Stasys Šimkus (1965), and thus one can be assured that Čiurlionis's use of these folk songs and their musical elements is authentic. Further, one finds this musical element within other folk songs that Čiurlionis did not harmonize, further cementing it as a Lithuanian characteristic.

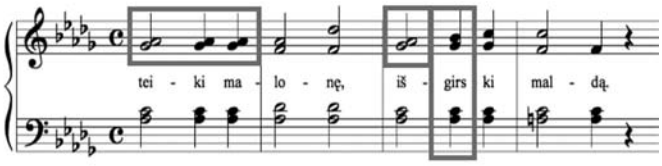
Čiurlionis employs his melodies differently throughout his folk-based piano works. Due to thicker left-hand textures, including block chords and arpeggiations, Čiurlionis presents the melody in octaves. This is evident with the Op. 11, No. 2 and Op. 13, No. 2, and demonstrates the importance of the melody in Čiurlionis's eyes.

3.3. Harmony

Within a polyphonic work, harmony is perhaps the most important complete musical characteristic: now, the rhythmic variety and the melodic construction are examined together as a single whole. Regarding harmony, Čiurlionis's *De Profundis* demonstrates a hallmark of Lithuanian folk song: an abundance of major seconds.

Rūta Gaidamavičiūtė, in her article, "Folk songs in the Work of Lithuanian Composers (2006)" focuses on the first of the aspects, the treatment of a major second. Gaidamavičiūtė writes that this interval is commonly found within the Lithuanian folk genre the *sutartinė* and that it often leads to a bitonal nature within this pieces (2006: 1–2).

While the *De Profundis* by no means contains bitonality, the presence of these parallel seconds can be viewed as an unconscious decision made by Čiurlionis that reflects his musical heritage, namely, Lithuanian folk music. He presents the interval (and its octave equivalence) most often when he employs the full choir in a chorale setting; Example 7 identifies one moment where this occurs. Further, Čiurlionis utilizes this musical element throughout the entirety of the work, including a return of an earlier, second-prominent section. The texture at this point, similar to earlier in the work, is homophonic and the voices move generally in static or parallel motion, presenting this interval as a noticeable feature that clearly recalls Lithuanian folk song.



Example 7. Čiurlionis, *De Profundis,* mm. 24–27, choir

This prominence of the second in the *De Profundis* is not anomalous. Within his folk song settings one can discern his use of the interval to identify the sound as Lithuanian. Indeed, within other Lithuanian folk song collections, such as that of Stasys Šimkus (1965), this interval is also employed within select songs as a hallmark of Lithuanian music. Further, within Čiurlionis's other Psalm settings, dating from later in his career, he employs this interval with some frequency.

The orchestral harmony throughout the piece is slightly more difficult to label; throughout the *De Profundis*, Čiurlionis seems to prefer standard late-Romantic progressions to folk song harmony. This should not be surprising, however, as the Lithuanian folk music that Čiurlionis would have heard is primarily vocal in nature, and his idolization of Richard Strauss's tone poems during his conservatory days betray his preference for a lush, late-Romantic orchestration.

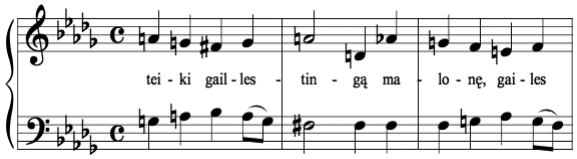
4. *Ratio* in the *De Profundis*

Čiurlionis's use of lush, late-Romantic orchestration within the *De Profundis* is just one example of the 'ratio' – the carefully crafted aspect of composition – that exists within this work. A cursory glance at the score reveals that Čiurlionis wrote the *De Profundis* for a standard late-Romantic orchestra, complete with a full complement of woodwinds and brass.

Čiurlionis's harmony within the work is primarily triadic, and modulations are accomplished through altered and enharmonic reiterations of chords, leading to mediant-related keys (e.g. B-flat minor to d minor); additionally, each chord within the phrase has a distinct cadential purpose and goal. This would not have been out of fashion for other late-Romantic composers, including the early works of Gustav Mahler or Richard Strauss, or the late-period of Franz Liszt, among others. Indeed, throughout the work, Čiurlionis's employment of the orchestra is primarily Romantic in nature.

Within the vocal sections, one sees a distinct contrast between Čiurlionis's folk-inspired chorale-like sections and the fugal parts with which they alternate. Whereas the chorale sections display distinct musical elements of Lithuanian folk song – the *intuitio* of this work – the fugal sections clearly demonstrate Čiurlionis's ability to work within the learned style he acquired within his conservatory studies – the *ratio*. The contrapuntal technique utilized by Čiurlionis here is reminiscent of his Mass setting, which was completed as a set of counterpoint exercises during his time at the Warsaw Conservatory.

Čiurlionis's use of counterpoint is not exclusive to the fugal sections of the *De Profundis*; for example, in mm. 37 and 39 one finds that Čiurlionis treats his limited range melody (part of this 'intuitio' of this work) contrapuntally, thus marrying the imbibed style of the Lithuanian folk songs of his youth with the learned style of the conservatory.



Example 8. Čiurlionis, *De Profundis,* mm. 37, 39

Regarding nationalist tendencies within the work, Čiurlionis makes the important conscious decision to set the text in Lithuanian. For Lithuanians, and for many other ethnic groups at this time, the issue of language, and the unrestricted or official acceptance of their native tongues was a major victory – the lack of it, a form of repression. For this reason, literary movements and the publication of national histories, poems, news, and other writings in the vernacular were vital to the establishment of any nationalist movement.[2]

Čiurlionis's decision to set his *De Profundis* text in Lithuanian thus expresses a conscious desire – part of the *ratio* – to present a major work in his homeland's native tongue. For its composition, he used translations by the Polish poet Jan Kochanowsky; although the translations were in Polish – the language with which Čiurlionis was most familiar at the time – his decision to ultimately present the final work in Lithuanian clearly gives evidence of his nationalist tendencies. Further, this method of composition – working with a Polish translation of the Psalms and then translating the text Lithuanian for the final draft – was common to Čiurlionis at this time; his other Psalm settings followed a similar construction process.[3]

5. Conclusion

Mikalojus Konstantinas Čiurlionis is the quintessential Lithuanian composer, and for good reason. Though this paper touches on only one of his many compositions, it demonstrates that from his earliest "mature" compositions – that is, works composed beyond an assignment – Čiurlionis *naturally* expresses aspects of the Lithuanian folk music he would have heard as a child. For Čiurlionis this "Lithuanianness" – *intuitio* – combined itself inseparably with his conservatory training – *ratio* – to create a truly Lithuanian style of composition – a style that many scholars have identified within his later works. For Čiurlionis then, and for Lithuania, national style is truly born out of the marriage of soul and mind – *intuitio et ratio*.

[2] It must be noted that the Lithuanian language was prohibited at this time due to a Russian mandate issued after an uprising in Poland in 1863-4. More recently, Russian soldiers and citizens massacred Lithuanian Catholics in the Kražiai Massacre of 1893. During this time secret Lithuanian schools (*daraktorinės*) were formed in villages, the first Lithuanian newspapers (*Aušra* and *Varpas*) were published, and the Social Democratic Party of Lithuania was established. Following demands for greater liberty by the SDP and other political action, the Russian government formally revoked the ban on the Lithuanian alphabet and publications in 1904.

[3] This construction process is evident within Čiurlionis's own scores, sketches, and letters that detail his compositional processes from this time period, housed at the M.K. Čiurlionis National Museum of Art in Kaunas, Lithuania; the author has consulted these documents as a part of his research.

References

Beckerman, Michael (2003). *New Worlds of Dvořák.* New York: W.W. Norton and Company.

Gaidamavičutė, Rūta (2006). Folksongs in the Work of Lithuanian Composers. In: *Lituanus* 52, No. 4 (Winter 2006). Accessed October 3, 2015, http://www.lituanus.org/2006/06_2_04%20Gaidamaviciute.htm.

Landsbergis, Vytautas (1992). *M.K. Čiurlionis: Time and Content.* Vilnius, Lithuania: Lituanus.

Mikalojus Konstantinas Čiurlionis: His Time and Our Time (2013). Ed. Gražina Daunoravičienė and Rima Povilionienė, Vilnius: Lithuanian Academy of Music and Theatre.

Račiūnaitė-Vyčinienė, Daiva (2006). "The Archaic Lithuanian Polyphonic Chant Sutartinė." In *Lituanus* 52, No. 2 (Summer 2006). Accessed October 3, 2015. http://www.lituanus.org/2006/06_2_03%20Vyciniene.htm

Staškevičius, Danutė. "Stylistic Features in the Piano and Orchestral Music." In: *Mikalojus Konstantinas Čiurlionis: His Time and Our Time.* Ed. Gražina Daunoravičienė and Rima Povilionienė, Vilnius: Lithuanian Academy of Music and Theatre, 452–465.

Šimkus, Stasys (1965). *Plaukia sau laivelis: Vienbalsės, dvibalsės, tribalsės liaudies dainos* [Fly Your Boat: One-voice, Two-voice, Three-voice Folk Songs], 4 vols. Vilnius, Lithuania: Vaga.

Primary Sources

Čiurlionis, M.K. (1910). "Apie muziką" [About Music]. From "Complete Articles and Publications," located at M.K. Čiurlionis Museum of Art Archives, Kaunas, Lithuania.

Čiurlionis, M.K. "De Profundis" Manuscript. Located at M.K. Čiurlionis Museum of Art Archives, Kaunas, Lithuania.

Čiurlionis, M.K. Excerpts from the composer's diaries. Unpublished, located at M.K. Čiurlionis Museum of Art Archives, Kaunas, Lithuania.

Čiurlionis, M.K. "Letters to Devdurakėlis." Unpublished, located at M.K. Čiurlionis Museum of Art Archives, Kaunas, Lithuania.

Scores

Čiurlionis, M.K. *De Profundis. klavyras* [De Profundis, Piano Edition]. Edited by R. Misiukevičius, LT: Jono Petronio leidykla, 1998.

Čiurlionis, M.K. *De Profundis. partitūra* [De Profundis, Score]. Edited by R. Misiukevičius, Kaunas, Lithuania: Jono Petronio leidykla, 1998.

Čiurlionis, M.K. *Kūriniai fortepijonui visuma* [Complete Piano Compositions]. Edited by V. Landsbergis, Kaunas, Lithuania: Jono Petronio leidykla, 2004.

Čiurlionis, M.K. *Kyrie, Gloria, Sanctus, Agnus Dei*. Edited by Darius Kučinskas, Kaunas, Lithuania: Jono Petronio leidykla, 1998.

Čiurlionis, M.K. *Liaudies dainos* [Folk Songs]. Edited by R. Misiukevičius, Kaunas, Lithuania: Jono Petronio leidykla, 1999.

Čiurlionis, M.K. *Religinė choro muzika* [Religious Choral Music]. Edited by R. Misiukevičius, Kaunas, Lithuania: Jono Petronio leidykla, 2000.

Nacionalinės tendencijos M. K. Čiurlionio kantatoje *De profundis*

Santrauka

Lietuviškas nacionalizmas užėmė svarbią vietą brandžioje Mikalojaus Konstantino Čiurlionio kūryboje. XX a. pradžioje Lietuva išsilaisvino iš carinės Rusijos valdžios, ir tai suteikė galimybę kurti savo nacionalinį identitetą. Šiame procese menai, ypač muzika, atliko kertinį vaidmenį.

Straipsnyje tyrinėjama viena pirmųjų Čiurlionio brandaus laikotarpio kompozicijų *De profundis* chorui ir orkestrui (1899). Stilistinės analizės metu buvo kruopščiai išnagrinėti įvairūs muzikiniai harmonijos, ritmo bei melodijos aspektai, studijoje identifikuojami tiek lietuvių liaudies dainų (jas Čiurlionis jaunystėje girdėjo Druskininkuose) pėdsakai (*intuitio*), tiek sodrių vėlyvojo romantizmo stilių elementai ir technika (pastarąją kompozitorius studijavo Varšuvos konservatorijoje) (*ratio*).

Per savo trumpą gyvenimą Čiurlionis sekinamai dirbo, siekdamas įtvirtinti ir kuo plačiau skleisti lietuvių muziką. Jo organizuojamos parodos, koncertai, kūrinių konkursai turėjo skatinti lietuvių muzikus kurti atsiremiant į lietuvių liaudies tradiciją. Dviejuose straipsniuose jis nuodugniai charakterizavo lietuvių liaudies muziką ir nurodė, kaip kompozitorius galėtų ją pritaikyti profesionaliojoje kūryboje. Šie straipsniai ir kiti pirminiai šaltiniai siūlo instrumentą, kuriuo galima tirti kūrinio lietuviškumą pagal tuos pačius kriterijus, kuriuos taikė ir Čiurlionis.

Siekdamas identifikuoti lietuvių liaudies muzikai artimus muzikos bruožus, straipsnio autorius tyrinėjo didžiąją dalį tautinės Čiurlionio kūrybos, taip pat jo liaudies dainų išdailas (pradedant 1905 m.). Autorius analizavo minėtus straipsnius apie lietuviškumą muzikoje, kitus Čiurlionio literatūrinių tekstų rinkinius, atspindinčius to meto kompozitorių / kompozicijų ir nacionalinių muzikos stilių realijas, taip pat dienoraščių fragmentus, eilėraščius ir kitus šaltinius, laikomus M. K. Čiurlionio dailės muziejaus archyvuose Kaune. Ši kruopščiai dokumentuota studija buvo lyginama ir pildoma kitų lietuvių tyrėjų (Vytauto Landsbergio, Rūtos Gaidamavičiūtės, Daivos Račiūnaitės-Vyčinienės, Danutės Saškevičius ir kt.) darbų įžvalgomis.

Šio tyrimo metu buvo atlikta kantatos *De profundis* analizė. Be identifikuotų lietuviškumo ypatybių kantatoje, straipsnyje aptariami bendri bruožai, būdingi ir kitoms Čiurlionio kompozicijoms – ankstyvosioms konservatorijos laikotarpio psalmių ir mišių harmonizuotėms, dviem didžiosioms nacionalinėms simfoninėms poemoms „Miške" ir „Jūra" ir netgi fortepijoninėms kompozicijoms, parašytoms prieš pat mirtį 1911 metais.

Analizė atskleidė, kad tam tikri lietuvių liaudies muzikos elementai Čiurlionio kompozicijose egzistavo dar iki jam įvardijant juos savo publikacijose; šie muzikos bruožai skiriasi nuo konservatorijoje taikytų principų, todėl greičiausiai jie kilo iš jaunystėje girdėtų liaudies dainų – t. y. jo intuicijos. Vis dėlto, turint omeny faktą, kad Čiurlionis studijavo prestižinėje konservatorijoje, šie folkloro elementai nepasirodo grynu, nenušlifuotu pavidalu, bet yra meistriškai pritaikyti ir modifikuoti. Taigi Čiurlionio kantata *De profundis* (pirmasis jo brandus kūrinys) ir pats Čiurlionis, kaip lietuvių nacionalinis kompozitorius *par excellence*, žymi fenomenalią sąjungą tarp *ratio* ir *intuitio*, kuri formuoja Čiurlionio pažadintą lietuvių nacionalinį stilių.

Manuel Antonio Dominguez Salas

Poetics for the Multi-opera *Murmullos del páramo* by Julio Estrada

Abstract. The art of creation for the genre of opera in the 21st century is characterized by the fusion of contemporary approaches for artistic subjects and the tradition of what opera represents in music history. Julio Estrada's opera *Murmullos del páramo* presented in this paper provides us with a quite unique approach in dealing with the libretto as a literary source for sonority. The paper discusses facets of pre-Hispanic cultures embracing knowledge of mythology, cosmology and transcendental aspects that influenced the literary works corresponding to magical-realism in Latin America in the 20th century. A second discussion is focused on the construction of the opera, the structure and the symbolization of the musical material, addressing the problem of the so-called *macro timbre* – a new methodology of creation that rejects the traditional treatment of all musical components of rhythm and sound. The analysis presented here provides evidence of how this new transcription methodology is able to transform a literary text into a chant for death with the absence of words as musical material. In order to enrich the issue, new evidence is presented regarding the strong connection from ancestral mythology with literary symbolism, and later on with a musical composition, where the unification of these three main sources combine in the listener's imagination and touch our deepest emotions with unique means regarding the realization a vocal-instrumental dramatization of the libretto. The evidence presented here provides an opportunity to evaluate the level of aesthetical procedures proposed by Estrada, his techniques and methods of musical transcription, leaving an open discussion for further research related to this subject.

Keywords: Julio Estrada, *macro timbre*, multi-opera, Juan Rulfo, Pedro Páramo.

Introduction

The trajectory of this paper is two-fold. (1) An investigation of the aesthetics and cultural aspects connected as external influences that affected the process of composition by Julio Estrada is proposed. Mainly, it held two sources of inspiration: firstly, the novel *Pedro Páramo* by Juan Rulfo (1917–1986), a tale that submerges the reader into an imaginary and real world stipulated by audible perceptions of images in Rulfo's prose and poetry; secondly, mythology that belonged to pre-Hispanic cultures in ancient Mexico. Mystical tales from ancient civilizations, cosmological knowledge and cultural aspects influenced the role of life, religion and artistic expressions in ancient Mesoamerica for hundreds of years. (2) A discussion related with the process of creation the multi-opera *Murmullos del páramo* is developed, departing from the imagination of Estrada's perception of the prose and poetry in Rulfo's narrative, continuing to the elaboration of the musical work, where new techniques for vocal expression regarding the correlation between text and music are applied for the opera of the 21st century by Julio Estrada.

Myths

The poetics of the multi-opera *Murmullos del páramo* (1992–2006) connects us with an echo from the mythology and cosmology that belonged to the ancient Mexicans and Mayas from the pre-Hispanic cultures, an old myth that ruled an entire civilization from the oldest pre-Hispanic civilizations known until today: the Olmecas (500 B.C.). The myth was reflected in their artistic representations like architecture, sculpture and literature. Because of the massive destruction during the Spanish conquest (1525–1697), it is not possible to determine with accuracy in which texts these cultures have left all their knowledge about cosmology together with their mythology. What we know until today is the *Dresden Codex,* which, according to scholars, specialized in Mayan culture, is a copy of an old text, probably 400 years older than the codex. The information found in this text is related to planetary calculations of their orbits around the Earth, Venus, Moon, and Mars, as well as Solar and Lunar eclipses are predicted with exact accuracy. A second text known as the *Codex Borgia* also written before the Spanish conquest is considered a manuscript which reveals information about the rituals and divinatory context. Here we can find a description of a dark place named *Mictlan,* governed by the god of the death *Mictlantecuhtli*. A third source of knowledge was discovered in the 18th century by the priest Fray Francisco Ximenez (1666–1722), from the Order of Santo Domingo. Fray Ximenez contacted with the Quiches in Guatemala, which allowed him to access a manuscript written a few years after the Spaniards arrived in the Mayan land. The original title that Quiches gave to this manuscript is unknown as well as his author(s). What is known for certain, is that before the conquest began, there was a collection of tales known as *Popol Vuh* (from quiche *popol*-common house, *vuh*-book). Fray Ximenez got involved in the translation into the Spanish language with the assistance of native Quiches who had already learned Spanish. Thanks to Fray Ximenez's translation and his collaborators, the myth survived and continues to engage more scholars

interested in the study of Mesoamerican cultures. The book could be divided into three main parts. The first part provides with detailed explanations the creation of the world together and the origin of human-kind by the hand of *Gucumatz* (in Mayan language) or *Quetzalcoatl* (in Nahuatl language), who created human race from a corn seed. The second part refers to adventures of *Hunahpu* and *Ixbalanque.* The scenario takes place in the underworld commonly known as *Xibalba* or *Mictlan,* governed by the god *Mictlantecuhtli.* The third part refers to the origin of the quiche culture, their wars, territories and achievements that took place before the Spanish conquest.

The connection between pre-Hispanic mythology and *Pedro Páramo*

Juan Rulfo's narrative in *Pedro Páramo* is transitional between poetry and prose. It describes a ghost tale from the world of the dead. Here the author decided to refer to the ghost town Comala, in a clear reference to *Mictlan* in the *Popol Vuh.* The main character of the novel is Juan Preciado's soul, who has just departed from the living world and has begun his journey into *Mictlan* in order to find his father whom he has never met.

Inside *Mictlan*: According to Martin Lienhard (1992: 842–851), the cosmology of the ancient Mexican culture has clearly defined two different places where the soul might be sent to after death. Lienhard explained the difference between *Tlalocan* and *Mictlan*. The first refers to the place where the soul ascends, a similarity to the conception of Heaven in the Christian religion; the second one refers to a place where the soul descends and experiences suffering and torture, similar to the conception of hell in the Christian religion. In the *Popol Vuh* as well as in the *Codex Borgia*, clear references can be observed of *Gucumatz* or *Quetzalcoatl* descending into the *Mictlan*, in order to confront *Mictlantecuhtli.* In *Pedro Páramo* the connection with Juan Preciado and *Gucumatz* is evident from the very beginning in the novel where Juan Preciado ordered by his mother who is dying must go to Comala to look for his father, a demoniacal figure who is referred to as a man of no empathy or emotions for suffering:

> Vine a Comala porque me dijeron que acá vivía mi padre, un tal Pedro Páramo. Mi Madre me lo dijo ... 'No dejes de ir a visitarlo' ... 'Exígele lo nuestro. Lo que estuvo obligado a darme y nunca me dio... El olvido en el que nos tuvo, mi hijo, cóbraselo caro' (Rulfo 1955: 5).[1]

In the previous example two aspects are of interest. Firstly: Rulfo never clarifies in which moment of the journey the novel begins. This aspect reflects Rulfo's intentions to manipulate the element of time in his narrative, creating a world that fluctuates between reality and the imaginary. Secondly: Comala refers to *Mictlan*, and Juan Preciado is the representation of *Quetzalcoatl's* and Pedro Páramo, Preciado's father, is the representation of pain, hell, suffering and sadness, the god of the underworld – *Mictlantecuhlti.* Rulfo's intentions to connect ancient cosmology in his novel is more evident in the fact that in Comala the same as in *Mictlan* it is not possible to avoid torture of the inner world. This can be reflected by constant pain to which Juan Preciado and Susanna San Juan – the main characters in the novel – are subjected. Another aspect which could connect Comala and *Mictlan* is the long distance that exists from the point where Juan Preciado has begun his journey and when he finally arrives to Comala. A long journey in extremely hot temperatures with no possibility to breathe is concurrent with endless pain. In *Mictlan*, for the Mexicans and Mayas, the loneliness and torture were an essential part to be experienced in it. In *Pedro Páramo* this element can be observed during Juan Preciado's descend into Comala:

> – Esta seguro de que ya es Comala?
> – Seguro, Señor.
> – Y por que se ve esto tan triste? (Rulfo 1955: 6)[2]
>
> – Habiamos dejado el aire caliente allá arriba y nos íbamos hundiendo en el puro calor …
> – Ya lo sentirá mas fuerte cuando lleguemos a Comala. Aquello esta sobre las brasas de la tierra, en la mera boca del infierno. (Rulfo 1955: 8)[3]

[1] Translation to English by Armand F. Baker: "I came to Comala because I was told that my father, a man called Pedro Páramo, was living there. It was what my mother had told me … 'Don't fail to go and see him' … 'Demand that he gives you what is ours. What he should have given me and never did… Make him pay dearly, my son, for the way he has neglected us'".

[2] Translation to English by Armand F. Baker: "Are you sure it is Comala?" "Yes, I am sure, sr." "And why does it look so sad?"

[3] Translation to English by Armand F. Baker: "We had left warm air up higher and we were sinking deeper and deeper into the heat … You will feel it even more when we get to Comala. That place sits on the coals of the earth at the very mouth of hell".

Pedro Páramo* and the multi-opera *Murmullos del páramo

Julio Estrada's first encounter with Rulfo's literature took place in 1960, while listening to the radio audition where the author himself narrated the tale *Diles que no me maten!* [Tell them not to kill me!], from the novel *El Llano en Llamas* (1953). Later on Estrada once again picked up Rulfo's novels *El Llano en Llamas* and *Pedro Páramo* and began a journey for six days in Tapalpa, Jalisco, a few kilometers from the land where Rulfo was born, Sayula, Jalisco. There, while reading and observing the landscape, Estrada could perceive the images and sounds implanted in Rulfo's narrative. He began to capture the essence of the text as an audible phenomena, where the evocation of multiple sounds, whispers and laments from the death world transformed into a complex musical textures. These fictional sonograms inspired Estrada to continue an aesthetic investigation which ended up in becoming a book written in 1990: *El Sonido en Rulfo* (with a second edition in 2008 – *El Sonido en Rulfo:* "*el ruido ese*"). The title for the book was taken from an emblematic dialog that can be found in the tale *Luvina,* from *El Llano en Llamas*:

– Qué es? – me dijo.
– Qué es qué? – le pregunté.
– Eso, el ruido ese.
– Es el silencio … (Rulfo 1953: 90)[4]

During the time of elaboration *El Sonido en Rulfo*, Estrada experimented with a dialectic process between Rulfo's texts and introspected audible perception from the novel, which germinated the beginning of his opera. One of the main aspects that influenced the construction of his musical work is found in four sonority layers, which, for Estrada, is a way to assimilate Rulfo's treatment of sonority in his poetry and prose. These four basic sound imageries correspond to literary, environmental, musical, and temporal dimensions and are organized in Estrada's book as it follows (2008: 18):

I. Sonority of the speech: evocative words of poetic and dramatic character.
II. Sonority of the environment: audible description of the reality in nature.
III. Sonority of the music: music in the novel, as songs, instruments.
IV. Sonority of the time: the manipulation of the form and its close relation to the musical form.

The aesthetics conducted by Estrada during the process of creation his multi-opera can be highlighted by the conjunction between investigation and creation that derived into a literary work quoted before – *El sonido en Rulfo:* "*el ruido ese*" – and a musical work – multi-opera *Murmullos del páramo* – both concerning the sonority in Rulfo's literature. The first one focuses on the investigation and assimilation of the sonority in the novel, while the second one crystallizes the whole musical creation from the novel. The creation of both works represents a model of understanding and listening to Rulfo's poetry and prose. This innovatory and unique way to operate based on the complexity and richness of musical images, propose a new form of the fusion of music and libretto, as Estrada has mentioned (2008: 18): "It offers a new model of musical creation that comes from literary fantasy."

More connections between the opera, the novel and the mythology of *Mictlan* are observed in the following aspects:

a) The significance of the word *páramo,* the protagonist's father's surname in Rulfo's novel, and the personification of Juan Preciado's father is *Pedro Páramo*. What in the book refers to *Páramo*, is the character himself, in contrast to the opera, where it is more than a character: semantically it converges myth, hell, suffering, love and most of all, unique sounds from the lost souls in a ghost town called *Comala*.

b) The relation between myth and language is found in one of his darkest textures in the opera: *hum,* for soprano, mezzo soprano, contralto, tenor and bass. It becomes the point of an eternal returning where all characters from the novel conjunct in it, as has been explained by Estrada: "The voices of all the personae included in the libretto of the opera appear in *hum*, a meeting place for solitary presences: Doloritas Páramo, the wife of the village tyrant and mother of Juan Preciado; Juan himself; the tyrant [whose name is used for the title of the novel by Rulfo], father of Abundio Martínez the muleteer and of Miguel Páramo, among others; Susana San Juan, an object of desire of the master of Comala; an old woman; the mother of Pedro Páramo; and Eduviges Dyada, Damiana Cisneros, and Dorotea" (2004: 84–85).

c) A conjunction of language and myth is found in *Miqui' nahual* for female voice, noisemaker and double bass. Here the eternal battle between life and death of Juan Preciado can be perceived by means of demoniacal evocations with laments and a *grotesque* representation of a human body suffering in *Mictlan* realized by the

[4] Translation to English by Armand F. Baker: "What is it? – he said." "What is what? – I asked." "That, that noise." "That is silence …".

double bass symbolizing Preciado's dead corpse. Another important element that unifies Rulfo's narration and Estrada's music is the audible presence of Rulfo's voice narrating fragments from the novel. His genuine way to narrate his own texts implanted a non-dramatic expression of the voices from the ancient pre-Hispanic cultures in the opera as was mentioned by Estrada: "Rulfo's voice spoke of an extraordinary indigenous world, a world full of sadness of non-dramatized expression" (Semichon 2014).

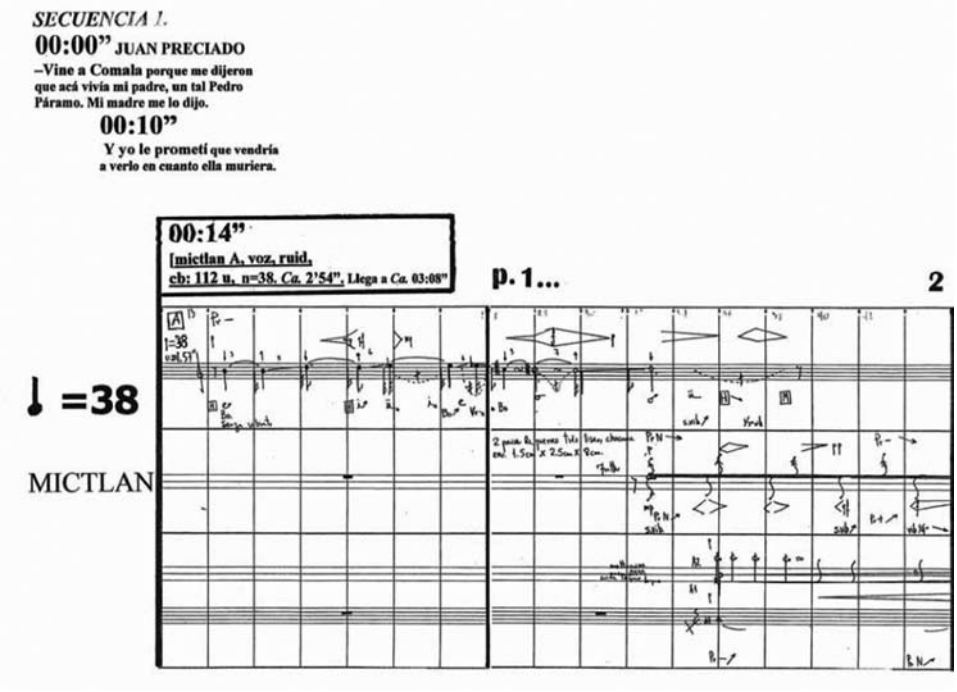


Figure 1. Rulfo's voice in the opening of the module *Mictlan* (Estrada 1992)

Multi-opera *Murmullos del páramo* (1992–2006)

It took Estrada fourteen years to compose his largest musical work for a multi-ensemble combining vocal, instrumental and electro-acoustical music. The opera consists of two parts, "*Doloritas*" and "*Susana San Juan*". The premier took place on 12 May 2006 at Teatro Español in Madrid, Spain, with the participation of the following personae: Fatima Miranda and Sarah Maria Sun, female vocal soloists; Stefano Scodanibbio, double bass; Llorenc Barber, noisemaker; Ko Ishikawa, sho; Magnus Anderson, guitar; Mike Svoboda, trombone; five members of the *Neue Vocal solisten*; Sergio Vela, scenography and Julio Estrada, the musical director and also as vocal soloist performing Abundio Martinez the muleteer.

An aesthetic observation demands the analysis of the methodology employed by the artist in order to assimilate the process where Estrada confront his own artistic challenge by the use of his aural imagination to absorb all the sonorities in Rulfo's text. In previous musical works since 1980s until actual time Estrada has been applying systematical procedures of notation where all musical material has to express all qualities of sound layers, this involved unique methodology of creation, the so-called *macro timbre* (from Greek *macro* – big; and *timbre* – quality of sound). This methodology is based on the concept of space-time as a single phenomenon of the sound. Estrada understands the entire audible spectrum as a big mass of infinitive conjunction between rhythm and sound that rises from the lowest to the highest frequencies inside a continuum transition of *space-time* or tone-rhythm. Estrada has explained: "Rhythmic and sonic vibrations can be unified as a continuum" (2002: 72). In this *macro timbre* Estrada proposed homogenization of all components of the acoustic phenomena and organized it in three main groups according to the rhythmic and sonic physical components of each one, as Estrada explained (2002: 72–73):

A. frequency: in rhythm – duration, in tone – pitch;
B. amplitude: in rhythm – global intensity (where attack is perceived as primary), in tone – global intensity (envelope);
C. harmonic content: in rhythm – microstructures of duration (similar to vibrato); in tone – timbre (in the sense of pitch colour).

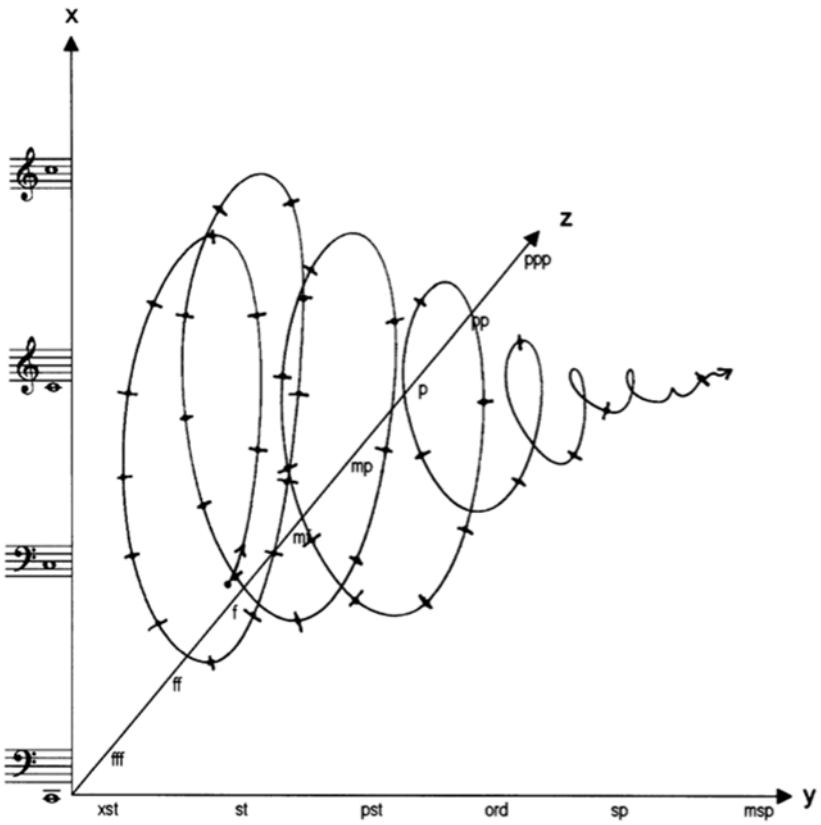


Figure 2. Three-dimensional trajectory: *X* – Frequency; *Y* – Harmonic content; *Z* – Amplitude (Estrada 2002)

In order to apply this methodology Estrada proposed a chromo-graphical technique which allows him to register the movements of the imaginary and to covert those into a musical score. This system of notation is based on draws made manually or digitally with the application of a musical program created by himself at the Institute of Applied Mathematics and Systems (Instituto de Investigaciones en Matemáticas Aplicadas y en Sistemas, IIMAS) in UNAM (Universidad ©Autónoma de México), called *eua´oolin* system (in the Nahuatl language, *eua* – to fly away; *oolin* – movement). From the transcription of both methods (manual or digital), Estrada classified the components of rhythm and tone and transposed them into a musical score obtaining different kinds of transition from *discontinuum* ones to *continuum.* This way of operation allowed him to project an unlimited number of parameters involving several layers of contrapuntal technique that go beyond the borders of harmony and intervallic relations. The result of this large and systematical method lands in the creation of music that is hard to define by any context previous to its existence, at least by the European tradition of musical material organization. It is inspired by the idea of Mexican Native American music, which tends to observe the movements in nature or in the imagination and to express them through the chants and rhythms that are not based on the mathematical division of pitch or pulse.

Estrada's compositional procedures for vocal music offer a new paradigm in musical creation regarding the genre of opera. We face a vocal-instrumental work where the role of the text is minimized almost to its totality in order to be amalgamated within the sonority in Rulfo's text and the musical sound layer, which is fulfilled by several components in the *macro timbre* between instruments and human voice. Up to Estrada's opera, most of the musical works ascribed to this genre have used the text from the libretto as the only way to connect action with music. *Murmullos del páramo* detached itself from this traditional way of operation and proposed the sonority from the imaginary – which is extracted from the libretto – as the connector between action and musical performance. In a continuous vocal *macro timbre* (Estrada 2004), Estrada proposed an extended list of twenty-four components which expressed the multiple possibilities in highest resolution, where the *macro-voice* is "capable of admitting new procedures of representation and of thriving in virtuoso performance situations" (Estrada 2004: 100).

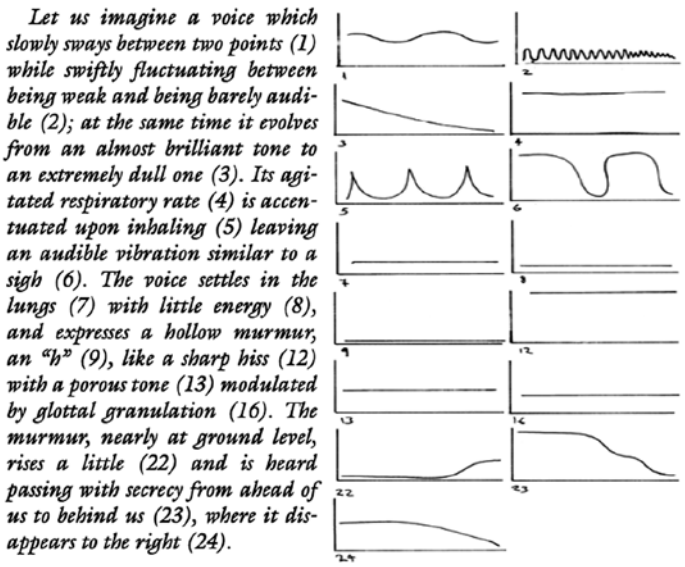


Figure 3. 24 components for the *macro voice* (Estrada 2004: 103)

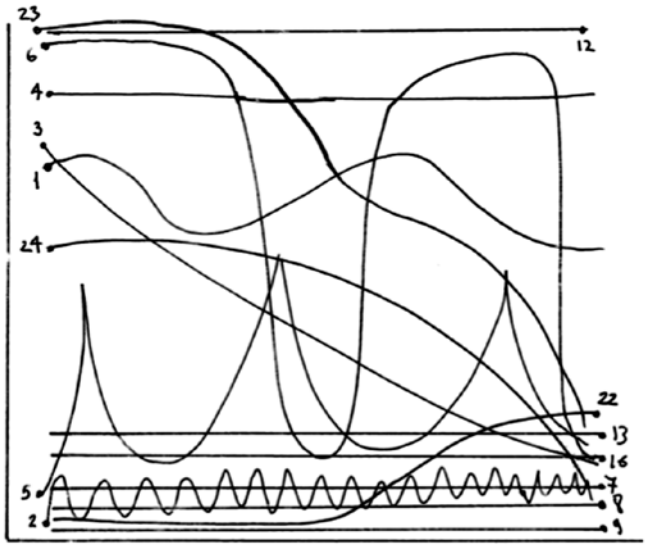


Figure 4. *Macro timbre* with 24 components for the *macro voice* (Estrada 2004: 104)

The construction of the opera is correlated with the four layers which Estrada identified in Rulfo's literal sonority, as Estrada explained (2014): "The first layer is Rulfo's text spoken by the actors, the second layer corresponds to the environmental recordings, the third layer is all the music and the fourth layer is a dramatic, free representation of the Butoh dancer". Comparing the four layers in Rulfo's sonority with Estrada's construction of the opera, we can observe the strong correlation between poetry and prose together with music and action.

Rulfo's sonority:	Estrada's layers for the opera:
Sonority of the speech.	Rulfo's text.
Sonority of the environment.	Environmental recordings.
Sonority of the music.	Music (in performance and recorded).
Sonority of the time.	Butoh dancer.[5]

[5] The correlation between the sonority of time in Rulfo's sonority and the Butoh dancer shows that Juan Preciado is in a world where dreams and illusions are the only thing that he can experience. Such a psycho-emotional stage always confuses the sensation of time. For that reason the Butoh dancer is the representation of Preciado's soul transiting in the continuity of space-time in *Mictlan*.

In an aesthetic sense the opera confronts the drama between life and death in an unusual procedure. The transitions from the real world and infra-world can be observed by two main aspects. The first aspect is observed by the use of sound material and not by different scenarios. In order to create an elastic and continuous transmutation of sound layers, Estrada applied twelve speakers that surrounded the audience creating a tridimensional moving space, where sounds travel in it, coming from the upper part – as belonging to the reality, and those coming from the lower one – as belonging to the infra-world – *Mictlan*. Estrada also presents a completely new way to manipulate the events by the sounds of actors' voices or the environmental noises to the musical voices. We can observe this process by identifying a dimorphism between the instrumentalists and instruments, where each instrument is linked with a singer or a dancer and each singer is related to an instrument: the noisemaker is the identity of the Páramo, Abundio; the double bass is the inert body of Juan Preciado in search of his father; the Sho is the priest Renteria; the guitar is Susana San Juan, the woman loved by the cacique, and the trombone, symbol of strength and power, the lord of Comala, Pedro Páramo or the Lord of the world of death is *Mictlantecuhtli.*

The second aspect is founded in the open form of the opera. The musical work is divided in independent musical modules: *Mictlan, Mictlan'ome, hum, Retrato, matlapoa, Caja con trenzas* and *fosiles resonantes* that all together assemble a tridimensional puzzle, where any module connects with another one creating a continuous transition between different characters and instruments. For this goal the composer proposes five different versions of the multi-opera which synthesize the possible combinations that can be obtained in a musical puzzle.

I. A complete version with all the seven modules that integrate the opera, all instruments, singers, voices of the actors and recorded environmental sounds, the two latter ones are heard only through the speakers.
II. Partial versions: "Doloritas", the first part of *Murmullos del páramo,* a quasi-radiophonic opera which includes *mictlan*; "Susanna", the second part of *Murmullos del páramo,* a *quasi*-radiophonic opera which includes *mictlan'ome,* not yet finished.
III. Both first and second parts may have added parts from *hum*, *retrato*, *matlapoa* and *Caja con trenzas.*
IV. Concert versions from one and/or other parts of the opera in combination with complete or partial versions of other modules, e.g., *Mictlan* trio for "*Doloritas*", or a reduction of this last one or two of his parts: *Miqi'cihuatl* for female voice or *Miqi'nahuatl* for double bass.
V. Symbolic text version in Nahuatl language (a free version inspired by Rulfo's text, still in process by Estrada).

The multi-opera *Murmullos del páramo* in its general form is unified by seven modules which evoke the characters included in the novel through the voices and the instruments included in the musical work:

Module	**Character(s)**	**Instrument(s)**
mictlan	Doloritas, Juan Preciado and Pedro Páramo	female voice, noisemaker, double bass
hum	Susana San Juan, Justina, woman in the town, Juan Preciado and Pedro Páramo	vocal quintet (soprano, mezzo, contralto, tenor and baritone)
matlapoa	Priest Renteria	sho
Retrato	Pedro Páramo	trombone
mictlan'ome	Doloritas, Susana San Juan, Pedro Paramo, Abundio and Juan Preciado	two female, one bass voice, trombone, noisemaker and double bass
Caja con trenzas	Suana San Juan	guitar
Fosiles resonantes	all characters	all instruments

Figure 5. Multi-opera *Murmullos del páramo* (Estrada 2014)

Mictlan

The opening in Rulfo's novel and in Estrada's opera carries over both the reader and the listener – inside the mystical *Mictlan*. For this reason I would like to present important details from this module which are focused on its construction and aesthetic backgrounds. *Mictlan* is integrated by two separate works that could be performed together or separately. The first piece *Miqui'cihuatl* – From *miqi* (Nahuatl, the dead) and *cihuatl* (woman), for female voice solo, represents the chant of Preciado's death sung by his mother Doloritas Páramo; the second piece *Miqui'nahual* from *miqi* and *nahual* (a mythological protector animal) for double bass solo. The unification of both pieces presents transmutation between Juan's life and death. A symbolic approach by using the double bass must be considered as important element to observe. It reflects the artistic intention to manifest Preciado's corpus struggling with the death. For this purpose one of the two double basses is laid onto a table where the instrumentalist must perform on the instrument in a creative and cruel way by the utilization of two bows, grasping it from the top to the bridge, extracting dry, dark and scratchy sounds. The chant by female solo represents the sorrow and laments of Preciado's mother, Doloritas, as her soul is lost between shadows in this phantasmagorical passage, where Estrada elevated the expression of suffering by employing new musical textures for vocal performance offering more realistic impressions from the dark *Mictlan*.

Figure 6. *Miqui'cihuatl,* solo female voice (Estrada 1992–1904)

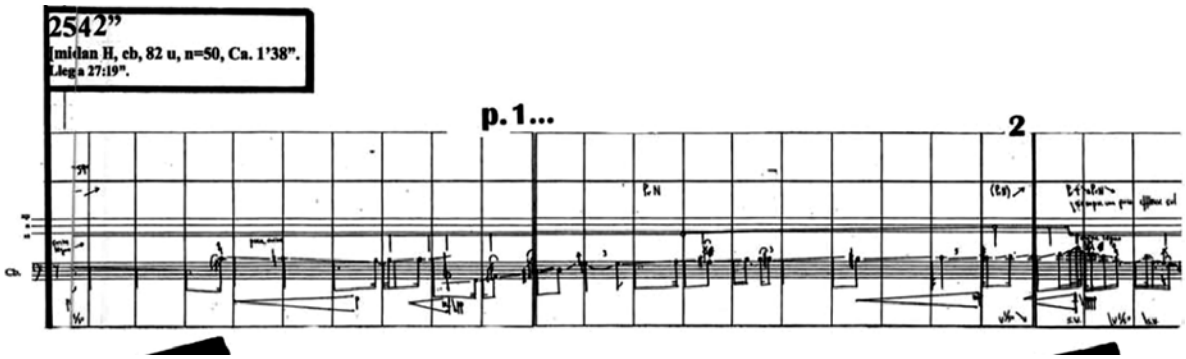


Figure 7. *Miqui'nahual,* double bass solo (Estrada 1992)

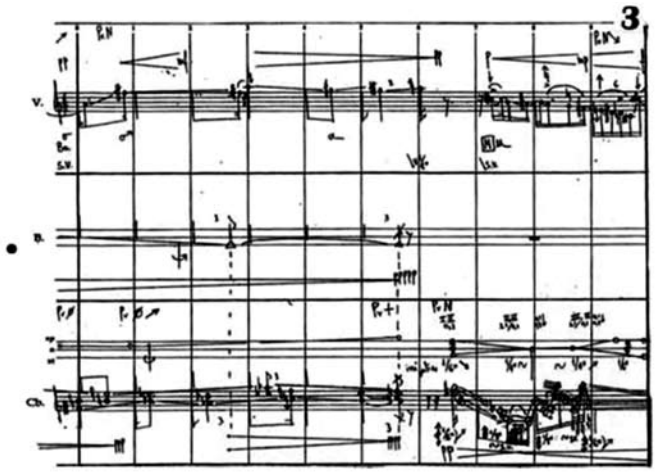


Figure 8. *Mictlan* (Estrada 1992)

Conclusion

The myth from pre-Hispanic cultures brings the images and sounds to our perception from a lost paradise inside the Mexican jungles, hidden between stones, ritual constructions, sound of rivers, dark places and everything that could manifest in a great magical tale. More than that, it contains an unusual power that was sheltered from generation to generation until our days. *Pedro Páramo* goes beyond a novel of *magical realism*; it is a conjunction of echoes fused between the real and the under-world. For the reader with "ears wide open", it is a novel that sounds like a place where time and space are suspended, where the only reality is the confrontation with our own imagination, where the text can express the silence and loneliness in the dry land of Comala, floating in the air of *Mictlan* joined by noises and sorrows of other souls. In Rulfo's novel Estrada found this power hidden between the text, which, later on, he used in order to transform it into a chant from the lost souls.

The multi-opera *Murmullos del páramo* is Estrada's most representative work by this time. It amalgamates myth-poetry-sound, the synthesis of his inner musical reality. The artist elevated his intuitive capacity of perception to the maximum in order to bring a musical work that goes beyond the limits of the expression by words. Instead, he exploited those noises that were never used as the main substance that was extracted from the libretto and is the essence of the sonority in Rulfo's texts: murmurs, laments, screaming, sorrow, babbling, etc. Another aspect that should be highlighted is found in the relation between performers and instruments resulting in an artistic duality, where all the characters from Rulfo's novel become phantasmagorical voices and instruments. For all this conjunctions between the aesthetical backgrounds of ancient Mexico and the innovatory adaptation of Rulfo's novel into an original libretto, the opera achieves the standard of a *multi-opera*, the first of its kind in the beginning of the 21st century.

References

Bartolome Martinez, Cristina (2011). *El largo camino de Juan Preciado hacia el Mictlan,* Universitat Autónoma de Barcelona, Mitologías hoy, ISSN 2014–1130, No. 4, invierno, pp. 05–73.

Estrada, Julio (2004). *Emanation of the voice,* Perspectives of New Music, Vol. 42, No. 2, pp. 88–120.

Estrada, Julio (2002). *Focusing on Freedom and Movement in Music: Methods of Transcription Inside a Continuum of Rhythm and Sound*, Perspectives of New Music, Vol. 40, No. 1 (Winter 2002), pp. 70–91.

Estrada, Julio (2008). *El sonido en Rulfo:* "*el ruido ese*" (1990), UNAM, Instituto de Investigaciones Estéticas, México.

Estrada, Julio, *Un destino para la investigación-creación*, speech during conference after receiving the medal of fine arts in Mexico, Dec. 06. 2016.

Lienhard, Martin (1992). El substrato arcaico en Pedro Páramo, en Fell, Claude, *Juan Rulfo. Toda la obra.* Madrid, Colección Archivos, pp. 842–851.

McHard, James (2001). *The Future of Modern Music*: A Philosophical Exploration of Modernist Music in the 20th Century and Beyond, Salt Lake City, Utah. American University and Colleges Press. A division of American Publishing Group.

Rulfo, Juan (1953). *El Lano en llamas*, Plaza y Janés, México.

Rulfo, Juan (1955). *Pedro Paramo*, Editorial y Fundación Juan Rulfo, Mexico.

Semichon, Aurelie (2014). *Murmullos de Julio Estrada*, https://www.youtube.com/watch?v=5sWYBTUh5eE [accessed 26. 11. 2017].

Scores

Estrada, Julio, multi-opera *"Murmullos del páramo"*, juliusedimus, 2014.

Estrada, Julio, *"miqi'cihuatl"*, juliusedimus, 1992–2004.

Estrada, Julio, *"miqi'nahual",* juliusedimus, 2006.

Estrada, Julio, *"mictlan"*, juliusedimus, 1992.

Julio Estrados multioperos *Murmulos del páramo* poetika

Santrauka

XXI a. pradžioje Julio Estrada (1943) pristatė naują kūrinį – multioperą. Žengęs žingsnį gilyn į vaizduotės pasaulį, kompozitorius atrado naujus libreto (Juano Rulfo novelės *Pedro Páramo*) traktavimo būdus. Čia novelės tekstai paverčiami grynu garsu, beveik visiškai atsisakoma žodinio teksto. Vienu iš kertinių žingsnių, padėjusių kompozitoriui pasiekti tokią koncepciją, tapo paties Estrados literatūriniai tekstai. Juos įkvėpė Rulfo kūrybos muzikalumas – Estrada asimiliavo esminius Rulfo bandymus garsais nupasakoti skaitytojui savo vaizdinius. Estrados knygoje *El sonido en Rulfo: „el ruido ese"* (2008) suklasifikuotos audiosensorinės formos vėliau padėjo jam sulieti multioperos konstrukcijas literatūriniu, aplinkos, muzikos ir laiko aspektais.

Straipsnyje svarbus vaidmuo tenka multioperą papildančių estetinių elementų, Mezoamerikos mitologijos paveldo ir kitų šiam kūriniui įtaką padariusių kultūrinių aspektų apžvalgai. Senovės mešikų (actekų) ir majų Mirusiųjų pasaulio valdovas *Mictlantecuhtli* yra Rulfo novelės pagrindinio herojaus Pedro Paramo prototipas. Abu jie tarsi susilieja vienoje iš pačių svarbiausių multioperos dalių – *mictlan*.

Estrada kviečia mus pasinerti į fantasmagorišką pasakojimą apie giliausius rulfiško pragaro siaubus. Savo brandžiausiame kūrinyje kompozitorius pateikia klausytojui sudėtingą intuicijos ir mąstymo suformuotą medžiagą, kurioje muzikos adaptavimas prie libreto yra iškeistas į garsų, sukeliančių realaus ir įsivaizduojamo pasaulių vaizdinius, percepciją. Ir visa tai sudaro muzikinį Estrados murmesių labirintą.

3

RACIONALUMO IR INTUITYVUMO FENOMENAI ŠIUOLAIKINĖJE KOMPONAVIMO PRAKTIKOJE

PHENOMENA OF RATIONALITY AND INTUITION IN CONTEMPORARY COMPOSING PRACTICE

Roger Redgate

Emergent Material: Reinventing the Compositional Process

Abstract. This paper addresses various aspects of my recent compositional practice, which focuses on an interchangeability between pre-planned and spontaneous processes. For sometime my work has explored the relationships obtaining between complex compositional processes, and a more intuitive, even improvised, gestural scanning of the material. Notation and aspects of instrumental techniques further form an important part of this discourse as a means of articulating more complex relationships, where emergent properties form a fundamental aspect of the material. The resultant material therefore, is generated through a symbiotic relationship between various interactive layers of complex compositional processes, which are then mediated by more *informal*, intuitive interpretations, with a specific gestural surface in mind. This process inevitably problematizes the traditional view of the creative discourse as a kind of transcriptive process, where subjective material is often defined by certain inherited habits of thought. The work of the painter Francis Bacon or the shorter prose works by Samuel Beckett exhibit a similar relationship to the creative process in relation to the role of structure and the imagination, with a view to unlocking deeper areas of meaning beyond simple narrative or representation. I will examine the nature of such structures in relation to my own compositional processes with a view to exploring the interchange between process and imagination.
Keywords: notation, structure, improvisation, complexity, representation, intuition.

This paper seeks to examine the ontology of a work in relation to all aspects of the creative discourse and at the same time to problematize or question the nature of this discourse in terms of inherited ideas. What is the locus of a composition in terms of its inception as a possibility in the mind of a composer, through to performance as a realisation of the work in notated form, whatever kind of notation that may be? I would also include various structures/scores for improvisers in this context in terms of a specific approach to the nature and functionality of material.

More specifically, in relation to the subject of this volume, I will be referring to my own practice as a composer/improviser with a view to examining the relationships obtaining between complex compositional processes and a more informal or intuitive, even improvised, gestural scanning of the material. Since notation and instrumental technique form an important part of this discourse as a means of articulating more complex relationships where 'emergent properties' form a fundamental aspect of the material, I would like to begin with a brief discussion of this functionality to illustrate aspects of my approach.

To further contextualise this research I would also like to draw upon examples of parallel investigation in the work of artists and writers, whose work shares a certain resonance with my own ideas and seeks to question the more common views surrounding the ontology of a work of art, both in relation to its creation and reception; artists whose work is as much about the process of creation, as what it might be construed to mean.

The work of the painter Francis Bacon, for example, which is often associated with brutal images, is more about the brutality of the painting process in a search to capture the reality of an image – the brutality of fact, as the artist himself would say (Sylvester 1980). There is here an intimate relationship between the violence of throwing paint or using random brush strokes and the subtle painterly reworking of the result, which opens up new forms of meaning and representation on many different levels. Bacon's work transcends the 'precise' representation of an image, as found in photography, for example, to access "a deeper sense of the reality of the image", beyond direct representation (Sylvester 1980: 66). John Russell has identified a further feature of this process as "unconscious scanning" in relation to Bacon's work; a term introduced by Anton Ehrenzweig as a form of active but unfocussed attention, which often informs the decision making process in a work of art, in contrast, or perhaps complimentary, to the more structural aspects of the work (Russell 1971: 22).[1]

In the field of literature, the writer and playwright Samuel Beckett's later prose works abandon any form of traditional narrative, through a complex reworking of words, sentences and paragraphs, which redefine their potential meaning and test the limits of syntax and representation through language (Beckett 1995). In the case of both artists there is a complex interplay between chance, structure and intuition.

Such borderlines of representation and meaning inevitably invoke the name of Jacques Derrida, whose examination of the written text through Deconstruction and Grammatology excavates potential meanings beyond simple signification in writing, revealing a structure inherent in writing itself over and above the representation of speech (Derrida 1976). It is precisely such borderlines in structure and meaning through notation

[1] See also Ehrenzwieg, Anton, *The Hidden Order of Art*, University of California Press, Berkley, Los Angeles and London, 1967.

that I would like to consider in a musical context as a compositional tool, as a means of accessing material, which is a product – or by product – of the interplay between structure, notation and performance.

In terms of music of course, the listening process in time is fundamental to the assimilation of material in relation to form, and an understanding (or perhaps re-inventing) of the intentions of the composer. Which aspects of a work are to be immediately assimilated, which are aspects of musical structure and which function on a deeper subcutaneous level in the generation of material? What might be the relationship between these various levels in the assimilation of the final work? This raises further questions relating to the nature and ontology of musical material itself.

At this stage in the 21st century, we seem to be living at a time when the 'intuitive' aspects of the compositional process outweigh the rational, or structural, i.e. aspects which relate more specifically to technique. This is perhaps a product of the revised relationship between high art and the more vernacular elements of influence, which have had a significant impact on both the creative and listening processes.[2] This further opens up more complex discussions relating to aesthetics, modernism/post-modernism, popularism, autonomy and so on – debates which are beyond the current scope of this volume, although essential to the overall theme. It is perhaps surprising to consider that such aspects of the compositional discourse might now have a socio-political resonance. However, to my mind, this reconfiguration of meaning, which is essentially what we are dealing with here, inhibits creativity and any real sense of compositional research into possible forms of meaning and expression beyond inherited notions. Even if attempts to find new forms are at times undertaken in the name of 'crossover', it isn't enough to write, say, a concerto for beat-boxer or turntables, if the implications of the grammar itself aren't sufficiently scrutinised. What we often experience is more of a regression in terms of form, structure and musical grammar, rather than a radical exploration of new potential.

As musicians, we are rarely taught to question the standard system of notation, which has been more or less solidified for around 300 years, but which is equally informed by such a historical sedimentation, despite the need by various composers since the 1950s to reinvent it. This also frequently resulted in more personal languages. What we can conceive as composers is often strictly limited and determined by the restrictions of the notational system, which defines music in terms of very specific parameters and a very specific functionality. It is often accepted that there is a one to one correlation between a musical idea and its manifestation in notation, suggesting a kind of transcriptive process through the act of composition. Any composer would tell you, it's a lot more complicated than that! As Busoni pointed out "the instant the pen seizes it, the idea loses its original form" (Busoni 1911: 84). This also further identifies questions relating to latitude in performance and the margins of acceptable 'impurity' in the realisation of a score. What kind of liberties might a performer understand as interpretation or stylistic authenticity, or further, what the composer Brian Ferneyhough might call "meaningful inexactitude"? (Ferneyhough 1995)[3]

There are also works which specifically seek to exploit an open ended-ness through notational freedoms and live performance input; the use of various notational strategies such as time-space or graphic notation and open forms, for example, where the composer renounces responsibility for certain aspects of material and form. However, as Derrida illustrated, there exists a lacuna, a gap, between what can be said and what can been shown in writing, raising questions concerning the nature of knowledge and how knowledge relates to writing. Musical notation could be seen to operate in a similar way, when we start to consider the nature of representation and what significative potential notation might inhabit.

This brings me to the notion of emergent material in the title of this paper.

The term is appropriated from the study of complex systems, which has specific resonance here in terms of what Paul Cilliers calls "emergent properties", where the "interaction among constituents of the system... are of such a nature that the system as a whole cannot be fully understood simply by analysing its components" (Cilliers 1998: 2). Cillers further states "complexity entails that, in a system there are more possibilities than can be actualised" (Cilliers 1998: 2). In terms of musical notation there are two aspects to this: on the one hand, material that is generated through the complex interaction of various generative processes; on the other, material that is a by-product of music's realisation in performance, as something inherent in the notation, but not explicit. 'Impurities' in performance or degrees of latitude in realisation, can nevertheless be seen to function as material, as the intentions of the composer. So how does this relate to the compositional process

[2] It is perhaps interesting to note that many such vernacular idioms sidestep the use of notation through recording, improvising and more devised processes.

[3] Brian Ferneyhough has referred to the 'establishment of audible criteria of meaningful inexactidtude', as one indication of the way in which a work 'means'. Interview with Richard Toop in Ferneyhough, Brian, *Collected Writings*, Harwood Academic Publishers, 1995.

and the role of the imagination, concepts and expression in this discourse? Emergent materials might seem not to exist at all, since they are not 'represented' in the sense of a one to one mapping of an idea. My own research has focused specifically on this aspect of notational potential seen as a fundamental component of the material.

In the same way there is a dialogue between concept and notation, there is equally a dialogue between structure and intuition. There has been much written about composition as a form of improvisation, and improvisation certainly plays a big part in the creative process. However, the complexities of this process extend to many levels of the discourse (Benson 2003). I would like to examine this interplay in my own work in terms of the relationships obtaining between structural processes and more intuitive manipulation and generation of the material.

To illustrate this, I would first like to focus on an earlier work, *+R*, for solo clarinet, commissioned by Roger Heaton in 1990.[4] The work was subsequently revised and extended in 1994 at the request of the clarinettist Andrew Sparling who gave the first complete performance and subsequently recorded it.[5]

For me this is a formative work, perhaps more than any other of my pieces, as it represents a significant distillation of my compositional processes. The pre-compositional working was here more clearly defined with a view to generating specific surface structures. In some respects the working processes of my earlier works were here combined with a view to exploring the relationships between two very contrasting materials, both of which establish quite different properties from the outset, which further define their roles within the overall formal structure.

The opening thirty-two bars form the first section of the work, as a kind of exposition, with a very clear interlocking of two initial types of material.[6] Perhaps uncharacteristically at this stage in my work, the time signatures were fully integrated into the pre-compositional process. Example 1 illustrates the interaction between the two levels of temporal information. The first is based on the permutation of seven time signatures of 16th note values, which gradually decrease from seven to two bars, losing the longest value in each reoccurrence. The second articulates the opposite process, using 8th notes, with an increase in length by adding one unit each time (2/8 – 3/8 – 4/8 etc.). This effective cross over of material then further forms a template for the larger scale formal structure of the work, to be discussed later.

It might be worth pointing out at this stage that this process, far from being randomly organised, was informed by the needs of a specific apprehension of sound, an envisaged musical situation (material), which required some form of articulation to bring it into being; in other words, an intuitive scanning of compositional possibilities with a specific (heard) result in mind. The initial pitches and rhythms in bars 1–7 therefore, were intuitively conceived in response to the required character of the material and the implications of the temporal aspects.

Tempo ♪ = 120							**Tempo ♪ = 120**
A material (7 bars)							**B material**
7/16	**5/16**	**3/16**	**2/16**	**4/16**	**6/16**	**8/16**	**2/8**
Odd numbers/even nubers							

Tempo ♪ = 120						**Tempo ♪ =80**
A material (6 bars)						**B material**
7/16	**2/16**	**5/16**	**4/16**	**3/16**	**6/16**	**3/8**
Permutation of 1 (142536)						

Tempo ♪ =120					**Tempo ♪ =60**
A material (5 bars)					**B material**
6/16	**3/16**	**4/16**	**5/16**	**2/16**	**4/8**
Retrograde of 2					

Tempo ♪ =120				**♪ =Tempo 48**
A material (4 bars)				**B material**
2/16	**5/16**	**4/16**	**3/16**	**5/8**
Middle of 2				

Tempo ♪ =120			**♪ =Tempo 40**
A material (3 bars)			**B material**
4/16	**3/16**	**2/16**	**6/8**
Middle of 1 (permutated)			

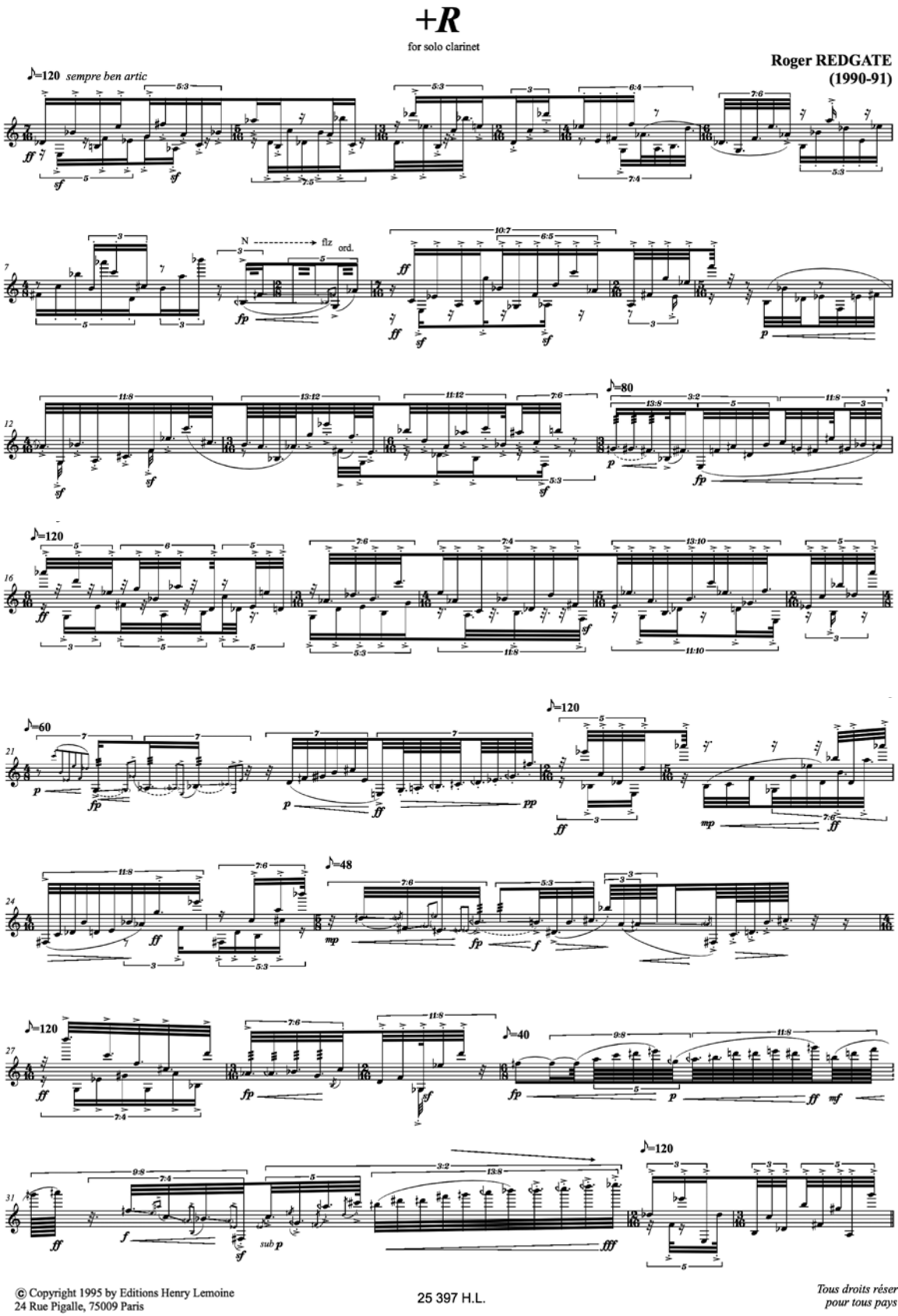
Tempo ♪ =120	
A material (2 bars)	
2/16	**3/16**	**Next cycle**
R of 5	

Example 1. *+R* section 1 bar cycles

[4] The work was first performed by Roger Heaton in the *Es Festival*, Milan, in a provisional shorter version.

[5] Redgate, Roger, *+R*, for solo clarinet, Editions Henry Lemoine, Paris, 1990. Recorded by Andrew Sparling on *Andrew Sparling*, NMC Recordings, NMC D092 and Rolf Borch on *Step Inside*, Aurora ACD 5046, 2007. Comparisons of these two recordings illustrate the interpretative potential of the notational strategies.

[6] The term 'material' here relates to the defining parameters of each.



Example 2. Cycle one of *+R* – score

These materials then formed the basis of the 'A' material, which is subsequently developed by a permutating, rotational harmonic scheme, gradually sliding over itself and projected onto interlocking rhythmic lines, covering more or less the full (and in this context 'performable') range of the instrument. This is always at a fixed tempo (♩. = 120) and a more or less constant dynamic profile (*ff*). As discussed, this unfolds according to a decreasing permutational/cyclic process of time signatures from 7 to 2 bars within this section. The process aims to emphasise the material's transformational tendency (development and/or disintegration) over time. The lack of more localised information therefore, such as dynamics, articulations etc., is intentionally minimised in favour of a process which could be more easily assimilated. Although on the surface the material appears in some respects to be rather static, the interaction of the various strata allows an expansion and rarefaction of information informed by the harmonic rhythm.

After the composition of bars 1–7, processes of transformation were separately applied to both rhythm and pitch, which were then subsequently projected onto the pre-structured time signature cycles. Pitch was organised into harmonic fields defined by bars, which were transformed using a rather Boulezian chord multiplication process allowing the harmonic fields to slide over each other.

The advantage of this process was the freedom to intuitively choose the order and register of the pitches defined by the harmonic fields, rather than a specific quasi-serially defined sequence. Throughout this section therefore, there is a symbiotic relationship between generative processes and a more intuitive interpretation of the results with a specific musical surface in mind.

In contrast, the 'B' material is constantly changing and unfolding throughout the entire work, and is much more rich and complex. The first cycle illustrates this tendency. Each appearance introduces a new element, which ranges from pitch/rhythmic aspects to articulation, combinations of actions, dynamic profiles, repeated notes, melodic lines, more extended playing techniques, regular/irregular scale-like figures, and is increasing in duration throughout. Another significant feature of this material is the use of quartertones, absent from the A material. Within the first section it makes only five appearances in bars of increasing length, which are also becoming closer together as the A material disintegrates. The first example appears in Bar 8 (including a quarter note up beat) where there is a downward *glissando tremolo*, normal articulation moving to flutter-tonguing, and a *fp crescendo*. The next appearance is in Bar 15: here again there is flutter tonguing, the *fp crescendo* and quarter-tones. The new element here is the slurred quasi scale-like formations, with an irregular rhythmic profile. Bar 21 then introduces grace-note groups, short *glissandi* inflections and articulated scale formations and so forth (see Example 2).

In contrast to the A material which remains at a constant tempo throughout the section, the B material is incrementally slower in each appearance, starting at the same tempo of 120 and moving through 80–60–48–40, with a proportion of 2:3:4:5:6 moving from fast to slow. This effectively reflects the same proportions as the A material time signatures.

Within this given temporal framework (time signatures/tempi) the B material in this section was also intuitively composed, using more informal processes to articulate the material, whilst also adhering to the principle of a gradual accretion of new elements. 'Informal processes' here refer to an unfolding of information used for further evaluation as potential material, which at this stage is not structurally generated or controlled beyond the temporal aspect.

As mentioned above, this opening served as a model for the entire formal structure of the work, which is based on subsequent 32 bar cycles, exhibiting the similar processual tendencies. Example 3 shows the structure of the initial 32 bar cycle.

The successive appearances of the A materials were then permutated as shown in Example 4, with one bar interpolations of B material between each grouping.

Material	A	B	A	B	A	B	A	B	A	B	A	B	A
No of Bars	8	1	7	1	6	1	5	1	4	1	3	1	2

Example 3. Initial material distribution

	A material groupings in numbers of bars					
Cycle 1	7	6	5	4	3	2
Cycle 2	7	6	5	4	3	2
Cycle 3	7	5	3	2	4	6
Cycle 4	5	6	3	2	7	4
Cycle 5	3	7	5	4	2	6
Cycle 6	2	3	6	4	7	5
Cycle 7	4	2	7	6	3	5

Example 4

Cycle 1 (765432)																															
7								6							5						4					3				2	
7/16	5/16	3/16	2/16	4/16	6/16	8/16	2/8	7/16	2/16	4/16	4/16	3/16	6/16	3/8	6/16	3/16	4/16	5/16	2/16	4/8	2/16	5/16	4/16	3/16	5/8	4/16	3/16	2/16	6/8	2/16	3/16
Cycle 2 (765432)																															
7								6							5						4					3				2	
4/8	3/8	2/8	3/16	5/16	7/16	9/16	5/32	3/8	1/16	2/8	3/16	2/16	5/16	2/8	7/16	4/16	5/16	6/16	3/17	11/32	1/16	4/16	3/16	2/16	7/16	5/16	4/16	3/16	17/32	1/16	2/16
Cycle 3 (753246)																															
7								5						3				2			4					6					
3/8	2/8	1/8	1/16	3/16	5/16	7/16	13/32	5/16	2/16	3/16	4/16	1/16	15/32	3/16	2/16	1/16	17/32	5/16	3/8	3/8	5/16	4/8	7/16	3/8	11/32	5/8	5/16	4/8	7/16	3/8	9/16
Cycle 4 (563247)																															
5						6							4					3				2			7						
2/8	3/16	17/32	6/16	7/16	15/32	13/32	5/16	3/8	3/16	13/32	4/8	11/32	7/16	3/8	9/16	4/8	3/8	2/8	5/16	3/8	9/32	3/16	4/8	17/32	13/32	9/16	7/16	5/16	3/8	4/8	5/8
Cycle 5 (375462)																															
3				7								5						4					6							2	
5/8	7/16	17/32	9/32	3/8	14/32	13/32	7/16	4/8	9/16	13/32	7/16	5/16	3/8	2/16	3/16	4/8	11/32	2/16	5/16	2/8	2/8	5/32	3/8	4/8	13/32	4/8	2/16	3/16	15/32	5/16	7/16
Cycle 6 (236475)																															
2			3				6							4						7								4			
9/16	7/16	2/8	5/16	3/8	13/32	5/32	7/16	2/16	5/16	11/32	15/32	9/32	13/32	4/8	5/16	13/32	3/8	7/16	15/32	2/16	7/32	3/16	3/16	15/32	17/32	3/8	9/32	5/16	4/8	2/16	3/16
Cycle 7 (427653)																															
4					2			7								6							5						3		
4/16	3/16	4/8	11/32	3/8	3/8	11/32	2/8	5/16	3/8	17/32	4/8	2/8	17/32	7/16	15/32	13/32	13/32	5/16	6/16	3/16	3/16	11/32	9/16	7/16	11/31	3/16	11/32	7/16	17/32	3/8	4/8

Example 5

Cycle 1 (B material 5 bars)																															
7								6							5						4					3				2	
7/16	5/16	3/16	2/16	4/16	6/16	8/16	2/8	7/16	2/16	4/16	4/16	3/16	6/16	3/8	6/16	3/16	4/16	5/16	2/16	4/8	2/16	5/16	4/16	3/16	5/8	4/16	3/16	2/16	6/8	2/16	3/16
Cycle 2 (B material 5 bars)																															
7								6							5						4					3				2	
4/8	3/8	2/8	3/16	5/16	7/16	9/16	5/32	3/8	1/16	2/8	3/16	2/16	5/16	2/8	7/16	4/16	5/16	6/16	3/17	11/32	1/16	4/16	3/16	2/16	7/16	5/16	4/16	3/16	17/32	1/16	2/16
Cycle 3 (B material 7 bars)																															
7								5						3				2			4					6					
3/8	2/8	1/8	1/16	3/16	5/16	7/16	13/32	5/16	2/16	3/16	4/16	1/16	15/32	3/16	2/16	1/16	17/32	5/16	3/8	3/8	5/16	4/8	7/16	3/8	11/32	5/8	5/16	4/8	7/16	3/8	9/16
Cycle 4 (B material 11 bars)																															
5						6							4					3				2			7						
2/8	3/16	17/32	6/16	7/16	15/32	13/32	5/16	3/8	3/16	13/32	4/8	11/32	7/16	3/8	9/16	4/8	3/8	2/8	5/16	3/8	9/32	3/16	4/8	17/32	13/32	9/16	7/16	5/16	3/8	4/8	5/8
Cycle 5 (B material 14 bars)																															
3				7								5						4					6							2	
5/8	7/16	17/32	9/32	3/8	14/32	13/32	7/16	4/8	9/16	13/32	7/16	5/16	3/8	2/16	3/16	4/8	11/32	2/16	5/16	2/8	2/8	5/32	3/8	4/8	13/32	4/8	2/16	3/16	15/32	5/16	7/16
Cycle 6 (B material 18 bars)																															
2			3				6							4						7								4			
9/16	7/16	2/8	5/16	3/8	13/32	5/32	7/16	2/16	5/16	11/32	15/32	9/32	13/32	4/8	5/16	13/32	3/8	7/16	15/32	2/16	7/32	3/16	3/16	15/32	17/32	3/8	9/32	5/16	4/8	2/16	3/16
Cycle 7 (B material 21 bars)																															
4					2			7								6							5						3		
4/16	3/16	4/8	11/32	3/8	3/8	11/32	2/8	5/16	3/8	17/32	4/8	2/8	17/32	7/16	15/32	13/32	13/32	5/16	6/16	3/16	3/16	11/32	9/16	7/16	11/31	3/16	11/32	7/16	17/32	3/8	4/8

Example 6

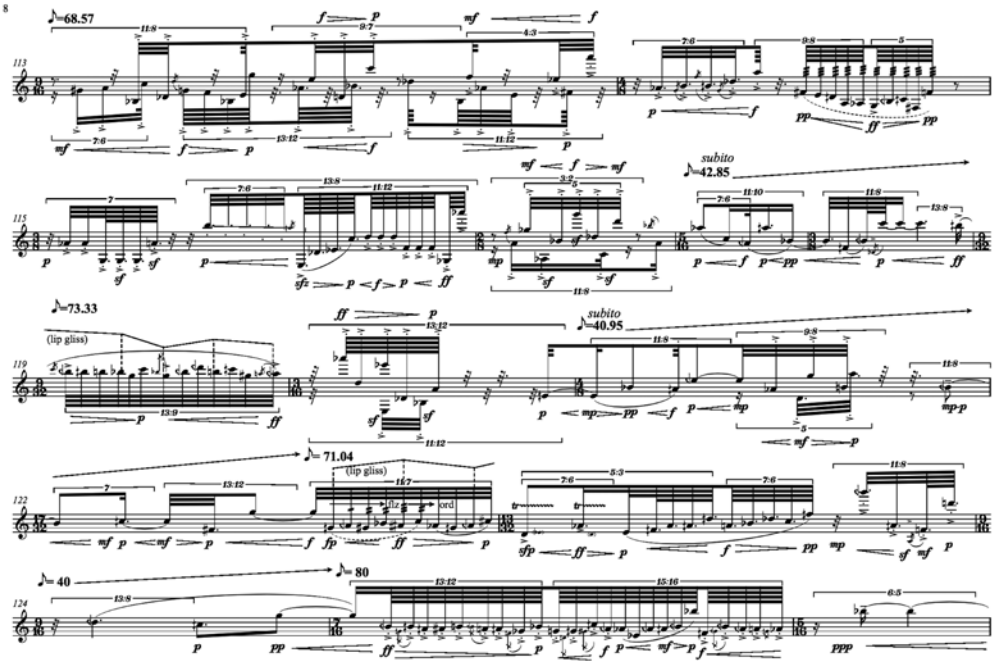
Material	A	B	A	B	A	B	A	B	A	B	A	B	A
No of bars	2	6	3	5	1	1	1	4	1	2	1	3	2

Example 7. Distribution of materials A and B in the final cycle

As a result the B material appears in a different position in each cycle after the identical first 2 cycles (Example 5)[7]. An additional principle to this process determined that each cyclic appearance of the B material would then filter through to the next cycle remaining in the same place, effecting a gradual increase in B material throughout the work (Example 6). The final cycle, therefore, has 11 bars of A material and 21 bars of B material grouped as shown in Example 7.

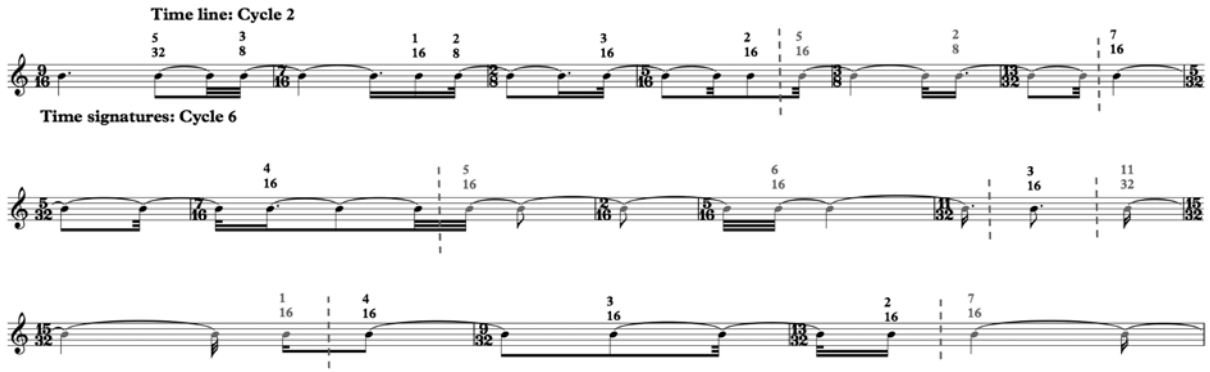
7 It will be noted here that the time signatures themselves are being transformed according to various additive/subtractive processes.

Example 8 shows a passage taken from the middle of Cycle 4 (midway through the work), which illustrates the development/disintegration of each material. Clear fragments of A material appear in bars 113, 116 and 120, whilst the new element of melodic lines starts to appear in the B material, marked with added *accelerandos* (bars 117–118, 121–122 and 124), each culminating in an articulated flurry of notes.

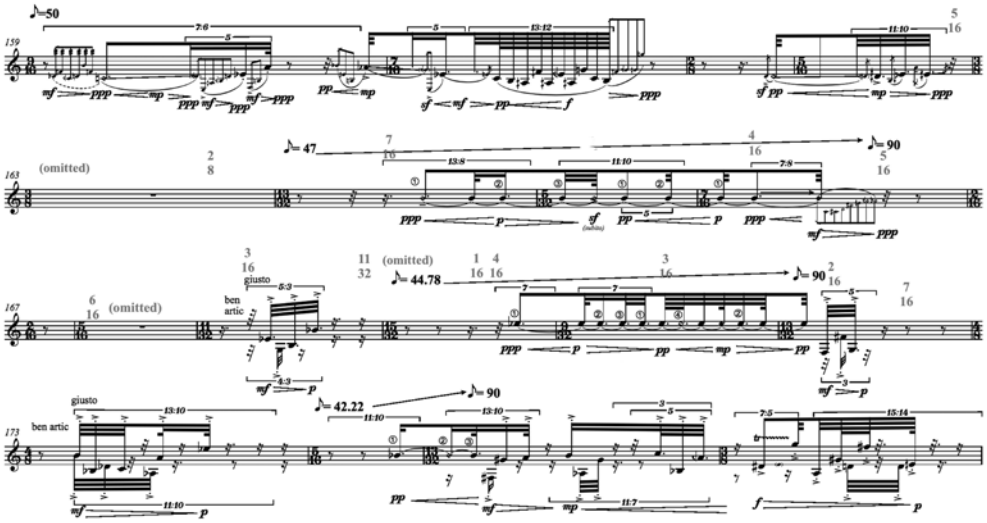


Example 8. The middle of cycle 4, midway through the work

It should be observed here that these materials are further subject to secondary transformational processes, which increasingly blur the individual identity of certain materials through subsequent layerings. One such process would be the introduction of time-lines derived from time signature cycles, used to create further interactive temporal layers. Example 9 shows an example of this. Here we have the time signatures from Cycle 6 with temporal divisions derived from Cycle 2. The dotted lines and faded out sections indicate where certain materials are being omitted – another filtering process. These time-lines then determine the distribution of rhythmic materials accrued throughout the work, as can be seen in Example 10. Here the A material is attempting a comeback, having been eaten away (bars 169, 172 and 173), while the B material is losing its identity, becoming compressed into microtonal/timbral variations of a single pitch (bars 164–166, 170–171 and 174).



Example 9. Times lines combining temporal layers of cycles 2 and 6



Example 10. Resulting distribution of rhythmic materials defined by temporal layers of cycles 2 and 6.

On the surface, the work appears to be defined by multi-layered generative structural processes, which suggest complex pre-compositional workings as a means of creating the material. In practice these processes form an infrastructure on which the work is based; a reservoir of potential, or set of creative girds, to which I as the composer can react at any given moment – informed by a form of 'unconscious scanning'. In fact the application of any particular technique or process in itself might be a spontaneous and intuitive decision with a view to a particular gestural result. One advantage of this way of working is the generation of possibilities I might otherwise never have thought of.

The kind of working processes illustrated here have formed the backbone of my compositional approach, which invites a creative interaction between pre-compositional generative processes and the freedom to intuitively interpret the result with a specific musical situation in view. More recently I have been working on my fourth String Quartet, a six-movement work subtitled *Bagatelles*. The reference to Webern here is intentional as part of the commission brief/discussion was the inclusion of the notion of the bagatelle.[8] In this case I decided to take Webern as a model in terms of using materials derived from the *Six Bagatelles* for string quartet (1913). These were of course free atonal pieces. In my work the Webern materials themselves are deconstructed/analysed with a view to applying my own compositional/transformational processes. There are therefore no recognisable elements or quotes from Webern in the work itself, until the later movements where certain aspects are allowed to filter through as source materials.

My starting point here was to analyse the various parameters of each of Webern movements in terms of temporal elements, duration, tempi, pitch/rhythmic materials and articulations, with a view to creating a hierarchy in organising my own movement structure. This analysis was informed entirely by the nature of the material in relation to its usefulness in my own working process and devising approaches to its transformation. Example 11, for example, shows how the time signatures from the first three *Bagatelles* have been processually transformed, maintaining aspects of the original formal symmetry or grouping. The unit values here were halved to suit the eventual notational strategies characteristic of my music.

Each of the *Bagatelles* has its own defining material and my aim here was to make an interlocking structure where the materials from each would form specific materials in a larger unfolding formal scheme across the six movements of my own work. Example 12 shows the final combinations, where the roman numerals indicate Webern movements. A gradual transition from movements I, II and III to IV, V and VI of Webern can be seen. Therefore some materials are disappearing where new elements are being introduced. The final movement then combines materials from all six.

This however, is just the basic plan. In the final structure the materials are subsequently interlocked within this. Example 13 shows the final outline with associated tempo marks and time signatures for the first three movements. As can be seen the distribution of materials within each movement has a similar cross over in hierarchy similar to the tendency over the larger scale six movements.

[8] The work was commissioned by Kreutzer String Quartet, as part of their *Bagatelle* project in 2015. I have felt very close to the Webern *Bagatelles* since first hearing them at the age of 12 and subsequently performing them as a violin student at the Royal College of Music some years later.

Bagatelle I

Bar	1	2	3	4	5	6	7	8	9	10
Tempo	60			….rit	tempo	accel	96 rit	60	rit.	44
Time Signature	3 4	3 4	3 4	3 4	2 4	2 4	3 4	3 4	3 4	3 4
Modified ½ value	2 8	9 32	5 16	11 32	3 8	3 8	11 32	5 16	9 32	2 8
	- 4	-3	-2	-1		-1	-1	-2	-3	-4

Bagatelle II

Bar	1	2	3	4	5	6	7	8
Tempo	120	rit	tempo		rit..tempo		accel	192
Time Signature	5 4	5 4	5 4	5 4	5 4	5 4	5 4	3 4
Grouping	2+3	3+2	3+2	2+3	3+2	3+2	2+3	

Bagatelle III

Bar	1	2	3	4	5	6	7	8	9
Tempo	76 rit	tempo		accel..	…….	84	rit	76 molto	
Time Signature	2 4	2 4	2 4	2 4	2 4	2 4	2 4	2 4	2 4
Modified	2 8	7 32	2 8	9 32	2 8	3 16	2 8	5 16	2 8
		-1		+1		-2		+2	

Example 11. Transformation of original Webern time signatures

Combinations of materials	Webern *Bagatelle* Movements I-VI					
I II II	I	II	III			
I III V	I		III		V	
II III IV V		II	III	IV	V	
II IV VI		II		IV		VI
IV V IV				IV	V	VI
I II III IV V VI	I	II	III	IV	V	VI

Example 12. Distribution of Webern materials across the six movements of the Fourth Quartet

I – II – III (27 bars)Structural phrase length 7 – 13 – 7

I	III	II		I		III	II		I			II		III	I			III		II		III		
60	76	120		60		76	120		60			120		76	96…60…….44			76		120		76		
III			II		III		I			III		II		I		II		III	I		II		III	I
3 8	2 8	5 8	5 16	3 8	3 8	7 32	5 16	5 8	3 8	2 8	2 8	5 8	5 16	2 8	9 32	3 8	3 8	3 8	3 8	2 8	3 16	5 8	3 8	2 8	5 16	2 8
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27

I – III – V (32 bars) Structural phrase lengths 1 – 2 – 5 – 8 – 8 – 5 – 2 – 1

III 76		I 60		V 40		III 76		V 40		I 60				V 40				III 76……..84				I 60... 96		60… 44				V 40			III 84…76			V 40		III 76…	
III		V		III		V		I				III		V						I				V		III		V		I		III			
2 8	5 16	5 8	2 8	5 16	2 8	15 32	7 16	3 8	2 8	9 32	13 32	3 8	11 32	5 16	9 32	3 16	2 8	9 32	3 8	3 8	3 16	5 8	2 8	2 8	9 32	5 16	2 8	7 32	2 8	11 32	3 8	2 8	32 8	8		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32					

I uses secondary groupings - III retrograde

II – III – IV – V (33 bars) Structural phrase lengths 5 – 7 – 9 – 7 – 5

V 40					IV 60			III 76			II 120	V 40			IV 60		III 76	V 40		II 120	V 40			III 76				IV 60			II 120	V 40
II	V			IV	III	V		III				IV			II	V		III				IV			III	V		IV				
4 8	15 32	7 16	13 32	3 8	3 8	13 32	3 8	2 8	5 16	2 8	3 16		11 32	5 16	9 32	2 8	3 8	2 8	2 8	2 8		2 8	2 8	9 32	2 8	7 32	2 8	3 8	11 32	3 8		3 8	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33

Secondary 9-7-7-5-5

Example 13

Example 14 illustrates the proportional distribution of the materials in Movement I, with:
- a gradual increase of material I;
- a constant, quasi-symmetrical, distribution of material II;
- and a smaller overall increment of material III.

Material	Number of bars												
I	1			2			3			4			3
II			2			2		2				2	
III		1			1				2		1		3

Example 14. Hierarchical distribution of materials I, II, and III in Movement I

It can be further seen in Example 13 similar expansions and contractions of material in movements 2 and 3. There are many more other layers of information beyond the scope of this article, such as the secondary groupings, and phrase structures determined by the interaction of these processes. This discussion has only outlined the larger scale formal structure and distribution of material. There are further local processes relating to the material itself, similar to those discussed in relation to *+R* – timelines, pitch/rhythmic structures, articulations, all of which have an association with specific materials.

It would be reasonable to assume from the above discussions, that this music is totally determined by such pre-compositional devices. In practice it is only when these processes have done the first part of their job that the real act of composition begins. On an intuitive level there are many decisions concerning the nature of the material itself and its gesturality and function, that are not predetermined and unfold according to more informal strategies, which could be seen to be the *real* material. The starting point for the structural processes is also often intuitively formed, with a specific musical situation in mind, as is the application of any particular process at any given juncture. The role of such processes, therefore, is to create a meaningful framework in which to work and a reservoir of possibilities to which I can spontaneously react.

References

Bachelard, Gaston (1968). *The Philosophy of No: A New Philosophy of the Scientific Mind,* trans. G.C. Warterson, New York: Orion Press.

Beckett, Samuel (1995). *The Complete Shorter Prose 1929–1989,* New York: Grove Press.

Benson, Bruce Ellis (2003). *The Improvisation of Musical Dialogue: A Phenomenology of Music,* Cambridge: Cambridge University Press.

Busoni, Ferruccio (1911). *Sketch of a New Esthetic of Music.* In: *Three Classics in the Aesthetics of New Music,* New York: Dover Publications.

Cilliers, Paul (1998). *Complexity and Postmodernism: Understanding Complex Systems,* London and New York: Routledge.

Derrida, Jacques (1967). *Of Grammatology,* trans. by Gayatri Chakravorty Spivak (1976), Baltimore and London: John Hopkins University Press.

Ehrenzwieg, Anton (1967). *The Hidden Order of Art,* Berkley, Los Angeles and London: University of California Press.

Ferneyhough, Brian (1995). *Collected Writings,* Contemporary Music Studies, Vol. 10, Amsterdam:Harwood Academic Publishers.

Russell, John (1971). *Francis Bacon*, London: Thames and Hudson.

Sylvester, David (1980). *Interviews with Francis Bacon 1962–1979*, London: Thames and Hudson.

Iškylančios materijos: permąstant kompozicinį procesą

Santrauka

Straipsnio tikslas – ištyrinėti kai kuriuos santykius tarp generatyvių procesų ir labiau intuityvių komponavimo strategijų autoriaus kūriniuose. Tokių procesų sluoksniavimasis neretai sąlygoja sudėtingą užrašymo būdą, kuris čia traktuojamas kaip integralus kūrybinio diskurso komponentas, ypač susijęs su „iškylančių materijų" generavimu. „Iškylančiomis materijomis" įvardijamos savybės, gimstančios iš kompleksinių sąveikų tarp įvairių sistemos aspektų, kurių asimiliacija vyksta už individualių komponentų analizės ribų. Toks traktavimas leidžia kalbėti apie našius simbiotinius santykius tarp generatyvių procesų, padedančių sukurti terpę, kurioje gali reikštis kūrybinė vaizduotė ir dar spontaniškesni intuicijos aspektai. Čia galima įžvelgti sąsajas su Gastono Bachelard'o „dialektinio siurracionalizmo" sąvoka – būsena, kurioje sisteminis protas sapnuoja, leisdamas suformuluoti teoriškai preciziškus klausimus apie visiškai nežinomus reiškinius (Bachelard 1968: 32).

Žinoma, už straipsnio ribų lieka neaptartų detalių. Neformalizuoti, intuityvūs aspektai yra labiau spekuliatyvūs ir sunkiau apibrėžiami. Vis dėlto jie suformuoja bene svarbiausią ir labiausiai asimiliuojantį medžiagos sluoksnį. Struktūriniai veiksmai yra skirti funkcionalumui palaikyti – išgryninti tai, kas buvo sukurta muzikinės (klausos) vaizduotės. Ši struktūrinių ir intuityvių procesų vienovė bei sąveika formuoja kompleksinę sistemą. Kertine čia tampa Antono Ehrenzweigo „pasąmoninės žvalgybos" (*unconscious scanning*) sąvoka, kai žvalgomasi potencialios medžiagos, o nesutelktas dėmesys tampa sprendimo priėmimo instrumentu.

Yusuke Nakahara

From Order to Chaos? Compositional Process and Concept of Béla Bartók's *Mikrokosmos*

Abstract. "I must state that all my music … is a matter of instinct and sensibility; so no one should ask me why I wrote this or that, or did something in this rather than that way. I have but one explanation: that is how I feel it, and that is how I wrote it down," said Béla Bartók in a 1937 interview, which clearly emphasised the role of intuition. On the other hand, his meticulous and very systematic categorisation of folk tunes from various nations nevertheless suggests his personality as quite rational, and even several scholars stress the existence of rational structure in his composition.

The examination of autograph manuscripts may offer interesting and more profound insights into Bartók's (possibly) actual compositional concern. More often than not, rational frameworks – whatever pedagogical, compositional, or programmatic – served as points of departure and intuitive approaches further develop the music (e.g. No. 67, *Thirds against a Single Voice* and No. 133, *Syncopation*). At the same time, the apparently intuitive refinement of details nevertheless follows a rational plan (No. 133, *Syncopation*). In a certain case, a rational structure is also introduced subsequently (No. 141, *Subject and Reflection*). Consequently, one may observe intriguing interaction of rationality and intuition. The reason why Bartók himself emphasised the role of intuition rather than acknowledging such interaction can be found in his artistic ideal: the spontaneous expression inherited from the peasant music.

Keywords: Béla Bartók, compositional process, sketch study, musical symmetry, pedagogical composition.

Introduction

Concerning the role of rationality and intuition in the compositional process, Béla Bartók might be considered a very interesting case. On the one hand, he did meticulous research on a huge amount of folk music materials from various nations.[1] He tried to categorise thousands of folk tunes on the basis of certain musical as well as functional characteristics, which naturally involved quite a systematic approach. This scholarly experience allowed him, to some extent, to objectively deduce national musical characteristics, and to rationally develop his own musical language (Ito 1997: 111–112). For instance, he discovered the consonant quality of minor seventh interval as a possible harmonic resource through pentatonic Hungarian folk songs: borrowing his own words, "a vertical projection of the … horizontal form," which "is obtained by a logical process, and not, as many objectors believed, through sheer whimsicality" (Suchoff 1976: 335).

On the other hand, while Bartók apparently defended his own compositional approach which has a logical background, he rather emphasised the role of intuition, especially in his late years. In a 1937 interview with Denijs Dille, the later director of Budapest Bartók Archives, he made the following response in regard to Edwin von der Nüll's dissertation, the first extensive study of Bartók's music:

> "Let me make it clear: although I carried out my harmonic research in a rational and reasonable way, the role of intuition is greater than one would think. I must state that all my music and this question of harmony we are talking about is a matter of instinct and sensibility: so no one should ask me why I wrote this or that, or did something in this rather than that way. I have but one explanation: that is how I feel it, and that is how I wrote it down" (Vikárius 2006: 14).[2]

And later, in the draft for the lecture series at Harvard University, he further elaborated his ideas:

> "I never created new theories in advance, I hated such ideas. I had, of course, a very definite feeling about certain directions to take, but at the time of the work I did not care about the designations which would apply to those directions or to their sources. This attitude does not mean that I composed without [preliminary] set plans and without sufficient control. The plans were concerned with the spirit of the new work and with technical problems (for instance, formal structure involved by the spirit of the work), all more or less instinctively felt, but I never was concerned with general theories to be applied to the works I was going to write" (Suchoff 1976: 376).

We may be able to observe an apparent conflict between "rational" research and "intuitive" approach, which probably implies certain complex artistic criteria which Bartók strove to meet. Being a composer of high-art Classical music involves continuing or developing the past centuries' tradition and being conscious of and responsible for what he composes; at the same time, the act of composition is not a mechanical process, which cannot be done automatically but involves much musical inspiration.

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1 Besides many ethnomusicological articles, Bartók composed several monographs devoted to particular nations (Hungarian, Slovak, Romanian, Turkish, Serbo-Croatian), some of which were only posthumously published.

2 The interview was made in German but originally published in French, in 1937.

Thus, exactly due to this conflict, it is interesting why Bartók put such a strong stress on the intuition, instead of manifesting the co-existence of rationality and intuition. It is also interesting that, especially in the several decades following Bartók's death, analytic/theoretic approaches flourished: to name a few, Ernő Lendvai and Elliott Antokoletz are considered outstanding in this field (Lendvai 1983 and Antokoletz 1984). Apparent negligence of the role of intuition in Bartók's workshop is probably related to the compositional trend at that time. Paraphrasing Richard Taruskin's criticism on Allen Forte's book, the approaches by Lendvai or Antokoletz can also be regarded the children of its positivistic time, when extensive pre-compositional work was elevated to the status of a requirement for responsible composition (Taruskin 1979: 115). One may reasonably conclude that they rather tried to prove Bartók's works (at least partially) to match the posterior criteria for the masterpieces by a great composer.

The situation has significantly changed by the 21st century, when Bartók's music is considered "classic" and no longer directly related to our own contemporary value judgement, so historical approaches with proper distance became more welcomed; furthermore, and more importantly, an enormous amount of documentary as well as compositional sources are now publicly available.[3] Such primary sources more often than not allow us to more closely trace the composer's creative thinking, and discover the composer's actual concern which cannot be disclosed through (pure) analytical speculation on the published score.

My own research is basically in line with László Somfai's several studies of masterpieces, which tried to reveal the composer's secret concepts through a meticulous examination of the compositional sources.[4] The fundamental methodology of this approach is not to analyse the music according to pre-existing analytic concepts regarding certain segments of music but to compare different sources, or different layers even within a single source. It may involve mere objective description of textual differences but the purpose is to yield fruitful interpretation which otherwise cannot be gained.

The following part of my paper solely concentrates on only three relatively simple and short *Mikrokosmos* pieces. The scope of my paper is practically affected by my current occupation as an editor of the forthcoming *Mikrokosmos* volumes of Béla Bartók Complete Critical Edition, but the decision can be justified by the fact that the *Mikrokosmos* pieces offer very interesting aspects which are generally missing from Bartók's other compositions. Contrary to Malcolm Gillies's assessment – Bartók's "individual compositions are not normally manifestations of one rigorously pursued concept or one intensive working out of materials from the smallest detail to the largest formal span" (Gillies 1995: 321) – the *Mikrokosmos* pieces are, more often than not, built on a single technical or musical element, as is observed on the three pieces to be examined in the present paper: No. 67 *Thirds against a Single Voice*, No. 133 *Syncopation*, and No. 141 *Subject and Reflection*. A further clarification is, however, needed whether this "rigorously pursued concept" is related to the rational plan.

Clarification of the Terms

The distinction of "rational" and "intuitive" compositional approaches can be quite a hard issue. In a certain sense, they cannot be distinguished totally. Concerning the harmonic language of fourth chords, "… many other (foreign) composers, who do not lean upon folk music, have met with similar results at about the same time – only in an intuitive or speculative way, which, evidently, is a procedure equally justifiable. The difference is that we created through Nature, for: the peasant's art is a phenomenon of Nature" (Suchoff 1976: 338). Thus, Bartók regarded the result of his own logical approach based on the folk music and other "intuitive" or "speculative" (i.e. rational?) approaches appears similar.

Furthermore: "… what appears simple to some might be perfectly incomprehensible to others. The spontaneous expression of Genius is sometimes more complicated than a mechanical creation, and the simplest means sometimes appear as the most complex" (Suchoff 1976: 516). Following this logic, an intuitively devised passage can possibly appear to be more rational.

For the sake of clear discussion, the present paper nevertheless tries to apply an *ad hoc* subjective definition concerning rational and intuitive approach. The creation of a kind of conceivable order (e.g., symmetry or some other unambiguous musical pattern) is to be regarded "rational", and the deviation from such order is to be considered "intuitive". There is potential risk of fallacy (e.g., certain contrapuntal structure such as

[3] The majority of original documents, possessed by the composer's younger son, Peter Bartók, are now deposited in Sacher Stiftung, Basel, and the majority of the rest is available at the Bartók Archives Budapest.

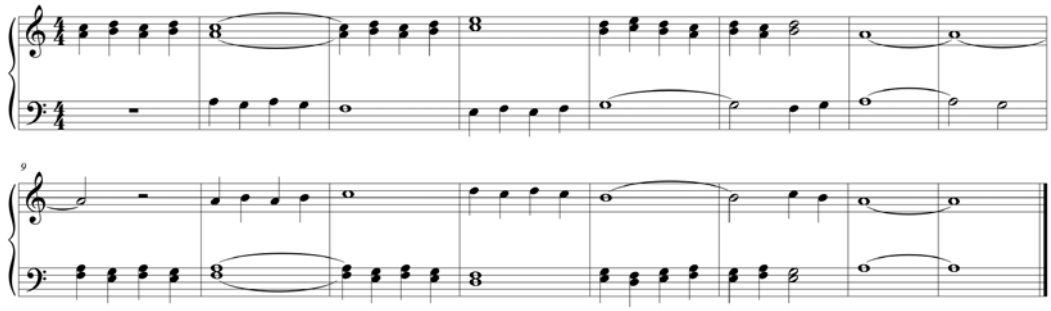
[4] The most important literature is (Somfai 1996) but there are also a lot of important independent articles, including the essay on the third movement of *Piano Sonata* (1926), which convincingly argues that this rondo movement exploits an imaginary folk tune played by various peasant instruments (Somfai 1981).

mirror inversion can automatically be done without rational thinking); however, for instance, an exact (or an almost exact) correspondence of notes suggests (at least partly) a rational thinking process, and the decline of correspondence does the role of intuition.

Symmetry as Pedagogical Concept – *Mikrokosmos* No. 67 *Thirds against a Single Voice*

This simple 16-measure-long piece, composed around 1934, may well demonstrate how a rational plan is changed in the course of composition, and such a compositional process can only be observed through the examination of autograph sources.[5]

While the published version of this piece appears to be a free composition, quite a mechanical structure can be observed in the original layer of the draft (Ex. 1).[6] The first and the second halves of this piece were in almost literal inversion. At m. 9, both hands exchange the parts in the way that the right (or left) hand plays what the left (or right) hand previously played in inversion, in an octave higher (or lower).



Example 1. Bartók, *Mikrokosmos* BB 105 No. 67, transcription from the draft

The application of inversional symmetry can be a mere technical issue to form a piece. Writing a piece by using such a contrapuntal technique may possibly be related to Bartók's reverence for J. S. Bach, who was not only one of the great masters for him but also one of the most significant predecessors in the realm of pedagogical music; as is known from the fact that he dedicated an *homage* to Bach (No. 79 *Homage à J.S.B.*, which was supposedly composed in the same year).

Nevertheless, certain pedagogical concerns might have played a far greater role: to practice double notes, particularly parallel thirds. The etudes for double notes can be found in piano methods as obligatory technical exercises – such a technique has little use at the beginner level. It was probably Bartók's initial intention to create a playable miniature piece devoted to this technical problem. And the application of inversional symmetry makes it possible to equally train both hands.

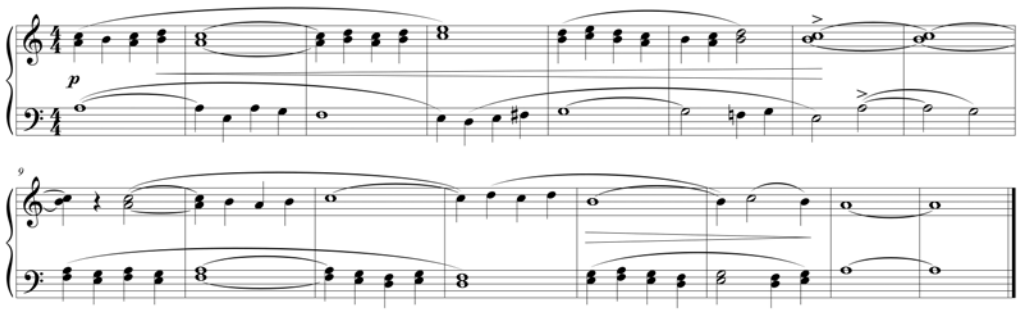
Certain pedagogical concepts may, however, function as hindrance. In most of the cases, Bartók was able to find unique solution to both achieve musical quality and realize a pedagogical concept; in the case of No. 67, however, he seemingly failed to do so. The original layer was written throughout in a very narrow register (in perfect fifths, e^2–a^1 and *a*–*d*, respectively) in stepwise motion, the strictest technical limitation which he applied in the first dozen pieces. The result was musically not very promising, due to the monotony in the melodic line going up and down.

The subsequent revisions, however, considerably changed the music and improved the quality (see the final version as Ex. 2. Bartók, *Mikrokosmos* No. 67). While Bartók essentially kept the narrow register, he strictly stuck to neither the technical concern as exercise of parallel thirds (contrary to the title of the piece), nor the literal inversion through the modification of rhythm, by introducing some leaps. The harmony also became more interesting: while the original version essentially did not contain any dissonance – one of the hallmarks of Bartók's music – the revised version has at least one acute dissonance, namely minor second in m. 7, as the climax of the piece (placed as the destination of a *crescendo* hairpin and supplied with a *marcato*). Here

[5] For the date of composition, see (Vinton 1966: 55–57). Vinton established an approximate chronology through the examination of autograph manuscripts.

[6] The source of the transcription is: Basel, Paul Sacher Foundation, Béla Bartók Collection, deposit from Peter Bartók, shelfmark 59PS1 (photocopy in Budapest, Bartók Archives, Institute for Musicology, Research Centre for the Humanities of the Hungarian Academy of Sciences), p. 57.

the imitated style (Baroque or Classical) may require the resolution of the dissonance, but the resolution is considerably prolonged and takes place only indirectly in m. 9, separated by a rest.



Example 2. Bartók, *Mikrokosmos* No. 67

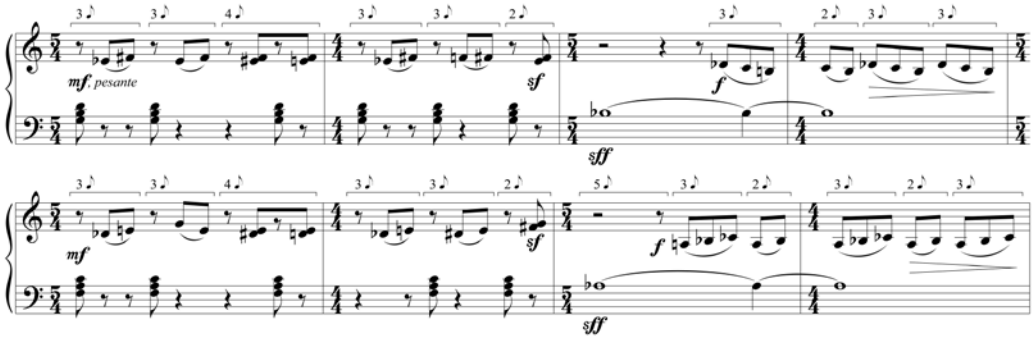
In this case, inversional symmetry, closely related to pedagogical concern (which includes the application of double notes and strict stepwise motion), merely served as a rational framework for a point of departure, but did not hold any essential importance. Thus, it can be concluded that Bartók sacrificed the rational structure for the sake of musical quality.

Mikrokosmos No. 133 *Syncopation* – Bartók's Twelve-Tone Composition?

The following example, *Mikrokosmos* No. 133 *Syncopation* may serve as a good example of the verification of certain analytic approaches and of the demonstration how sketch study can offer insights into the composer's hitherto unknown creative thinking.[7]

This piece is one of the first *Mikrokosmos* pieces composed in 1932, when Bartók intensively composed dozens of pieces during his summer vacation. The title *Syncopation* is, however, doubly misleading. First, the title may distract our attention from the quite unique musical character. The texture is totally devoid of a clearly discernible melodic shape – "melodic" in a common sense – thus, one might consider it as sober abstract music, which might indeed be underlined by the non-expressive, merely technical title. However, the music clearly speaks for itself; an almost unpredictable alteration of rhythmic groups (consisting of two, three, and four eighths) creates a humorous, a kind of "a bit tipsy" effect, which can be observed, for instance, in *Three Burlesques*, BB55, No. 2.

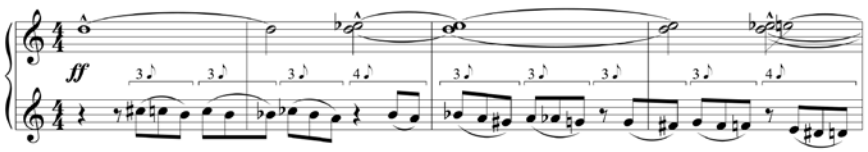
Second, the rhythmic feature of this piece is not syncopation in the common sense. The measures are divided into small metric units consisting of two to five eighths but no "regular" pulses can be observed, which function as a referential point to the effect of syncopation. Instead, one may relate the characteristic rhythmic feature of this piece to "the so-called Bulgarian rhythm".[8] Interestingly, in the first half of the piece (up to mm. 17), these units affect the organisation of bar lines, thus there are frequent changes of time signatures (i.e. 4/4 and 5/4, see Ex. 3) and metric units never cross the bar line. In the second half (especially mm. 18–23), the metric units appear essentially independently from the invariable time signature, 4/4 (Ex. 4).



Example 3. Bartók, *Mikrokosmos* No. 133, mm. 1–8

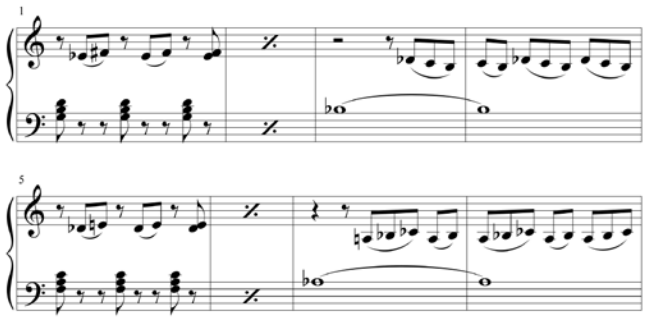
[7] The draft of this piece can be found on PB59PS1, pp. 18 and 22. For the full description of the source, see Footnote 6.

[8] The term is coined by Bartók, as he first discovered this phenomenon through the collection of Bulgarian folk music (Suchoff 1976: 47). Nowadays a more scholarly appropriate term *aksak* (in English, "limping") proposed by Constantin Brăiloiu (1951: 1), is widely used.

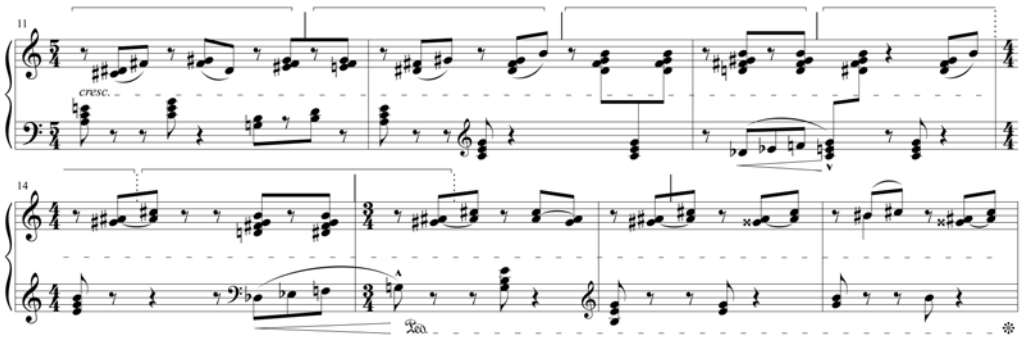


Example 4. Bartók, *Mikrokosmos* No. 133, mm. 18–21

A particularly interesting feature of this piece is that Bartók originally wrote the piece in 4/4, and he later introduced the change of time signatures during the process of composition. At the beginning of the piece (mm. 1 and 5), he added an additional beat and then transformed the regular 4/4 into asymmetrical 5/4 (Ex. 5). In the measures corresponding to mm. 11–17 of the published version, it appears that he became uncertain of the proper organisation of measures as he progressed (Ex. 6; above the system, straight lines mark the original, alternative bar lines which were eventually abandoned). Supposedly mm. 11ff. were also originally written in 4/4 throughout but Bartók seemingly revised the bar lines several times until he eventually managed to reach the final version (horizontal brackets show 4/4 measures which might have existed at some point of the compositional process).



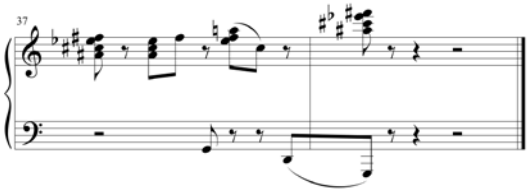
Example 5. Bartók, *Mikrokosmos* No. 133, the original layer of mm. 1–8 from the draft



Example 6. Bartók, *Mikrokosmos* No. 133, mm. 11–17

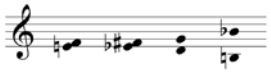
This brief examination of bar organisation on the basis of the draft can give one example of how Bartók composed: he did not work out the overall structure (including number of measures or beats) in advance – contrary to what Ernő Lendvai's proportional analyses suggest. Rather, Bartók intuitively drafted the piece, and then partly elaborated the rhythm (at mm. 1 and 5) or sought a more appropriate way of notation (mm. 11–17).

Can the same be said, however, in the case of pitch organisation, an over-researched field of Bartók's music? Elliott Antokoletz argues that *Mikrokosmos* No. 133 *Syncopation* exemplifies the synthesis of traditional and non-traditional tonality, on the basis of the juxtaposition of triadic and symmetrical pitch constructions (Antokoletz 2016: 21). The core of his claim, the simultaneous presence of traditional and non-traditional elements, is indeed quite obvious: not to speak of the final authentic *D*–*G* bass progression in mm. 37–38 (Ex. 7), the long sustained notes on *D* (in mm. 18ff. and mm. 31–33) as well as *G* (in mm. 35ff.) also emphasise the existence of traditional functionality beyond a highly chromatic texture. However, it is questionable to what extent the symmetrical pitch constructions are actually important for this piece.



Example 7. Bartók, *Mikrokosmos* No. 133, mm. 37–38

According to Antokoletz, the eight pitches at the beginning, namely the four chromatic pitches of the right hand (*E*♭–*E*–*F*–*F*♯) and the G major-minor chord of the left hand (*G*–*B*♭–*B*–*D*) shares the common axis of symmetry, *E*–*F* (Ex. 8). Strangely, however, he does not deal with the concluding, characteristic non-traditional tetrad (*A*♯–*C*♯–*E*♭–*F*♯) which frequently appears from m. 25 on, and concludes the piece (see Ex. 7).



Example 8. Symmetrical pitch relationship at the beginning of Bartók, *Mikrokosmos* No. 133

A more convincing interpretation was offered by Roy Travis, who succeeded in largely describing the tonal progression of this piece (Travis 1959). He acknowledged the tonic quality of the beginning chord (*G*–*B*–*D*–*E*♭–*F*♯), which appear throughout the piece and is later transformed into a complex chord (*G*–*B*–*D*–*F*–*A*♯–*C*♯–*E*♭–*F*♯).

A close examination of the draft indeed supports Travis's insight; however, what is more important, it reveals that the earliest layer of the draft was very skeletal and containing only the essential ideas in possibly the simplest form. Not to speak of the change of time signature (mentioned above), the augmented second $e♭^1$–$f♯^1$ were repeatedly struck in mm. 1–2 and still not filled chromatically. Thus, the first two measures only contained the collection of pitches (*G*–*B*–*D*–*E*♭–*F*♯), as Travis identified.

Yet Travis does not deal with "irregular" notes in mm. 5–8, namely *F*♯ and *G* (see Ex. 3). Are these notes regarded as non-structural and less important? In fact, except these notes, mm. 5–8 are essentially the transposition of mm. 1–4 a major second lower, thus one may conclude they were intuitively revised, in order to avoid mechanical repetition.

Table 1 (the pitch collections of mm. 1–8) represents the pitches used in the original layer of the first eight measures, divided into two sections (N.B. mm. 1–4 and 5–8 contain fewer notes than the published version). It is interesting that all the twelve notes are used in the first eight measures, and the two sections apparently complement each other.

Table 1

		pitches											
		C	C♯/D♭	D	D♯/E♭	E	F	F♯/G♭	G	G♯/A♭	A	A♯/B♭	B
measures	1–4	x	x	x	x			x	x			x	x
	5–8	x	x			x	x			x	x	x	x

It was one of Bartók's compositional strategies to use as many chromatic notes as possible. From an early experimental *Fourteen Bagatelles* (1908) No. 2 to the "tonal" twelve-tone theme in the Second Violin Concerto (1937–38), several examples are known, and this *Mikrokosmos* piece can also be included with this group of works. Thus, the use of all twelve notes could be a rational plan which might have served as the first step of the composition. Yet, in this case, this plan seemingly survived and further developed in the following stages.

Table 2 shows the pitches found in the published version (the additional pitches are represented in italics). While in the original layer all the twelve notes were almost equally scattered over eight measures, in the published version, each section contains much more pitches and now all the twelve notes can be found in the second section alone (mm. 5–8). The notes with key importance are the two pitches in the $f♯^1$/g^1 dyad – the very two notes dismissed by both Antokoletz and Travis. Quite understandably: these notes cannot be integrated into their own imaginary system. However, if one tries to seek a system on the basis of the compositional sources, it is possible to establish a more convincing system (if it is not necessarily generic).

Table 2

		pitches											
		C	C♯/D♭	D	D♯/E♭	E	F	F♯/G♭	G	G♯/A♭	A	A♯/B♭	B
measures	1–4	x	x	x	x	*x*	*x*	x	x			x	x
	5–8	x	x	*x*	*x*	x	x	*x*	*x*	x	x	x	x

In this case, the rational plan can be considered the usage of twelve notes but what is really interesting is that, while Bartók considerably revised the original draft, he nevertheless maintained this rational plan, or, in a certain sense, achieved a different kind of perfection by introducing all the twelve notes within a very short passage (mm. 5–8).

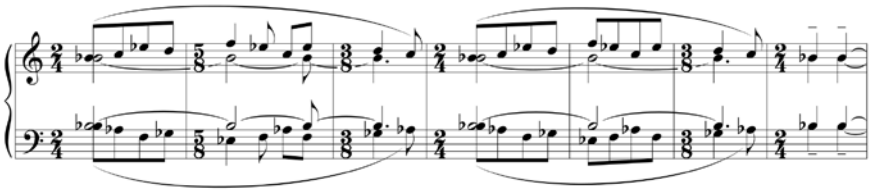
From Order to Chaos? *Mikrokosmos* No. 141 *Subject and Reflection*

The interaction of rational and intuitive compositional approach can also be observed in *Mikrokosmos* No. 141 *Subject and Reflection*, but here the role of rational thinking seems to be more important and intriguing.[9]

This piece was composed in 1933, at a time when Bartók composed both easy pedagogical and difficult concert pieces. The form of this piece is a seven-part rondo. Differently from conventional rondo-form, each rondo section (i.e. refrain and episode) is in a different tonality (overall tonal relationship is *B♭–B–D–E♭–F♯–G–B♭*). This tonal design is indeed logical, as every episode is a semitone higher than the preceding refrain, and followed by a new refrain a minor third higher.

It is quite possible that Bartók originally intended this piece to be a relatively easy pedagogical piece. The decisive element is that it is almost thoroughly written in pentachords, similarly to No. 67 as well as the most of easy *Mikrokosmos* pieces, and in a single tonality, A (instead of the very frequent modulations of the published version, which occasionally require difficult thumb positions on the black keys).

The title, "Subject and Reflection", suggests one of the primary concepts of this piece, the (almost) literal inversion, around the long sustained notes played by the thumb of both hands.[10] Thus, while the right hand plays a phrase $b♭^1–c^2–e♭^2–d^2–f^2$, the left hand plays $b♭–a♭–f–g♭–e♭$, in exact mirror inversion.



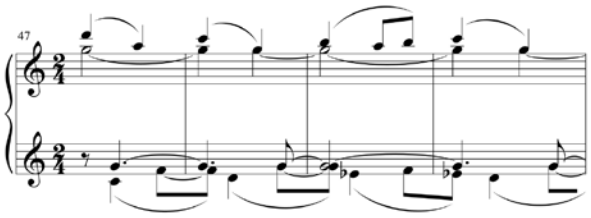
Example 9. Bartók, *Mikrokosmos* No. 141, mm. 1–7

This inversional relationship can be related to a pedagogical concept; however, in this case, Bartók was reported to relate a programmatic concept, that is, the reflection on water, and "as the water becomes disturbed the reflection becomes distorted" (Suchoff 2002: 100).

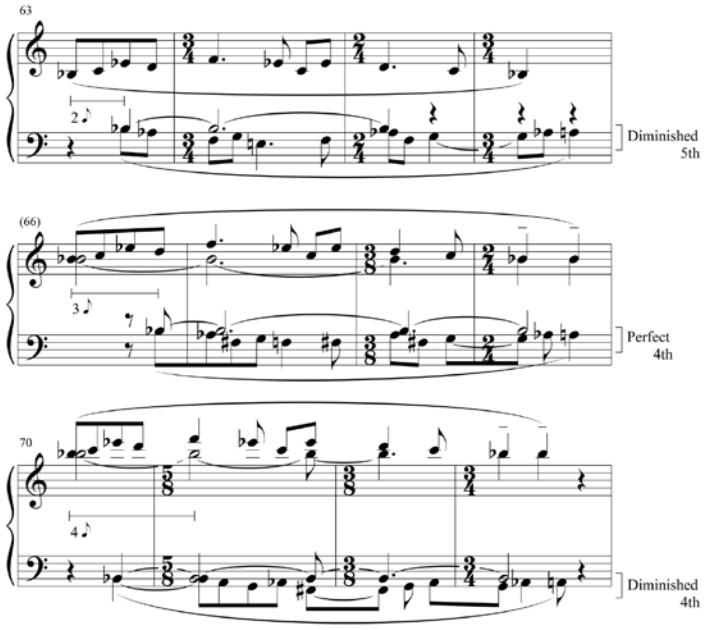
The disturbance of water can gradually be observed in the course of music, especially from the third episode on, where the simultaneous movement of the eighth notes become broken (Ex. 10). The last refrain is apparently out of order: while the right hand repeats the same phrase, the left hand no longer produces an exact inversion of the right hand (Ex. 11). The music itself may represent chaos, or, borrowing Bartók's own words, it could be regarded as the "disturbance" of water.

[9] The draft of this piece can be found on PB59PS1, pp. 47–48. For the full description of the source, see Footnote 6.

[10] The combination of these elements suggests that this piece was composed as a counterpart to No. 60 *Canon with Sustained Notes* (composed the previous year), where another contrapuntal technique, canon in perfect fifth, is used instead of the inversion.



Example 10. Bartók, *Mikrokosmos* No. 141, mm. 47–50



Example 11. Bartók, *Mikrokosmos* No. 141, mm. 63–73

It is worth mentioning, however, that this effect is indeed created in a very rational way. While the temporal distance becomes broader and broader from two eighths to four eighths, the register of the left hand becomes narrower and narrower, from diminished fifth to diminished fourth.

In this case, the concept "reflection on water" might have served as the source of technical solution as mirror inversion. Bartók partially abandoned this concept at the end of the piece, where strict inversional relationship became broken. It can be an intuitive thought to do so but, as is mentioned above, the outcome was nevertheless achieved very rationally, by gradually changing the parameters (e.g., temporal distance as well as pitch contents).

Conclusions

The three case studies have shown different relationships between rational and intuitive creative thinking. More often than not, rational frameworks served as points of departure and intuitive approaches further develop the music (Ex. No. 67, *Thirds against a Single Voice* and No. 133, *Syncopation*). At the same time, the apparently intuitive refinement of details nevertheless follows a rational plan (No. 133, *Syncopation*). In a certain case, a rational structure is also introduced subsequently (No. 141, *Subject and Reflection*).

The rational plans can be related to different compositional concepts with different kinds of importance – it can be pedagogical, purely technical, or programmatic. A question, however, still remains unanswered: why did Bartók emphasise the role of intuition, despite the fact that such plans have obvious significance?

We can suppose that it was Bartók's artistic ideal which affected his consciousness. In a well-known manifestation of his *ars poetica*, originally from a letter to Romanian publicist, Octavian Beu, he claimed: "… I don't reject any influence … The source must only be clean, fresh and healthy!" (Demény 1971: 201).[11]

[11] Letter to Octavian Beu, January 10, 1931.

Bartók related this freshness to the peasant music, which, according to him, "gives the impression of being a far more spontaneous and vivid manifestation despite its primitiveness" – in comparison with the urban music which "frequently sounds stilted, affected, and artificial" (Suchoff 1976: 38). On the other hand, in an interview with Dille, he explains: "I never present the same musical thought twice in the same way, and that I never repeat a section identically – which explains my great love for variation and the transformation of themes. … this extreme diversity, which is characteristic of our folk music, is part of my nature." (Vikárius 2006: 15).[12] These "spontaneity" and "extreme diversity" might be related to "the spirit of peasant music", which Bartók wished to absorb. Regardless of whether he succeeded in doing so, or not, we can reasonably suppose that there might have existed conscious exercise of intuition in the compositional process.

References

Antokoletz, Elliott (1984). *The Music of Béla Bartók: A Study of Tonality and Progression in Twentieth-Century Music*. Berkeley: University of California Press.

Antokoletz, Elliott (2016). In Defense of Theory and Analysis: A Critical Evaluation of the Discipline and Its Application to Bartók's Musical Language. In: *Musica Theorica*: 1–25.

Brăiloiu, Constantin (1951). Le rythme Aksak. In: *Revue de Musicologie* 33: 71–108.

Demény, János (ed.) (1971). *Béla Bartók Letters*. Budapest: Corvina Press.

Gillies, Malcolm (1995). Bartók Analysis and Authenticity. In: *Studia Musicologica Academiae Scientiarum Hungaricae* 36: 319–327.

Ito, Nobuhiro (1997). *Barutōku: min'yō wo hakken shita henkyō no sakkyokuka* [*Bartók: the Composer in the Periphery, Who "Discovered" the Folk Song*]. Tokyo: Chūōkōron-sha.

Lendvai, Ernő (1983). *The Workshop of Bartók and Kodály*. Budapest: Editio Musica Budapest.

Somfai, László (1981). A zongoraszonáta fináléjának metamorfózisa [The metamorphosis of the Finale of Piano Sonata]. In: *18 Bartók Tanulmány* [18 Bartók Studies]. Budapest: Editio Musica Budapest: 88–103.

Somfai, László (1996). *Béla Bartók: Composition, Concepts, and Autograph Sources*. Berkeley: University of California Press.

Suchoff, Benjamin (ed.) (1976). *Béla Bartók Essays*. London: Faber & Faber.

Suchoff, Benjamin (2002). *Bartók's Mikrokosmos: Genesis, Pedagogy, and Style*. Lanham: The Scarecrow Press.

Taruskin, Richard (1979). Allen Forte – The Harmonic Organization of the Rite of Spring (book review). In: *Current Musicology* 28: 114–129.

Travis, Roy (1959). Towards a New Concept of Tonality? In: *Journal of Music Theory* 3: 257–284.

Vikárius, László (2006). Denijs Dille: Interview with Béla Bartók (1937). In: *Hungarian Heritage* 7: 11–18.

Vinton, John (1966). Toward a Chronology of the Mikrokosmos. In: *Studia Musicologica Academiae Scientiarum Hungaricae* 8: 41–69.

Nuo tvarkos link chaoso?
Bélos Bartóko *Mikrokosmos* kompoziciniai procesai ir koncepcijos

Santrauka

„Aš turiu konstatuoti, kad visa mano muzika... yra nulemta instinktų ir pojūčių; tad neturėtumėte manęs klausti, kodėl aš parašiau vieną ar kitą elementą ar priėmiau vienokį ar kitokį sprendimą. Aš viskam turiu vieną paaiškinimą: aš taip jaučiau ir todėl tai parašiau būtent taip", – teigė Béla Bartókas 1937-aisiais vykusiame interviu, aiškiai leisdamas suprasti intuicijos svarbą jo kūryboje. Kita vertus, smulkmeniškas ir itin sisteminis įvairių tautų liaudies melodijų kategorizavimas sufleruoja, kad jis buvo gana racionalus. Pasak įvairių tyrėjų, jo kompozicijose racionali struktūra atlieka itin svarbų vaidmenį.

Pasitelkiant autoriaus rankraščių analizę, šiame straipsnyje aptariamas racionalių ir intuityvių Bartóko komponavimo procesų santykis. „Racionaliais" procesais galima įvardyti numanomos tvarkos (sandaros) egzistavimą arba įsigalėjimą, o „intuityviais" – nukrypimą nuo tokios sandaros. Pristatomos trys pjesės iš ciklo *Mikrokosmos*, sukurtos vadovaujantis ta pačia koncepcija (sprendžiant iš jų pavadinimų: Nr. 67 – *Tercijos prieš vieną balsą*, Nr. 133 – *Sinkopavimas*, Nr. 141 – *Subjektas ir atspindys*).

Racionalios konstrukcijos – nesvarbu, pedagoginės, kompozicinės ar programinės prigimties – dažniausiai tampa kompozicijos atspirties taškais, o intuityvūs metodai padeda toliau plėtoti kūrinį. Pjesė Nr. 67 *Tercijos prieš vieną balsą* dėl pedagoginių tikslų iš pradžių buvo sukurta taikant griežtą veidrodinę inversiją, bet vėliau, siekdamas muzikos kokybės, Bartókas paaukojo kai kuriuos elementus. Racionalūs ir intuityvūs kompoziciniai metodai gali ir koegzistuoti, kaip kad pjesėje Nr. 133 *Sinkopavimas*. Čia asimetriška taktų struktūra buvo parinkta intuityviai, o vėliau išgryninta taikant racionalius metodus. Tačiau aukščiai (beje, apimantys visus dvylika vienos oktavos garsų), ko gero, yra racionaliai išmąstyti, o vėliau intuityviai išplėtoti laikantis pirminio racionalaus plano. Pjesėje Nr. 141 *Subjektas ir atspindys* Bartókas taip pat dėl pedagoginių tikslų iš pradžių naudojo veidrodinę inversiją (panašiai kaip Nr. 67). Vis dėlto vėliau šiam kūriniui jis pritaikė racionalų tonacinį planą (*B–H–D–Es–Fis–G–B*), kurį galima priskirti programinei kūrinio koncepcijai – „atspindžiui vandenyje". Muzikinė kūrinio kulminacija – chaotiškas vyravusios

[12] For the information about the interview, see Footnote 2.

sandaros naikinimas, arba, anot paties Bartóko, vandens drumstimas, priešingai jo keliamam stichiškam efektui, yra racionaliai išmąstytas, ir tai atspindi nuosekliai kintantis dviejų balsų santykis. Atstumas laike pamažu platėja (nuo dviejų iki keturių aštuntinių), o atstumas tarp kairės ir dešinės rankų registrų – siaurėja (nuo sumažintosios kvintos iki sumažintosios kvartos).

Taigi šiose kompozicijose galima įžvelgti intriguojančią racionalumo ir intuicijos sąveiką. Tai, kad pats Bartókas akcentavo intuicijos vaidmenį savo kūryboje, o ne pripažino racionalumo ir intuicijos sąveiką, galima paaiškinti jo meniniu idealu – spontaniška ekspresija ir didžiule įvairove, atsinešta iš liaudies muzikos.

James Dalton

The Freedom of Control and the Control of Freedom: Free Style vs Strict Style Just Intonation in the Works of Lou Harrison

Abstract. The American composer Lou Harrison posited two different approaches to composing in just intonation: "Strict Style," or composing within a predetermined scale or gamut; and "Free Style," which he described as composing "with whatever intervals one feels that he needs as he goes along." Harrison composed just a few pieces using this technique between 1955 and 1974. This is a poorly understood aspect of Harrison's oeuvre. There is a need for a re-examination of these ideas and a clarification of the terms. I analyzed his three completed Free Style compositions: *At the Tomb of Charles Ives*, *A Phrase for Arion's Leap*, and *Simfony in Free Style;* as well as an example of Strict Style, chosen from among the hundreds that he wrote using that approach. Judging from the names and descriptions of these two compositional approaches, we may assume that the works in Free Style would be the more intuitive. Analysis shows that the matter is not that simple. Constraints emanate from the composer's preferences and theoretical/historical understanding. It becomes clear that Harrison was not just assembling intervals using his fecund melodic sense, but in some places, thoughtfully combining modal and tetrachordal types according to his musical needs. Conversely, Strict Style allowed a more intuitive approach with the composer able to freely use pitches from within the chosen gamut. Hence, the Free Style is often more rational while the Strict Style is more intuitive. Though he wrote only three Free Style pieces, they display the same richness of ideas and expressivity as his many Strict Style compositions. The distinction between these two approaches informs the work of many composers who use just intonation and other microtonal approaches to the present day.

Keywords: Just intonation, Free Style, Strict Style, Epimores, epimoric ratios, Superparticular, Tetrachords, Enharmonic, Chromatic, Microtones, Lou Harrison.

The American composer Lou Harrison (1917–2003) posited that there are two different approaches to composing in just intonation: "Strict Style," defined as composing within a predetermined scale or gamut; and "Free Style," which he described as composing in such a way that "you don't have a preliminary concatenation of tones or intervals but a free association of intervals that you know and associate as you wish for artistic purposes" (Doty 1987). His concept of Free Style is recognized as a significant contribution to music theory (Polansky 1987). Harrison composed just a few pieces using this technique between 1955 and 1974. At that time, practical matters of performance seemed almost insurmountable. Technological advances now facilitate both composition and performance of Free Style pieces. This, however, is still a poorly understood aspect of Harrison's career and oeuvre. It is my intent to re-examine these ideas and clarify the meaning of the terms.

Judging from the names and descriptions of these two compositional approaches, we may be tempted to assume that the works in Free Style would be the more intuitive; and the Strict Style, more rational. Analysis shows that the matter is not that simple. Practical matters of performance impose certain restrictions, while other constraints emanate from the composer's preferences and theoretical/historical understanding. It becomes clear that in his strict pieces, Harrison was not just assembling intervals using his fecund melodic sense, but rather, in some places, very thoughtfully combining modal and tetrachordal types according to his musical needs; in other places, using an almost serial approach based on what he termed "interval controls" (Harrison 1971).

Harrison's interest in just intonation was sparked by his reading of *Genesis of a Music* (Partch 1949) which he read on the recommendation of Henry Cowell. Harry Partch (1901–1974) had an idiosyncratic approach to just intonation; this became a dominant influence among Americans drawn to just intonation and other forms of microtonality. Harrison was among the first to carry the banner of just intonation which he did with the zeal of a convert.

In his *Music Primer,* he plainly states, "Just intonation is the best intonation" (Harrison 1971). This quote appeared on page one of every issue of *1/1: The Journal of the Just Intonation Network* – a rallying cry for like-minded composers and theorists. He goes on to say, "The ratios 1/1 2/1 3/2 4/3 5/4 6/5 ~ to ∞ are analogs of actual events, i.e. A, 440 v.p.s. is to A, 220 v.p.s (an "octave") as 2 is to 1; therefore 2/1 correctly represents an "octave." 3/2 correctly represents a trued "fifth," 5/4 a trued "major third," etc."

Just intonation is distinct from other tuning systems because it is non-tempered. Just intervals are derived from the harmonic series and often expressed as ratios in the manner Harrison describes above. You can think of the ratios as describing an interval between two members of a harmonic series, for example, 3/2 represents the interval between the third and second harmonics of a fundamental represented by the integer 1. 15/8 represents the interval between the fifteenth and eighth harmonics of a fundamental represented by 1, etc.

For a variety of reasons – musical and practical – composers and theorists have found that tempering or compromising these intervals by tiny amounts provided a solution that kept the required pitches to a manageable number, especially for fixed pitch instruments such as keyboards and fretted instruments. This is where the various meantones, circulating or well temperaments, and equal temperaments come into play.

David Doty gives one of the clearest definitions of just intonation. He calls it, "any system of tuning in which all of the intervals can be represented by whole-number frequency ratios, with a strongly implied preference for the simplest ratios compatible with a given musical purpose" (Doty 1994).

A "given musical purpose" in a just intoned composition could vary from composer to composer and from piece to piece, but to give one example that is fairly common, we will need to touch upon the issue of "prime limits." In music-mathematical terms, a prime limit is the highest prime number used in a set of ratios. The historical tuning common in Europe before the Renaissance was 3-limit or Pythagorean tuning. All the ratios could be formed using only the primes 2 and 3. Musically, this meant that all the intervals could be derived by combining and stacking octaves (2/1) and fifths (3/2). This resulted in a major third of 81/64 rather than the simpler 5/4.

When later composers began to use the major and minor thirds as consonances, they needed to accept intervals of the 5-limit in order to get major thirds of 5/4 and minor thirds of 6/5. Hence, in a 3-limit context a major third would be 81/64 but in a 5-limit context, a major third would be 5/4. Common practice never fully accepted the move to the 7-limit and beyond, though a number of musicians advocated for these changes to little or no avail. Since the mid-twentieth century, though, more composers have availed themselves of these resources. Partch worked with an 11-limit gamut and Harrison variously used limits up to thirteen in different works. Each of these different prime limits would add different available options for our familiar intervals as well as some for which our 12-note equal temperament system (12EDO or "12-tone equal division of the octave") gives no adequate approximation.

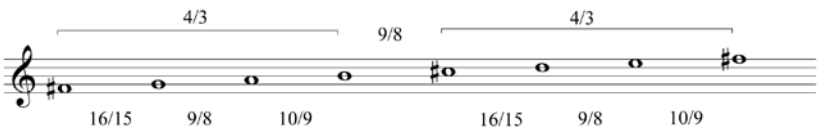
Again, in *Music Primer*, Harrison defines the two compositional styles in question:

> After only a brief study of intervals it becomes clear that there are two ways of composing with them: 1) arranging them into a fixed mode, or gamut, & then composing within that structure. This is the Strict Style, & is the vastly predominant world method. However, another way is possible – 2) to freely assemble, or compose with whatever intervals one feels that he needs as he goes along. This is the Free Style. Lovely new devices & expressions are possible in this style… (Harrison 1971)

Examining one of Harrison's many Strict Style pieces will give us insight into some of his other musical preferences and interests. Among these are instrument building, epimoric intervals, tetrachords (especially equal tetrachordal scales), and clear tonal centers. It will also illuminate his choices of intervals from the enormous number of choices available in just intonation.

Early in his career, Harrison established himself as a composer of percussion ensemble music in a series of concerts that he co-produced with fellow composer John Cage. These ensembles often included found instruments such as trash cans, brake drums, and flower pots. This early experience and his interest in Asian music led Harrison to instrument building in the 1970s, in collaboration with his partner William Colvig (1917–2000).

One of their first big projects was a set of tuned idiophones that they first called the "American Gamelan" but later became known as "Old Granddad." The basic tuning of the ensemble is a syntonic diatonic scale that can be expressed as the ratios seen in Example 1. This scale traces back to Claudius Ptolemy (circa 85–165 CE).



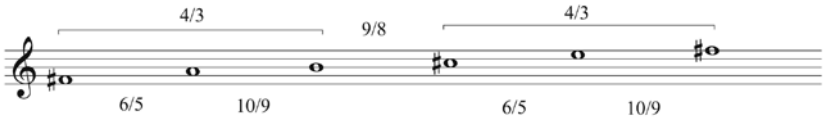
Example 1. Ptolemy's Syntonon Diatonic

The consecutive intervals of this scale are all epimoric. Epimores, or to use the Latinate form, "superparticular" intervals, are intervals whose ratios take the form x+1/x. Simply put, the numerator is exactly one unit higher than the denominator. These intervals have a unique acoustical property – the primary difference tone of an epimoric interval sounded simultaneously is the fundamental of a harmonic series that contains both pitches. This gives these intervals a particular kind of resonance. Long before science was able to explain

this, many musicians and theorists as diverse as Ptolemy and Partch showed a preference for epimores. Harrison expressed his predilection for them in an interview with David Doty "… I found that I am getting to be like Claudius Ptolemy. I have to have an interlocked series of superparticular ratios. There's no getting around it, I'm unhappy if I don't" (Doty 1987). Epimores represent the simplest version of each interval type. For example, the epimoric just major third, 5/4 (386.314 cents) can be compared to the non-epimoric Pythagorean major third, 81/64 (407.82 cents). Both have their purpose, but the 5/4 is arguably more consonant in most contexts (Tenney 1988).

The structure of the scale is typical of ancient Greek protocols – two disjunct equal tetrachords with the framework of two perfect fourths (4/3) connected by the major second (9/8). Each of the tetrachords is divided by the same intervals appearing in the same order. All of the consecutive intervals (and the framing intervals just mentioned) are epimores. Note that the two sizes of just major seconds are both represented – 9/8 (203.91 cents) and 10/9 (182.404 cents).

The Strict Style is a natural fit for these constructed instruments. Harrison composed just a few pieces for this particular ensemble all in the Strict Style. In the *Suite for Violin and American Gamelan* (1974), Harrison and his collaborator, Richard Dee, use a variety of subsets of the full gamut and several different tonal centers to achieve variety. Movement IV, Jahla 1 is an interesting example. The scale shown in Example 2, though a pentatonic subset of the syntonic diatonic, is still constructed of epimores for all of the consecutive intervals and the framework. The just minor third, 6/5 is 315.641 cents.



Example 2. Pentatonic Subset used in Jahla 1

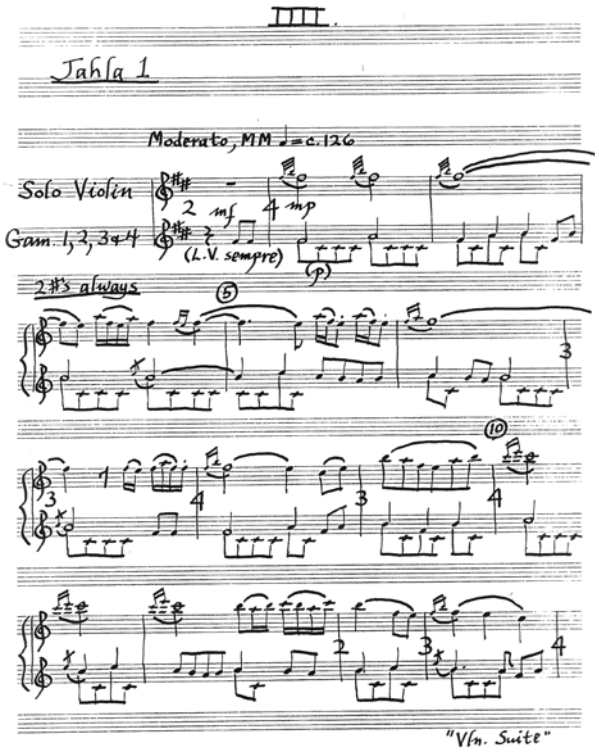
As shown in Example 3, Harrison and Dee establish a clear tonal center on F sharp. It is easy to see that, having predetermined the pitch materials, a composer can then rely on intuition and his or her ear to create the piece. As Harrison stated, this is the most common method of composing in the world. It is also the method that he himself turned to most often.

Among his pieces in Strict Style just intonation we can count all of the pieces that he composed for his struck-idiophone and "gamelan" ensembles; those for retuned keyboards such as the *Incidental Music to Cornielle's "Cinna"* (1957); all of his works for guitar; and such pieces as *Concerto in Slendro* (1961) and the *Four Strict Songs* (1955) – among many others.

When we consider the Free Style we are presented with a very different story. Harrison only composed three complete pieces in this manner: *Simfony in Free Style* (1955); *At the Tomb of Charles Ives* (1963); and *A Phrase for Arion's Leap* (1974). This last one is only thirty-six seconds long. He, himself, admits to the complications involved in this kind of composition. In 1987, he was still unsure of the practicality:

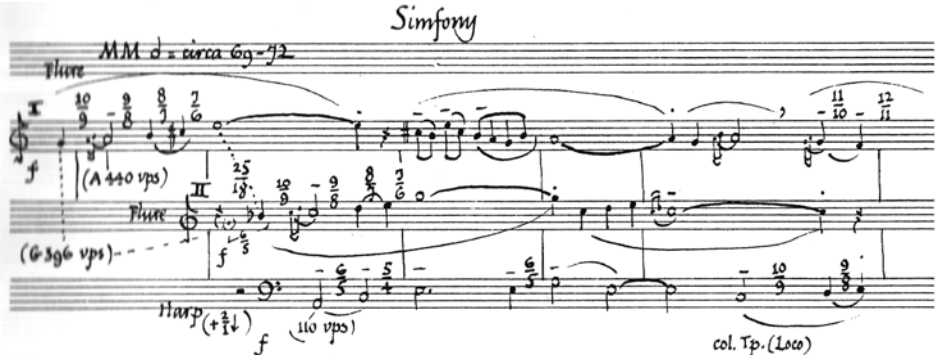
> … And so far as I know there's still not an instrument that's capable of doing that, either electronic or any other kind … I would love to hear an extended piece. I have sketches for extended pieces in the free style, but there's no way of doing it. … After all these pieces have been extant for 25 years. That's a quarter of a century.

Simfony in Free Style was premiered, and subsequently recorded, in 2001 (46 years after its composition) in New York City by the American Festival of Microtonal Music Ensemble under Johnny Reinhard.



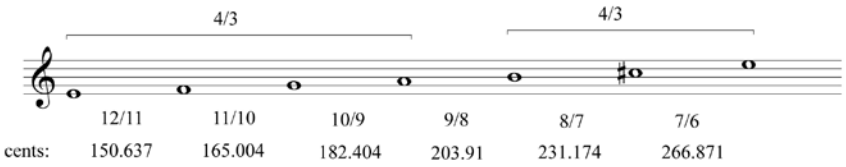
Example 3. Excerpt, Harrison,
Suite for Violin and American Gamelan, fourth movement

This is the only performance and recording to date on acoustic instruments. There is also an electronic rendition by David Doty. The reason for the infrequent performances is the instrumental requirements of twenty microtonal flutes (played by four or five musicians) with holes drilled to achieve the required pitches. The rest of the ensemble consists of viols (with specially placed frets), several diatonic harps, tack piano, and percussion. All of the instruments have their pitches determined before the performance, of course. The free choice of intervals is a compositional procedure rather than a performance technique. This is in contrast to the string quartets in just intonation by the American composer Ben Johnston (b. 1926) in which the performers need to learn to hear extremely complex microtonal pitch relationships and, in some cases, produce several dozen distinct pitches to the octave in a single work.



Example 4. Beginning of Harrison's *Simfony in Free Style*

As can be seen in Example 4, the Harrison uses imitation and sequences that expand and contract by consecutive epimoric intervals. The tuning of some of the flutes reflects this as well. He uses a hexatonic scale of consecutive epimores on Flute 1, shown in Example 5. Here you can see that the old Greek tetrachordal framework of two 4/3s connected by a 9/8 still underlies Harrison's method. A voracious reader in general, Harrison was particularly well-read in the classics of tuning and had a particular affinity for Ptolemy's *Harmonics* (Solomon 2000). It is possible that he was led to this construction by a familiarity with Ptolemy's Equable Diatonic tetrachord (12/11 – 11/10 – 10/9) and noticed that the next epimore in order, 9/8, was the traditional interval of disjunction; and that the following two epimores 8/7 and 7/6 were a duple division of the 4/3 tetrachord.

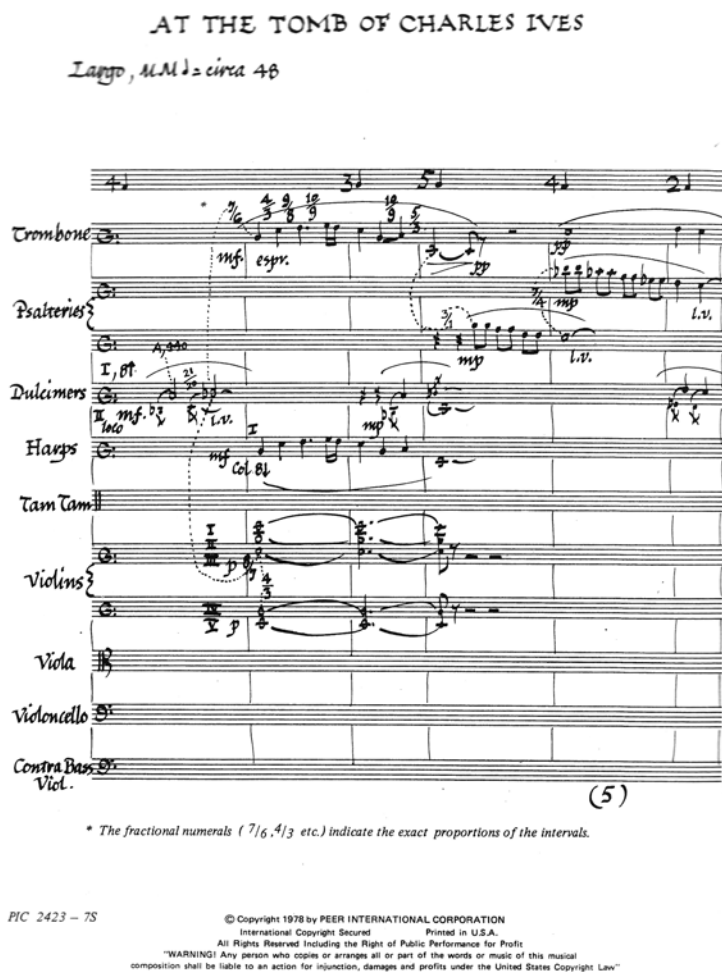


Example 5. Tuning of Flute 1 for *Simfony in Free Style*

The first two intervals, 12/11 and 11/10, are three-quarter tones of different sizes. As stated earlier the intervals in this order gradually increase in size. If arranged so they increase as they descend, they can be considered to be members of the same harmonic series. When these same intervals are arranged as they are in Example 5 (smallest at the bottom), they are members of a theoretical subharmonic series. Partch referred to these as *otonality* and *utonality*, respectively (Partch 1949).

Harrison's *Simfony* uses this gradual intervallic increase and decrease to create the themes and the contrapuntal devices. He takes a different approach in his next Free Style work eight years later.

At the Tomb of Charles Ives pays homage to Ives partly by reference to one of his more well-known works, *The Unanswered Question*. In his work, Ives uses a solo trumpet playing nearly identically-repeated phrases over a slow-moving C major string background. The most obvious parallel in Harrison's tribute is the repeated solo trombone phrase over an open fifth (3/2) on C and G in the strings shown in Example 6. In a way, this piece is like a combination of Strict Style and Free Style. The trombone and harp I are in a simple anhemitonic pentatonic throughout. It is the other instruments that participate in the "free" aspect of this composition.



Example 6. Page 1, Harrison, *At the Tomb of Charles Ives*

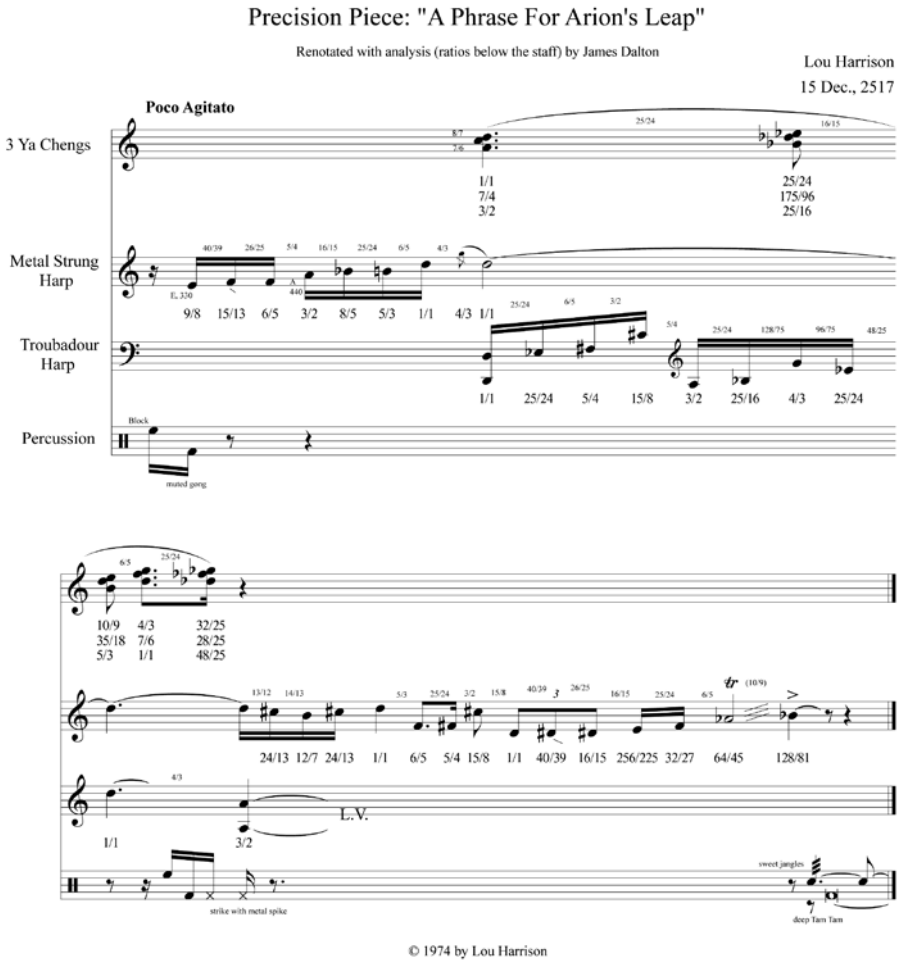
The strings, with intonational assistance from harps II and III, depart from the C pentatonic the most before the last repeat of the trombone phrase. The intervals are mostly drawn from just-intoned diatonic modes on several different tonics in fairly rapid succession. Harrison seems to have made concessions toward playability in this piece and it has indeed proven to be the most frequently performed of the three.

Harrison's last completed Free Style composition was *A Phrase for Arion's Leap*. This is a very short piece for three *ya chengs* (Chinese bowed zithers), metal strung harp, troubadour harp, and non-pitched percussion. The only known performance was a home recording by Harrison, William Colvig, and Richard Dee. Harrison said of the recording, "… you can splice together tapes, and I have done that – you know *Arion's Leap* is only spliced once. But that's because we would reach over here for this, then bow that over there … we managed to assemble that, and with one splice, and that was astonishing. But my God, it's only that long!" (Doty 1987)

I have chosen this piece to analyze most thoroughly here not because it is the shortest but because it represents his most mature effort in this style. Larry Polansky re-notated this piece a number of years ago in order to show the absolute intervals. It was a transcription that didn't change any of Harrison's score but essentially added an analysis to show different relationships. Harrison's original notation had shown only the interval ratios from one pitch to the next. Polansky's showed the growth of the pitch space from the starting pitch of E which he treated as 1/1 (Polansky 2009).

I take a slightly different approach here. I believe that Harrison was treating D as a subtle tonal center for a variety of reasons. It is iterated more than any other pitch in the piece – nine times. The next most frequent pitch is A at five iterations. D also has the longest duration of the entire piece. It is doubled in octaves at beat three. The only other pitch that gets an octave doubling is A. The widest melodic leap is to D. It is also the lowest sounding pitch in the piece. The first phrase leads to it and the last phrase leads from it; and until the trill at the end, it is the only pitch articulated with an ornament.

My notation here (see Example 7) borrows Polansky's idea of notating absolute pitch ratios (here below the staff) while retaining Harrison's original notation for note to note interval ratios on and above the staff. Rather than using the first pitch as 1/1 as Polansky did, I give that designation to D in order to show the tonal relationships to that pitch.



Example 7. Complete score of Harrison, "A Phrase for Arion's Leap," with analysis

This piece seems to be all about the tetrachords. It opens with two conjunct tetrachords. The first four pitches are an enharmonic tetrachord proposed by Ibn Sina (980–1037) a Persian theorist and polymath also known by the Latin version of his name, Avicenna.

This tetrachord is 40/39 – 26/25 – 5/4. The fourth through seventh notes are a chromatic tetrachord attributed to Didymus (1st century BCE): 16/15 – 25/24 – 6/5. These two tetrachords lead to 1/1 as I mentioned above. The last phrase begins on 1/1 and leads from it using a condensed form of the same intervals with the 5/4 left out.

The ya cheng parts are another representation of a tetrachordal division. The two outer ya chengs are a perfect fourth (4/3) apart and the middle one divides that fourth into two septimal (based on the seventh harmonic) and epimoric intervals – 8/7 and 7/6. This chord moves through a modal permutation of the Didymus chromatic tetrachord heard in the opening. This kind of modal permutation traces back to Arab theorists such as Al-Farabi (c. 870–950).

Modal permutation of tetrachords is the changing of the order of small, middle, and large intervals. The original form of the Didymus chromatic was M, S, L; the form used in the ya chengs is S, M, L.

All of the consecutive intervals in this piece (see Harrison's ratios above the staff) are epimores or complements (inversions) of epimores except the 128/75 and 96/75 in the troubadour harp near the end of the first system. However, if the pitches of this passage are arranged in scale order from D, it becomes evident that the underlying structure is an equal tetrachordal scale of epimores in yet another modal permutation of the Didymus chromatic – S, L, M.

The climax of the piece has two intervals of the thirteenth harmonic (13/12 and 14/13) over an octave on the dominant (3/2). Of the twenty-eight pitches in the composition (see Example 8), all the others derive from the two tetrachords of epimores in various permutations.

In Harrison's practice, Free Style requires a great deal of conscious control rather than a free expression of musical intuition. This stems in part from the strictures of instrumental performance, but also from Harrison's desire to use the intervals of just intonation in ways informed by his knowledge of acoustics and the ideas of earlier theorists.

Conversely, Strict Style often allowed a more intuitive approach with the composer able to freely use pitches from within the chosen gamut. Hence, the Free Style is often more constrained and rational, while the Strict Style is more intuitive.

With both approaches Harrison makes clear connections to earlier music and theories, including tetrachords cited by Didymus, Ptolemy, and Ibn Sina. He also shows a commitment to the Ptolemaic preference for superparticular or epimoric ratios.

Though the body of Harrison's Free Style works is small, it displays the same richness of ideas and expressivity as his more numerous Strict Style compositions. The distinction between these two approaches informs the work of many composers who use just intonation and other microtonal approaches to the present day.

Pitch	Ratio relative to D	Cents above D
D	1/1	NA
D#\	40/39	43.831
Eb	25/24	70.672
D#	16/15	111.731
E	10/9	182.404
Fb	28/25	196.198
E	9/8	203.910
E	256/225	223.463
F\	15/13	247.741
F	7/6	266.871
F	32/27	294.135
F	6/5	315.641
F#	5/4	386.314
Gb	32/25	427.374
G	4/3	498.045
Ab	64/45	609.776
A	3/2	701.955
Bb	25/16	772.627
Bb	128/81	792.180
Bb	8/5	813.686
B	5/3	884.359
B	12/7	933.129
C	7/4	968.826
Db	175/96	1039.498
C#	24/13	1061.427
C#	15/8	1088.269
Db	48/25	1129.328
D	35/18	1151.230

Example 8. List of distinct pitches used in "A Phrase for Arion's Leap"

References

Doty, David (1987). The Lou Harrison Interview. In *1/1 The Quarterly Journal of the Just Intonation Network*, Volume 3, Number 2, Spring: 1–15.

Doty, David (1994). *The Just Intonation Primer*. San Francisco: The Just Intonation Network.

Harrison, Lou (1971). *Music Primer*. New York: C.F. Peters Corporation.

Partch, Harry (1949). *Genesis of a Music*. Madison, WI: The University of Wisconsin Press.

Polansky, Larry (1987). Item: Lou Harrison's Role as a Speculative Theorist. In *A Lou Harrison Reader*. Soundings Press.

Polansky, Larry (2009). *A Phrase for Arion's Leap* renotated into absolute intervals (from the original "free-style" notation), http://eamusic.dartmouth.edu/%7Elarry/scores/other_peoples_scores/lou_harrison/arions_leap_recopied.4.pdf, accessed 12/19/2017.

Solomon, Jon (2000). *Ptolemy Harmonics*. Boston: Brill.

Tenney, James (1988). A History of 'Consonance' and 'Dissonance.' New York: Excelsior Music Publishing Company.

Kontrolės laisvė ir laisvės kontrolė: laisvasis stilius *vs* griežtasis stilius Lou Harrisono natūraliosios darnos kompozicijose

Santrauka

Anot amerikiečių kompozitoriaus Lou Harrisono (1917–2003), egzistuoja du skirtingi natūraliosios darnos kompozicinio pritaikymo būdai: „griežtasis stilius“, apibūdinamas kaip komponavimas pagal iš anksto apibrėžtą dermę ar garsyną, ir „laisvasis stilius“ – tai toks komponavimo būdas, kai „tu neturi iš anksto nustatytų tonų ar intervalų sekų, bet remiesi laisva intervalų asociacija ir traktuoji juos meniniams tikslams tinkamiausiu būdu“. Šis jo laisvojo stiliaus konceptas yra pripažįstamas kaip reikšmingas indėlis muzikos teorijos srityje. Taikydamas minėtą metodiką, Harrisonas 1955–1974 m. sukomponavo tik keletą kūrinių.

Sprendžiant iš šių dviejų komponavimo būdų pavadinimų ir aprašymų, susidaro įspūdis, kad laisvojo stiliaus kūriniai yra intuityvesni, o griežtojo stiliaus – racionalesni. Vis dėlto analizė atskleidžia, kad viskas nėra taip paprasta.

Kad suprastume santykį tarp Lou Harrisono laisvojo ir griežtojo stilių, turime pažinti kitus jo stiliaus ypatumus ir muzikinius prioritetus. Tarp tokių yra epimoriniai intervalai, tetrachordai (ypač lygiosios tetrachordinės dermės) ir aiškūs toniniai centrai. Pirmieji du gali būti siejami su senovės graikų ir arabų teoretikų (Ptolemėjo, Didimo, Al Farabi, Ibn Sinos) darbais.

Epimoriniai intervalai – tai tokie intervalai, kurių santykio išraiška yra x+1/x. Paprastai tariant, skaitiklis yra vienu vienetu didesnis už vardiklį. Šiems intervalams būdinga unikali akustinė savybė – pirminis harmoniškai skambančio epimorinio intervalo diferencinis tonas yra obertonų spektro, kuriam priklauso abu intervalo tonai, fundamentinis tonas. Tai lemia ypatingą šių intervalų rezonanso pobūdį.

Struktūros, aptartos graikų teorijoje apie tetrachordus, ypač lygiosios dermės, domino Harrisoną kaip būdas organizuoti garso aukščius. Tetrachordinė dermė yra sudaryta iš dviejų grynųjų kvartų, atskirtų didžiąja sekunda. Siekiant lygiosios tetrachordinės dermės, abi kvartos turi būti padalytos į tuos pačius intervalus ta pačia tvarka. Natūralieji intervalai sąlygoja daug didesnę įvairovę nei lygaus derinimo atveju, t. y. intervalai gali būti platesni ar siauresni, palyginti su analogiškais temperuotais intervalais.

Perderinti klavišiniai instrumentai, pritaikytos gitaros ir kiti fiksuoto aukščio instrumentai, tokie kaip mušamieji idiofonai (juos gamino pats su savo partneriu Williamu Colvigu), yra tinkami griežtajam stiliui. Kadangi garsynas yra iš anksto apibrėžtas, kompozitorius gali laisvai rinktis iš nustatytų garsų ir komponuoti remdamasis intuicija ar ekspresyviomis aspiracijomis.

Laisvajam stiliui Harrisono praktikoje reikalinga didelė sąmonės kontrolė, todėl toli gražu tai nėra laisva muzikinės intuicijos išraiška. Ji kyla iš tam tikrų instrumentinio atlikimo apribojimų, taip pat iš Harrisono aistros naudoti natūraliojo derinimo intervalus, atsižvelgiant į akustikos principus ir ankstyvųjų teoretikų idėjas.

Vadinasi, laisvasis stilius dažnai yra apribotas ir racionalus, o griežtasis stilius pasižymi intuityvumu.

Francesco Finocchiaro

"Im Anfang war der Rhythmus": Aesthetic Abstractions in the Film Music Composition of the 1920s

Abstract. During the silent era, film theory assigned to music an essential role insofar as it claimed the birth and filiation of the so-called "tenth Muse" from the more ancient and noble "art of sounds." The thesis of an elective affinity between music and cinema found a theoretical systematization in the writings of Georg Otto Stindt, Béla Balázs, and Hans Erdmann, who identified the rhythmic dimension as the *trait d'union* between these two forms of art. Filmic rhythm, as Erdmann explains in the *Allgemeines Handbuch der Film-Musik* (1927), has a double nature. At a basic level, film rhythm comes into expression where scenic movements are being musically stylized through the principles of dance, march, as well as the motion of machines at work. In instances like these, the music closely follows the narrated events and establishes a painstaking correspondence with the visuals. The artistic link between music and image, however, cannot be reduced to this mere descriptive illustration. This simple synchronization is nothing but a *small-scale rhythm*. The scenic events, indeed, unfold according to a line of feelings whose overall movement describes what Erdmman calls, in clear allusion to Eduard Hanslick, a *large-scale rhythm*. Music in cinema, thus, should not only adhere to the small-scale rhythm determined by the outer movements and the pantomime, but rather comply with the large-scale rhythm that underlies the narrated events. In the *Allgemeines Handbuch*, Erdmann names this structural rhythm with the term *Eurhythmie*, meaning nothing less than the temporal articulation of the film and its dramaturgical construction as a narrational curve. Erdmann's theory of a film rhythm and its significant implications for film music composition are discussed through the analysis of paradigmatic film sequences taken from *Nosferatu* (1922) by Friedrich Wilhelm Murnau and *Metropolis* (1927) by Fritz Lang.

Keywords: silent film, film music, rhythm, Hans Erdmann, *Nosferatu*.

1. "Film ist Rhythmus"

The notion of rhythm, along with its metaphorical implications from the musical sphere, constitutes a *topos* for all films from the silent and early sound era. *Film ist Rhythmus* is not by chance the title of the famous short film by Hans Richter and one of the masterpieces of abstract cinema. This "musical calling" in the domain of the cinematic art was not an isolated incident but based on a long-standing tradition.

During the silent era, as we know, "real" music, that is, the concrete accompanying music for film projections was in an extremely precarious state. Nevertheless, there is not a single silent film theory that does not claim, *nota bene*, not only and not so much the necessity of music for cinema but rather the birth and filiation of the so-called "tenth Muse" from the more ancient and noble "art of sounds." The 1920s in Europe saw both film directors and theoreticians draw inspiration from music and its syntactical structures in their attempts to formalize and verbalize the language of cinema – a language that at the time was still being forged, at least in part.

Starting with Walter Ruttmann, Viking Eggeling, and Hans Richter, many filmmakers of avant-garde cinema were influenced by music. A recurring element in their writings is the reference to the language of music, to its laws and terminology: to the notion of counterpoint, for instance, in structuring the vertical dimension of the visual sphere; the notion of timbre for the play of hues; and, evidently, the concept of rhythm for organizing the horizontal dimension. What the short films of Ruttmann (*Lichtspiel Opus I*, *Opus II*, *Opus III*, *Opus IV*), Eggeling (*Horizontal-vertical Orchestra*, *Symphonie diagonale*), and Richter (*Vormittagsspuk*, as well as the aforementioned *Film ist Rhythmus*) have in common is the "musical" conception of the moving images: the fact that they confer an acoustic, sonic, and even musical semblance to a purely visual material. In his famous manifesto, Ruttmann defined his cinema as "painting with time" (*Malerei mit Zeit*):[1] a sort of visual art composed of lines, colours, and shapes that do not merely arrange themselves spatially but also develop along the temporal axis, establishing relations of symmetry, alternation, and correspondence. This "art for the eyes" aspires to organize time rigorously, according to specifically musical principles. In this way, cinema emancipates itself from narrative fiction and the reproduction of nature, and becomes a self-standing, purely formal art.

In this search for a visual language with a highly formalized syntax, no other art could have provided a richer vocabulary and a more powerful conceptual paradigm than art music – especially pure instrumental music. The drive towards abstraction explains the frequent use of musical titles for the films. But even more significant is the title of the Berlin *Filmmatinee* "Der Absolute Film" – which took place May 3, 1925, at the Ufa-Theater am Kurfürstendamm – in which members of the *Novembergruppe* (Ruttmann, Eggeling, Richter, and

[1] *Malerei mit Zeit* is the title of the famous manuscript of Ruttmann from 1919/20, conserved in the artist's legacy. The document is reproduced in Ruttmann (2010).

Hirschfeld-Mack), along with a few French colleagues (Léger, Picabia, and Clair), presented their experiments. The idea of an "absolute cinema" after which the *Matinee* was titled, explicitly recalled the notion of "absolute music" – music freed from any external link and supposed to be an end in itself. Just like pure instrumental music, abstract cinema aspires to an autotelic language, a language that relies solely on intratextual references, to the point of being ultimately reduced to the temporal unfolding of lines, colours, and forms.

2. *Musica mundana*

In the same period, the thesis of an "elective affinity" between music and cinema found theoretical systematization also in the writings of Georg Otto Stindt and Béla Balázs, who both identified the rhythmic dimension as the *trait d'union* between these two forms of art.

In the preface to *Das Lichtspiel als Kunstform*, Georg Otto Stindt peremptory asserted: "Cinema is a new form of art" (Stindt 1924: 5). And like any other form of art, it has its own "formal law" (ibid.), which for Stindt is summed up in the formula "action (pantomime + rhythm) = unity of effect" (*Handlung (Pantomime + Rhythmus) = Wirkungseinheit*) (idem.: 25). In other words: the unity of effect of a successful film consists of the harmony between "internal and external movement" (idem.: 24). The external movement comes into expression through pantomime: external events "are based on action, alternation of spaces, contrast between the characters" (ibid.). Nonetheless, beneath the surface of external events, at a deeper level, an inner movement also operates, which "has its roots in the excitations of the psyche" (ibid.): "Pantomime – indeed – is not inner life, but only its consequence, an expression of psychic motions" (idem.: 27). In film, Stindt pointed out, this inner movement is expressed through rhythm.

Here, the role of music as a metaphorical model for cinema becomes evident. "It is rhythm – so Stindt – that images and music have in common, and that alone gives life to both" (idem.: 18). The motto "*Im Anfang war der Rhythmus*" [In the beginning was the rhythm], attributed to Hans von Bülow, is taken up by Stindt and used to seal his argument (idem.: 25).

In truth, Stindt gives rhythm a rather generic definition: "Rhythm is the periodic and alternating succession of external impressions on the ear and eye of the human being" (ibid.) so as to allow, by analogy, its application to optical stimuli. With the term "rhythm" he alludes to the possibilities of visual construction made possible by montage. In that it determines the timing of frames and sequences, montage organizes the film on a temporal level, giving the succession of images more or less regularity and symmetry. The horizontal organization of images constitutes a "potentiated rhythm", whose possibilities of construction are virtually unlimited: "Film has at its disposal all things living and dead between heaven and earth to excite the eye" (idem.: 25–26). Elaborating on this analogy, Stindt comes to assert that, insofar as the speed of the montage and the succession of images create a visual rhythm (*Bildrhythmus*), one can even speak of an "inner musicality" (idem.: 46) of film. In this way, he concludes, "film tends towards pure music" (idem.: 47).

This raises the question of what kind of musical accompaniment can be appropriate and plausible for a film that already possesses its own musicality. First of all, Stindt observes, "it seems a contradiction to accompany a film with pre-existing music, for this is based on completely different rhythms" (ibid.). The film therefore must have its own music; music that, however, does not merely illustrate the outer movements and the scenic events, as was the custom in contemporary musical illustrations. On the contrary, the task of musical accompaniment for the film must comply with the visual construction, that is, with the rhythm of montage: "A good film must certainly have its own music, but music whose sound waves vibrate at the same rhythm as the light waves of its visual sphere" (ibid.). The relationship whereby musical rhythm is subordinated to visual rhythm is ultimately expressed in clearly Wagnerian terms: "Music that rather than being a means seeks to represent the end itself must be considered as not artistic, false" (idem.: 50).

In his *Der sichtbare Mensch* (2001/1924), Béla Balázs also devotes an important chapter to filmic rhythm, later reprised and expanded in *Der Geist des Films* (2001/1930). The discussion carried out by the Hungarian film critic unfolds in chapters whose titles – *Optische Musik*, *Bewegung des Ornaments*, *Kontrapunkt verschiedener Sphären* etc. – already show a deep metaphorical inspiration from the domain of music.

In the style of filmmakers such as Eisenstein and Ruttmann, Balázs recognizes the evolution of the montage technique "at the stage of an absolutely unique and extraordinarily diversified art" (Balázs 2001: 49). The *Bildrhythmus* determined by montage shapes the overall breath of the film as an alternation of stresses and rest points. The rhythm of the montage, in its elaboration as a self-contained syntax, can even be detached from the dramatic content of the story: it "can earn its own, completely autonomous, musical valence, and establish an entirely remote and irrational relationship with the visuals" (idem.: 50). Images seemingly devoid

of any dramatic content such as a landscape – says Balázs, anticipating Sergei Eisenstein's theory of musical landscape by almost twenty years – receive a "musical" rather than a purely pictorial treatment, in the sense that the graphic forms of the visuals are elaborated and constructed according to strictly musical principles. This makes the landscape scene a self-standing expressive and dramaturgical unity with its own emotionality:

> The images of a landscape, images of buildings or objects, which are completely void of dramatic content, can restore visual rhythm through montage, which is no less expressive than music (ibid.).

The "musical" composition of the visual sphere, indeed, does not necessarily have to match the outer content of the events being represented, but can even establish a dialectical relationship with them: "The visual music of the montage flows in its own dimension alongside the conceptuality of the visuals" (ibid.). The two spheres may be placed in a contrapuntal relation to each other: they can interact, be placed in tension and sometimes even in antiphrasis. The filmic rhythm, per se, can create a refined polyrhythmic play: the rhythm of montage, the movement of the camera, and the motion of objects within the frames create separate rhythms, which too interact according to a variety of relations, ranging from coincidence to counterpoint.

Visual music, in other words, can give a metaphorical representation of various aspects of the musical universe, from counterpoint to polyrhythm. Yet, by a strange paradox, it is not allowed to unite with "real" music. The notion of *Bildrhythmus* does have its elective reference in music, but leaves music itself in silence. It is a wonder that Balázs spends not a single line of his chapter on *Rhythmus* about musical accompaniment, as if cinema possessed an inner musicality so preponderant so as not to bear union with external, effectively resonant music.

On closer inspection, this paradox reveals a contradictory and ambivalent relationship towards music, which, despite different nuances and stresses, is common to the positions of several film theoreticians. What role could music ever have, Lydia Goehr (2008: 215) rightly asks, in an art that aspires to be "musical" by itself? Silent cinema aims to be "musical" but in a totalizing manner, without music, in the silence of moving pictures (idem.: 214). The "music" that film theory figures out, thus, is a purely imaginary movement, in the same way as the *musica mundana* envisioned by Boethius, which resonates by an abstract play of numbers and proportions, marked by the "great motion" of the spheres, but that wants to share nothing with the concrete and precarious *musica instrumentalis*. The "inner musicality" of silent film makes the actual musical component redundant: at most, a useful complement to the projection at the film venue, but not an essential component of the filmic text.

The dichotomy between *musica mundana*, the abstract music of images rooted in the composition of the visual sphere, and *musica instrumentalis*, the precarious complement to film projection, forges the thought of film theorists, at least as much as their apparent "musical calling," and upon closer examination, constitutes the ineluctable assumption of the theory of a filmic rhythm.

3. *Musica instrumentalis*

In perfect continuity with Stindt's and Balazs's theories is the thesis that opens the *Allgemeines Handbuch der Film-Musik* (1927), a theoretical-practical treatise written by Hans Erdmann in collaboration with Giuseppe Becce and Ludwig Brav. Between cinema and music, Erdmann states, there is a common substance, which is precisely the rhythmic element. Cinema and music are both temporal arts (*Zeitkünste*), they "unfold in time" and organize their material "rhythmically, through the periodic succession of stressed and unstressed time parts" (Erdmann 1927: I, 1).

Erdmann's contention, however, adds something new to this position. He does not limit himself to merely repeating the thesis of an intrinsic rhythmic quality of cinema but brings this assumption to unheard conclusions that have significant consequences for both film music theory and practice. Erdmann's argument is guided by an aesthetic ambition: the foundation of a film-music work of art (*Film-Musik-Kunstwerk*) in a Wagnerian sense, in which music is no longer an incidental element but rather an integral part of a total artwork; here, "the artistic link" (*künstlerische Bindung*) (idem.: 8) between film and music should finally be achieved.[2]

Film, Erdmann claims, has its own rhythm that demands an acoustic equivalent. This point raises the question of how this filmic rhythm finds expression: through montage, as in Stindt and Balázs, or by other

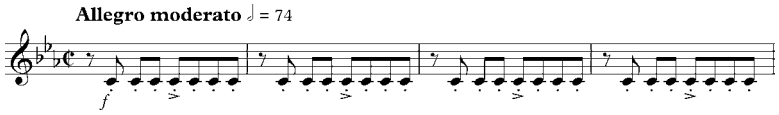
[2] The reference to Richard Wagner is highly significant, for it reveals Erdmann's aim to include film music composition in the realm of operatic music. In an article in the *Reichsfilmblatt* in 1924 Erdmann wrote: "The film in its artistic fulfillment is a piece of music theatre, in a certain sense similar to ballet and pantomime, and maybe even in a higher sense than opera and music drama" (Erdmann 1924a).

artistic means? Moreover, which aspects of the film should be supported by the musical accompaniment, asks Erdmann as a composer?

Filmic rhythm, Erdmann explains, actually has a double nature. At a basic level, rhythm comes into expression where scenic movements are being musically stylized through the principles of dance, march, as well as the motion of machines at work – to mention a *topos* of 1920s-cinema.

In our first example, from Fritz Lang's *Metropolis* (1927), with music by Gottfried Huppertz, the motion of the Moloch-machine and the synchronized movements of the workers are typically rendered by a rhythmic ostinato (Ex. 1, Fig. 1):

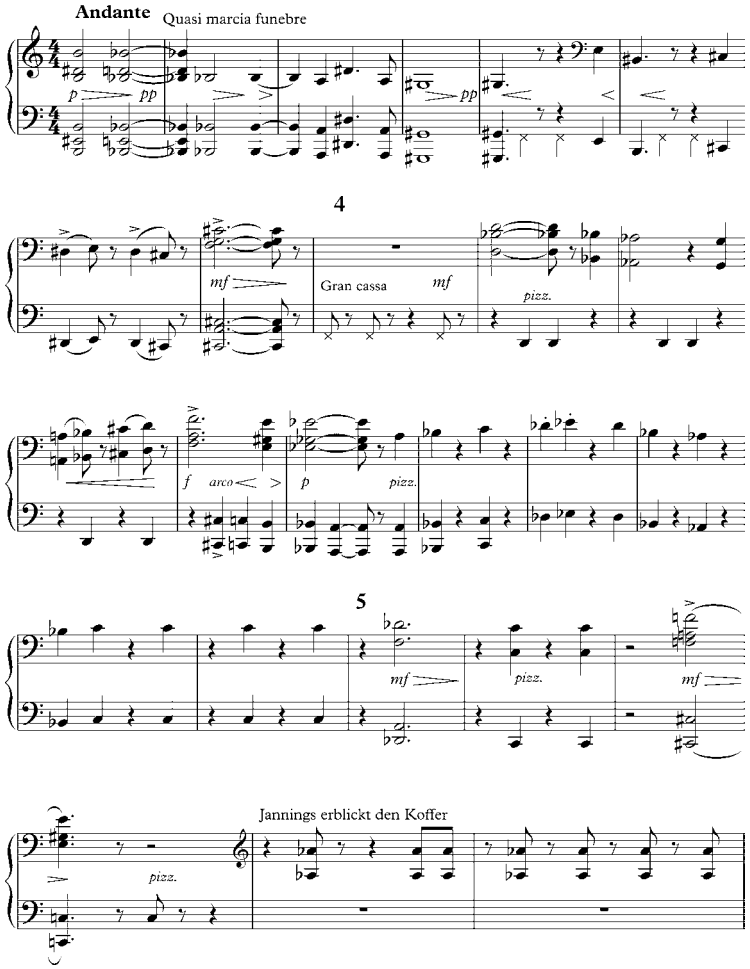
Figure 1. Fritz Lang, *Metropolis*, UFA (Germany 1927)



Example 1. Gottfried Huppertz, *Metropolis*, Act I *Auftakt*, mm. 379–382

Similarly, Erdmann admits, music can take actors' pantomime as a pretext for what he calls a "description." In this case, the musical accompaniment closely follows the outer movements represented in the visuals and realizes an acoustic stylization of them. Consider, by way of example, the dramatic scene of the porter's demotion (Ex. 2, Fig. 2) in Friedrich Wilhelm Murnau's film *Der letzte Mann* (1924). Here, Giuseppe Becce's music adopts the typical rhapsodic style, usually defined as motoric illustration (*motorische Illustration*).

Figure 2. Friedrich Wilhelm Murnau, *Der letzte Mann*, Union Film (Germany 1924)



Example 2. Giuseppe Becce, *Der letzte Mann*, Act I, numbers 3–5[3]

In instances like these, the visual sphere displays a plastic rhythm, which can find, and usually does find, an acoustic equivalent in the musical accompaniment. The music closely follows the narrated events and establishes a painstaking correspondence with the elements of the visual representation.

The artistic link between music and image, however, cannot be reduced to this descriptive correspondence. This mere synchronization, Erdmann states, is nothing but a "small-scale rhythm" (*kleiner Rhythmus*) (Erdmann 1927: I, 8). The scenic events, indeed, unfold according to a line of feelings (*Gefühlslinie*) (idem.: 14) whose overall movement describes what Erdmman calls, in clear allusion to Eduard Hanslick, a "large-scale rhythm" (*großer Rhythmus*) (idem.: 9). Music for cinema, thus, should not only adhere to the small-scale rhythm determined by the outer movements and the pantomime, but rather comply with the large-scale rhythm that underlies the narrated events.

By the next example, we will see to what extent we can state that a line of feelings underlies the scenic events on the surface and in what sense the emotional events tend to describe a large-scale rhythm. We will also recognize that, despite all expectations, it is a highly rational procedure that drives Erdmann's thought. Erdmann's linguistic roots lie in a domain forged by vitalistic philosophy and psychological aesthetics: Erdmann recounts artistic rules in terms of "lines of feelings" (*Gefühlslinie*), "inner rules of tension" (*innere Spannungsgesetze*), "emotional events" (*seelische Vorgänge*), and he compares the dramaturgical construction of a film with a sort of "musical intuition" (Erdmann 1924b). This presumed vitalistic and intuitive aura, however, runs the risk of being overestimated if we fail to compare Erdmann's thought with the concrete results of film-music analysis. Indeed, the latter seems to reveal to us a completely different state of things. As we will see, what determines the overall structure of the narrative has nothing to do with a mere vitalistic or spontaneous intuition, but it is a definite, historically determined formal conception.

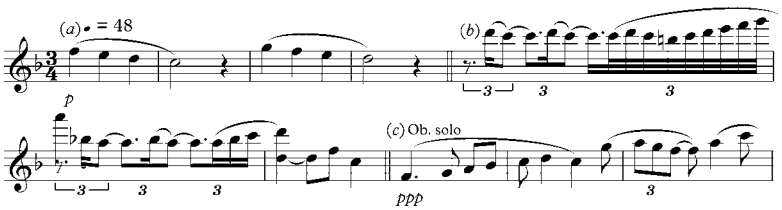
[3] Reproduced in Rügner 1988: 111.

We will examine a lengthy sequence from the first act of *Nosferatu*, Murnau's film of 1922 with music by Erdmann himself. This sequence can be taken as a paradigm for Erdmann's musical dramaturgy.[4] It can be divided into four episodes:

1) an initial situation of release with the introduction of the protagonist couple: Hutter and his wife Ellen (Fig. 3);
2) a contrasting episode, as the climax of tension, dominated by the character of Knock (Fig. 4);
3) the return to the initial situation of calm, with preparations for Hutter's trip to Transylvania (Fig. 5);
4) finally, the epilogue, with Hutter and Ellen's parting (Fig. 6).

A thematic section in F major occupies the first episode. The theme is derived from Erdmann's *Fantastisch-romantische Suite* and is labeled in Erdmann and Becce's *Thematisches Skalenregister* (Erdmann 1927: II, 127) as *Idylle. Verschlafene Städtchen, Morgenstimmung* (n. 1691). It consists of three musical ideas, the first (*a*) performed by the strings, the second (*b*) by the winds, and finally a phrase by the oboe (*c*):

Figure 3. Friedrich Wilhelm Murnau, *Nosferatu. Eine Symphonie des Grauens*, Prana-Film (Germany 1922)

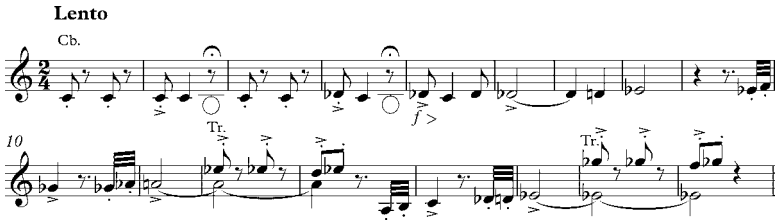


Example 3. Hans Erdmann, *Fantastisch-romantische Suite* IA: "Idylle"

The second episode consists of conventional horror music taken from Becce's Suite *De Profundis*: harmonic dissonances, sharp dynamic contrasts, and slow semitonal progressions serve to build tension until the climax of "dramatic expression" (Erdmann 1927: I, 40) is reached:

[4] As known, a collection of ten music numbers by Erdmann titled *Fantastisch-romantische Suite* is all that remains of the original score for *Nosferatu*. On the basis of this document, two different reconstructions of the score have been carried out respectively by Gillian Anderson in 1995 and Berndt Heller in 2007. Although they used Erdmann's suite differently, both versions adopted an ABA form with coda at the beginning of the first act. For the purposes of this analysis, we will refer to the musical reconstruction of Heller (Edition Deutsche Kinemathek Berlin, Eureka, 2007).

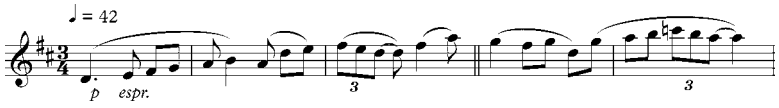
Figure 4. Friedrich Wilhelm Murnau, *Nosferatu. Eine Symphonie des Grauens*, Prana-Film (Germany 1922)



Example 4. Giuseppe Becce, *De Profundis-Suite* II, 2: "Visionen eines Irren" (our transcription)

The third episode is nothing but the repetition of the phrases *b* and *c* from the first thematic section. Then a new thematic idea comes in: in truth, it is none other than the oboe phrase (*c*), now in the strings and transposed into D major. This last theme – also derived from Erdmann's *Fantastisch-romantische Suite* and labelled at number 994 in the *Thematisches Skalenregister* (Erdmann 1927: II, 77) as *Ergebung, vergangener Schmerz, Hoffnung* – constitutes a climactic point of "lyrical expression" (Erdmann 1927: I, 40). Repeated in G major, it concludes the entire scene as a coda:

Figures 5–6. Friedrich Wilhelm Murnau, *Nosferatu. Eine Symphonie des Grauens*, Prana-Film (Germany 1922)



Example 5. Hans Erdmann, *Fantastisch-romantische Suite* IB: "Ergebung"

This lengthy sequence has, therefore, a regular conformation. Altogether, it consists of three main thematic ideas, used so as to create a three-part form, closed by a coda. In Erdmann's rhythmic analogy, the first movement would have the effect of an anacrusis; the second is stressed on the downbeat; the third is also upbeat; the fourth forms the thetic cadence.

In the *Allgemeines Handbuch*, Erdmann names this structural rhythm with the term 'eurhythmy' (*Eurhythmie*) (ibid.: 9), meaning nothing less than the alternation of tension and release, of culminating points of dramatic and lyric expression. With this notion with a long-standing tradition within German-language music aesthetics, Erdmann indicates the "great motion" created by the line of feelings, in which the "small motion" of elementary rhythmics is surpassed and re-comprehended.

4. Between cinema and opera

As a result of this metaphorical extension, however, the notion of rhythm is substantially reinterpreted. In fact, this large-scale rhythm – as Carl Dahlhaus already pointed out concerning Hanslick's category – is not an "augmentation" of the small-scale rhythm: it is not its mere "imitation on a higher dimension" (Dahlhaus 1975: 439). Eurhythmy reaches well beyond the nature of rhythmic phenomena as a succession of accents. On the contrary, it alludes to the temporal articulation of the film and its dramaturgical construction as a narrational curve.

It is not by coincidence that Erdmann redefined the concept of eurhythmy in a later article:

> With this term, we intend everything we usually mean by "tension and dynamics," "climax and rest point," everything related to artistic rules, everything that in music is the subject of the "theory of form" and in drama or opera is the subject of a "dramaturgy." The cinematic work of art must possess this rhythm of a higher degree, and, in fact, it also does (Erdmann 1928).

In short, the music-theoretical notion of rhythm has been raised, here, to an aesthetic category. Eurhythmy indicates a regular large-scale form that is structured by a well-studied alternation of points of tension and release, and that relies on the aesthetic rules of correspondence, balance, and good proportion among the parts of an organic whole.

This aesthetic abstraction reveals itself to be rich in implications for the film composition.

The definition of the musical form as "large-scale rhythm" – as Dahlhaus observed – is closely tied to a particular formal type based on what can be referred to as "grouping principle" (Dahlhaus 1975: 440), that is, the grouping of a series of elements in a coherent and rational schema. In other words, Erdmann conceives film as segmentable into a series of musical scenes, each having a self-standing meaning and conformation. The relationship between the scenes is supposed to be similar to that between the elements within the measure, or between a fore-phrase and an after-phrase, or even between two or more formal sections, like a three-part form A-B-A.

The grouping form, in short, is based on an architectural balance, correspondence, similarity, or even contrast among the parts of an organic whole. It is worth remembering, however, that this principle has an exact historical origin: the classical style. That is to say that Erdmann's conception of film music is decidedly rooted in the operatic composition of the classical or at least pre-romantic style. Erdmann's model for film music composition is the opera with so-called closed forms: a series of musical numbers, juxtaposed according to a principle of symmetry and good proportion. Furthermore, these musical numbers are connected by looser and more fluid instrumental passages, which make up the drama's connective texture. Erdmann calls such transitional moments by the only possible name for his paradigm: *filmisches Secco-Recitativ*:

> As regards "neutral music", we see how it already has a far from irrelevant role in the opera, and there is no doubt that it must have a very similar role in film. ... There is a "secco film recitative", and in passages like these there is no use inserting a superfluous "accompagnato recitative"; if something can be said with one note or chord, you don't need two. Where music doesn't help, it only does harm (Erdmann 1927, I: 43–44).

The culminating points of dramatic and lyrical expression, therefore, must be supported by *Stimmungsmusik*, mood music with a self-contained form and its own coherence. These musical numbers are then connected by neutral, descriptive music, which instead uses a rhapsodic and looser style. In the latest extension of the musical metaphor, "rhythm" has definitively become the alternation of recitative-like passages and self-contained musical numbers. And *Eurhythmie* has become nothing if not this dramaturgic plan, evidently inspired by opera.

The opening sequence of *Nosferatu* is a brilliant example of this grouping form, along with other moments of the score: for example, in the third act, where the *Ergebung* theme (Ex. 5) precedes and follows a fleeting appearance by Bizet's *Galop*, and then again in the finale, which Erdmann refers to in the *Allgemeines Handbuch* as a three-part form with a coda (idem.: 50 note).

In conclusion, according to Erdmann, a movie should have an episodic structure, based on the juxtaposition of self-contained musical numbers. Each act constitutes a sort of macro-formal container, inside which a sequence of stand-alone musical scenes unfolds. These scenes follow one another and occasionally repeat

in compliance with a logic that has in music, much more than in the visual narration, its dramaturgic point of reference, and which thus implies a subordination of the second, i.e. narrative, to the first, i.e. music. For Erdmann, in fact, the culminating points of the film, such as the finale of the acts, the dramatic episodes, or the points of lyrical relief should be designed and arranged according to a musical plan, the so-called *Musikszenarium* (idem.: 22). A film has to be rationally designed by principles of symmetry, contrast, and alternation, which are primarily determined by music.

There is no doubt that the inner coherence of a film score would be notably strengthened. But it is also true that a dramaturgical problem arises from such kind of formal construction. We allude, here, to the alienating effect that is inevitably produced by the repetition of musical material previously heard against the progression of the narrative. The repetition of large formal units is an evident sign of a type of construction that not only remains, for long stretches, unaffected by the film narration but also in some instances even undermines its internal logic. That which, from a strictly musical point of view, constitutes a vital structural principle (the repetition of a motif, theme, or formal section) conversely acts on the film's dramaturgy as an absurd paradox. As Adorno and Eisler wrote some years later in *Composing for the Films* (Adorno, Eisler 1994), the tempo of cinema requires concentration and a prose-like style: the cinematic narration, in its essence of a snapshot of the *Lebenswelt*, is incompatible with the abstraction of a musical discourse consisting of repetitions, progressions, musical rhymes, and phrase symmetry.

With the above examples in mind, we cannot but observe how, in the first act of *Nosferatu*, the repetition of the first thematic section (*Idylle*) in the third episode sounds forced when compared to the narrative progression. At that point, indeed, the central scene has already marked a sharp change in the atmosphere and put the story in motion. Conversely, the literal reprise of the oboe theme seems to be motivated by the only purpose of carrying the three-part form to the end, completely disregarding the dramatic content of the scene, where Hutter's wife has the premonition of the tragedy hanging over them (see Fig. 5). The unmotivated return of previous musical episodes along with their initial moods appears not only paradoxical from a dramaturgical point of view but ultimately causes a veritable short circuit in the narrative logic of the film.

The paradox of the repetition is the price Erdmann's theory of a filmic rhythm has to pay for its music-centered approach to the cinematic music and for its idea of film music composition as an operatic genre. In this claim, Erdmann's theory reveals itself as equal and opposite to those film theories that reflect merely on filmic rhythm, leaving music itself in silence. The incompatibility between these two positions – *musica mundana* and *musica instrumentalis*, as we metaphorically redefined them – is the most radical evidence of a missed encounter, an impossible communication between two opposite cultural elites: visual artists and composers. Both of them, as Sergio Miceli has pointed out, insist on deciphering cinema as the logical and total *fulfilment* of an internal development of either one or to other artistic language (Miceli 2010: 72). For the first group, cinema is *Malerei mit Zeit*; for composers, it is a *Film-Musik-Kunstwerk* in a Wagnerian sense. Both positions seem not to grasp, except perhaps minimally, the syncretic and authentically plurimedial nature of cinema.

Bibliography

Adorno, Theodor Wiesengrund & Eisler, Hanns (1994). *Composing for the Films.* London-New York, Continuum (first published in 1947).

Balázs, Béla (2001). *Der sichtbare Mensch oder die Kultur des Films.* Frankfurt am Main, Suhrkamp (first published in 1924).

Balázs, Béla (2001). *Der Geist des Films.* Frankfurt am Main, Suhrkamp (first published in 1930).

Dahlhaus, Carl (1975). Rhythmus im Großen. In: *Melos*, I, pp. 439–441.

Eisenstein, Sergei (1987). Nonindifferent Nature. In: *Nonindifferent Nature*, ed. H. Marshall, Cambridge, Cambridge University Press, 1987, pp. 216–396.

Erdmann, Hans (1924a). Zur Kritik der musikalischen Film-Illustration. In: *Reichsfilmblatt*, No. 42, p. 45.

Erdmann, Hans (1924b). Zur Methodik der musikalischen Film-Illustration. In: *Reichsfilmblatt*, No. 38, p. 43.

Erdmann, Hans (1927). *Allgemeines Handbuch der Film-Musik.* Edited by H. Erdmann, G. Becce and L. Brav, Berlin-Leipzig, Schlesinger.

Erdmann, Hans (1928). Auf der Suche nach einer Filmschrift. In: *Die Filmtechnik*, XXV, pp. 478–481.

Finocchiaro, Francesco (2014). Sergei Eisenstein and the Music of Landscape: The Mists of 'Potemkin' between Metaphor and Illustration. In: *The Sounds of Silent Films. New Perspectives on History, Theory and Practice.* Edited by C. Tieber and A. K. Windisch. Basingstoke, Palgrave Macmillan, pp. 172–191.

Giani, Maurizio (2001). La doppia verità nell'estetica di Hanslick. In: *Annali della Schola Salernitana,* pp. 199–221.

Goehr, Lydia (2008). *Elective Affinities. Musical Essays on the History of Aesthetic Theory.* New York, Columbia University Press.

Hanslick, Eduard (1986). *On the Musically Beautiful.* Ed. by G. Payzant, Indianapolis, Hackett (first published in 1854).

Harms, Rudolf (2009). *Philosophie des Films.* Hamburg, Meiner (first published in 1926).

Miceli, Sergio (2010). *Musica e cinema nella cultura del Novecento.* Roma, Bulzoni.
Payzant, Geoffrey (1989). Eduard Hanslick and Bernhard Gutt. In: *The Music Review*, L, pp. 124–133.
Stindt, Georg Otto (1924). *Das Lichtspiel als Kunstform.* Bremerhaven, Atlantis.

Cinematographic sources

Murnau, Friedrich Wilhelm (2007). *Nosferatu. Eine Symphonie des Graues.* Edition Deutsche Kinemathek Berlin, Eureka.
Ruttmann, Walter (2010). *Berlin, die Sinfonie der Großstadt & Melodie der Welt.* Edition Filmmuseum München in collaboration with Bundesarchiv Berlin and ZDF/ARTE Mainz.

„Im Anfang war der Rhythmus". Estetinės abstrakcijos XX a. 3-iojo dešimtmečio kino muzikoje

Santrauka

Nebyliojo kino eroje muzikai teko išskirtinė vieta – būtent šiam gerokai brandesniam ir kilmingesniam „garsų menui" priskiriamas „dešimtosios mūzos" vaidmuo. Muzikos ir kino gimininguma sistemiškai analizuojamas Georgo Otto Stindto ir Bélos Balázso teoriniuose darbuose, kurie ritmo dimensiją įvardijo kaip šių dviejų meno formų *trait d'union* (bendrą ypatybę). Stindto ir Balázso nuomonė, kad montažas padeda sukurti vizualų ritmą, suponuoja prielaidą diskusijoms apie „vidinį filmo muzikalumą".

Veikale *Allgemeines Handbuch der Film-Musik* (1927) kino kūrinių vidinės ritmikos idėją plėtojęs Hansas Erdmannas priėjo prie išvadų, kurios padarė didelį poveikį tiek kino muzikos teorijai, tiek praktikai. Pasak Erdmanno, filmo ritmas gali būti dvejopas. Elementariu lygmeniu filmo ritmas asocijuojamas su judėjimu scenose, kur yra muzikaliai stilizuojamas pagal šokio, maršo ar mašinų judėjimo principus. Tokiais atvejais vizualiajai sferai būdingas tam tikras plastinis ritmas gali būti akustiškai papildomas (dažnai ir yra papildomas) derančiu muzikiniu akompanimentu. Muzika atliepia kertinius naratyvo įvykius ir pasižymi glaudžiu ryšiu su vizualiais aspektais.

Vis dėlto meninė sąveika tarp muzikos ir vaizdo negali apsiriboti tokiu deskriptyviu iliustravimu. Ši elementari sinchronizacija Erdmanno yra vadinama smulkaus plano ritmu. Iš tikrųjų, sceninių įvykių eiga turi tam tikrą jausminę liniją, kurios bendra plėtotė Erdmanno įvardijama stambaus masto ritmo sąvoka (aliuzija į Eduardo Hanslicko teoriją). Muzika kinui neturėtų apsiriboti vien smulkaus plano ritmu, padiktuotu išorinių įvykių ir pantomimos, bet kurti ir stambaus masto ritmą, pabrėžiantį pasakojamų įvykių dramaturgiją.

Erdmannas veikale *Allgemeines Handbuch...* šį struktūrinį ritmą, žymintį kaitą tarp įtampos ir atsipalaidavimo, tarp kulminacinių dramos taškų ir lyrinių išraiškų, pavadino *Eurhythmie*. Šis metaforinis praplėtimas iš esmės perinterpretuoja ritmo sąvoką. Euritmija iš tiesų peržengia ritmo, kaip akcentų sekos, fenomeno sampratos ribas. Ji siejasi su filmo artikuliacija ir jo laiko dramaturgine konstrukcija, atspindinčia naratyvinę kreivę. Euritmija žymi tradicinę stambiąją formą (pavyzdžiui, trijų dalių forma A-B-A), kuri remiasi gerai išplėtota įtampos ir atoslūgio kaita, estetiniais sąryšio principais, tinkamų proporcijų balansu tarp organiškos visumos dalių.

Hanso Erdmanno kino ritmo teorija ir reikšmingas jos indėlis į kino muzikos kūrybą aptariamas tipinių filmo takelių pavyzdžių, paimtų iš Friedricho Wilhelmo Murnau *Nosferatu* (1922) ir Fritzo Lango *Metropolis* (1927), analizės kontekste.

PRIEDAS | SUPPLEMENT

Katarzyna Bartos

"Consciousness is power": Karlheinz Stockhausen's *Aus den sieben Tagen*

Abstract. The year 1968 was a year of many changes for Karlheinz Stockhausen. After receiving some devastating news and a short period of depressive thoughts, he found a book about Sri Aurobindo that helped him to change his mind and create a new genre of music. Stockhausen started composing *Aus den sieben Tagen* – the piece that opens a new chapter in the composer's output called "intuitive music". The score consists only of 15 short texts in which the composer gives the musicians hints. However it is hard to answer what *Aus den sieben Tagen* really is: an improvisation, free composition or indeed a new genre? What is the importance of intuition here and is there any space for rational thinking? In this paper, the author would like to present the aforementioned piece from the historical point of view, as well as from the personal one – from a perspective of a listener, a performer, and a teacher.

Keywords: intuitive music, German contemporary music.

1. Introduction. "I become what I see in myself."[1] How intuitive music was created

Monika Pasiecznik, an author of a book about Stockhausen's *Licht*, wrote that 1960s and the 1970s was the period of Stockausen's emotional and artistic crisis, time of his greatest doubts (Pasiecznik 2011: 40). After a premiere of a piece titled *Kurzwellen* – a process composition in which radios are used as musical instruments – Stockhausen was waiting for his wife Mary Bauermeister and their children to come from the USA to their home in Kürten. But Bauermeister sent him a letter in which she explained that their marriage had come to an end and that she wanted a divorce. She was over his numerous and visible love affairs. Stockhausen was trying to convince her to come back together, but it was in vain, so he decided to change her mind differently. He started a hunger strike and even tried to commit suicide. As Pasiecznik wrote (2011: 40): "For Bauermeister Stockhausen's suicidal threats were only an attempt to put her under pressure, a kind of an emotional blackmail because of anger and fear of her decisive objection".

While fasting Stockhausen was asking himself: who am I? What are my life goals? One day he found a book by Satprem about Sri Aurobindo titled *Sri Aurobindo, or The Adventure of Consciousnes*[2]. It was on the composer's bookshelf for quite some time completely untouched. The book was given to Stockhausen by a young woman in California after a seminar. As the composer mentioned (Kurtz 1992: 160):

> "On the second day of waiting – I had absolutely resolved not to go on living... In my bookcase I discovered an old, out-of-print book. It was Satprem's book about Sri Aurobindo. A girl had given it to me one day during a seminar in California. I had never read it but I brought it back home with me. I found that what I was reading was in extraordinary accord with the feelings about life and the spiritual mood that was in me at that moment."

Sri Aurobindo (1872–1950) was an Indian yogi, philosopher and poet. He thought that above mind, which is the highest thing that the evolution reached by now, there is supermind, eternal the Truth-Consciousness that "is in its nature the self-aware and self-determining light and power of a Divine Knowledge"[3]. Only because of supermind can one become better, but "It is possible by opening to a greater divine consciousness to rise to this power of light and bliss, discover one's true self, remain in constant union with the Divine and bring down the supramental Force for the transformation of mind and life and body"[4].

The aforementioned philosophical texts were a godsend that healed Stockhausen's soul. The author of the composer's biography, Michael Kurtz, claims that the situation described above was an impulse for purification. As he wrote (Kurtz, online): "Coming at a crisis point, it [the book with the texts on Sri Aurobindo] was the impulse for a catharsis that immediately generated new music"[5].

Readings and fasting were the starting point for Stockhausen's writing. The short poems became later a content of a score *Aus den sieben Tagen* (*From the seven days*). The piece opened a new chapter in the composer's life – personal as well as professional one. The score consists of 15 text-compositions in which no musical note was written.

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1 Sri Aurobindo, *Thoughts and Glimpses*, text available on: http://intyoga.online.fr/tg.htm

2 Published in French as: Satprem, *Sri Aurobindo ou L'aventure de la conscience*, Paris 1964. English translation: Satprem, *Sri Aurobindo, or The Adventure of Consciousnes*, New Delhi 1964, text available on: https://www.aurobindo.ru/workings/satprem/adventure_of_consciousness_e.htm.

3 A Life Sketch, [online] http://www.sriaurobindoashram.org/ashram/sriauro/life_sketch.php.

4 Ibidem.

5 Michael Kurtz, *Stockhausen: Life and work.* Quotation after: *Stockhausen Edition No. 14 (Aus den sieben Tagen)*, [online] http://www.sonoloco.com/rev/stockhausen/14.html.

The first performances of the piece took place on 25 November 1968, when the group Arts Laboratory Ensemble played parts *Es* and *Verbindung*. Less than a month later, on 15 December 1968, *Stockhausen Group* played *Es* in Brussels. Next year, Stockhausen recorded the piece (excluding the part *Oben und Unten*)[6].

2. Intuitive music *versus* improvisation

One of the most important questions is: what is understood by Stockhausen under the term "intuitive music"? The composer claimed that it is not equal to the improvisation both in jazz (even free jazz) and Eastern music, because a musician uses some scales, certain style and there are specified rules how to conduct voices in the piece. He said (Stockhausen 1972: online): "In Intuitive Music, I try to get away from anything that has established itself as musical style. In improvised music, there is always, as history has shown, some basic element – rhythmic, or melodic or harmonic – on which the improvisation is based".

Stockhausen claimed that even in free jazz, in order to call it jazz, musicians are recalling certain style of music. The very first symptom of it is the setting, which is associated with a typical jazz band that consists of saxophones, piano, drums, double-bass, etc. Intuitive music is not also similar to what we can experience in Eastern Music. In his lectures, Stockhausen gave an example of music from India, where, in order to play a piece, a musician has to work hard under the supervision of the master – the person that is teaching him (or her) how to use the instrument, how to produce a sound, which scales to use, how to develop rhythm, form and many more. There are many rules that one has to follow to produce just a single note. This, according to Stockhausen, is narrowing the possibilities that one can have.

Intuitive music is based on freedom. But it also cannot be called totally aleatoric as it sometimes is (see Jarzębska 2005). The composer gave many details which sound should be produced. The idea is to spontaneously create the piece according to the score which is just a kind of source of mental preparation for a performer. This new music genre is based on a spiritual connection between members of the performing group. Texts just help them to meditate and get to a certain level of consciousness.

It is also not true that the intuitive period in Stockhausen's output was something that happened unexpectedly, that music from this period is something odd compared to other of his works before and after. In fact since the beginning of his career, Stockhausen was experimenting, improvising on piano and each action was bringing him closer to intuitive music. We can see first symptoms of a new genre in his idea of process music and analyse intuitive music as one of this genre. For example, just a year before *Aus den sieben Tagen*, Stockhausen composed *Prozession* in which musicians had to react to what others are playing according to signs "+" (higher, faster, louder, etc.), "–" and "=". Then he created *Kurzwellen*, in which the idea of guiding the musicians by signs "+", "–" and "=" was the same, but the performers had to react to short wave radios.

The composer was aware that in fact a new generation of musicians has to be born in order to be able to understand this new kind of music and play it. He faced some problems when he wanted to perform *Aus den Sieben Tagen*. A couple of performers thought that writing poems cannot be called composing, there were also people not open to new kind of musical experience.

3. The structure and setting of *Aus den Sieben Tagen*

Aus den sieben Tagen was composed between 7 and 11 May 1968, most of the movements were written on 8 May. Each part has its own title and sometimes more precise information about the setting (see Table 1). There is no information that one should perform movements only together, so performers can choose from them freely.

The exact setting of the piece is also not mentioned. In the score we can find that, for instance, *Unbegrenzt* is "For ensemble" and *Litanei* for a solo performer. However, Stockhausen said in an interview during his seminars in London in 1972 that it is best to perform this piece in small groups. As he said (Stockhausen 1972: online): "The best number is 4 or 5. Even with 6, in my opinion, one needs a lot of self-discipline to stop playing for relatively long periods of time during the performance, and to know exactly when the right moment has come, so that also solos and duos and trios occur – not just sextets all the time".

Stockhausen found out that the setting can be the very first symptom of a style of music. Maybe this is the reason that during the recording of *Aus den sieben Tagen* that took place between 1969 and 1972, he was experimenting with different ensembles and, himself, with rather odd instruments. He played, for instance, on siren-whistle, short wave receiver and cardboard box with sand and pebbles (see Table 2). There are also many exotic instruments used like Japanese rins and bamboo flute or Indian sitar and tabla. "Usage … helps to get away … as well as expands the sound possibilities".

[6] Stockhausen Edition No. 14 (*Aus den sieben Tagen*), recorded in 1969 and 1972, released in 1993 by Stockhausen Verlag.

Table 1. The structure of *Aus den Sieben Tagen*

Title in German	**Translation**	**Date of creation**	**Setting**
Richtige Dauern	*Right Durations*	7 May	For circa 4 players
Unbegrenzt	*Unlimited*	8 May	For ensemble
Verbindung	*Connection*	8 May	For ensemble
Treffpunkt	*Meeting Point*	8 May	For ensemble
Nachtmusik	*Night music*	8 May	For ensemble
Abwärts	*Downwards*	8 May	For ensemble
Aufwärts	*Upwards*	8 May	For ensemble
Oben und Unten	*Above and under*	9 May	Theatre piece
Intensität	*Intensity*	9 May	For ensemble
Setz die Segel zur Sonne	*Set Sail for the Sun*	9 May	For ensemble
Kommunion	*Communion*	9 May	For ensemble, at first for 3, then 4, 5, 6, 7 players, singers
Litanei	*Litany*	10 May	To the player
Es	*It*	10 May	For ensemble
Goldstaub	*Golden dust*	10 May	For small ensemble
Ankunft	*Arrival*	11 May	For any number of musicians

Table 2. Musicians and instruments used in recordings of *Aus den sieben Tagen*. "Exotic" instruments are in italics, musical objects – in bold

Title of the part of *Aus den sieben Tagen*	**Instruments used**
Richtige Dauern	Piano, Hammond organ, percussion, trombone, double-bass, voice, *bamboo flute*
Unbegrenzt	Piano, percussion, viola with contact microphone and filter, trombone, double-bass, clarinet, bass clarinet, tenor saxophone, voice, 2 rins, siren-whistle, **short wave receiver**, filter and 2 potentiometers for viola
Verbindung	Tam-tam and percussion with microphone and filter, electronium, double bass, *tabla*, *Indian bells*, percussion, viola with contact microphone and filter, piano, 2 filters and 4 potentiometers for viola and tam-tam
Treffpunkt	Piano, tam-tam with microphone, *bamboo flute*, trombone, piano, tenor saxophone, clarinet, glissando flute, **short-wave receiver**, filter and 2 potentiometers for tam-tam
Nachtmusik	Tam-tam with microphone, flexatone, *guero*, *jaw's harp*, electronium, double bass, percussion, viola with contact microphone and filter, piano, **short-wave receiver**, cuckoo flute, 2 filters and 4 potentiometers for viola and tam-tam
Abwärts	Tam-tam with microphone, percussion, piano, trombone, piano, cuckoo flute, *bamboo flute*, **short-wave receiver**, **glass with stones**, **cardboard box with sand and pebbles**, 1 filter and 2 potentiometers for tam-tam
Aufwärts	Tam-tam, claves, viola with contact microphone and filter, trombone, piano, filters and potentiometers for viola and tam-tam, **short-wave receiver**, *2 rins*
Intensität	Piano, percussion, viola with contact microphone and filter, tam-tam with microphone and filter, saxophone, clarinet, bass clarinet, flute, **hammer**, **nails**, **block of wood**, **sand-paper**, **rasp**, **file**, **4 car horns**, siren-whistle, 2 filters for viola and tam-tam
Setz die Segel zur Sonne	Tam-tam with microphone, piano, electronium, percussion, viola with contact microphone and filter, trombone, double-bass, clarinet (E-flat), clarinet, basset-horn, tenor saxophone, *taragod*, 2 filters and 4 potentiometers for viola and tam-tam
Kommunion	Tam-tam and percussion with microphone and filter, Hammond organ, piano, viola with contact microphone and filter, double bass, trombone, saxophone, flute, clarinet, voice, short wave receiver, **glass with stones**, 2 filters and 4 potentiometers for tam-tam and viola
Es 1st version	Piano, percussion, trombone, double-bass, saxophone, flute, clarinet, voice, siren-whistle, **short-wave radio**
Es 2nd version	Tam-tam and percussion with microphone and filter, electronium, viola with contact microphone and filter, piano, filters and potentiometers for tam-tam and viola, voice
Goldstaub	Electrohord, *keisu*, *rin*, voice, *sitar*, **saucepan partly filled with water**, 2 little bells and ship's bell, voice, conch shell, large cowbell, *14 rins*, **jug and bowl of water**, Kandy drum, ring of bells, voice, hands, recorder

4. Rational *versus* intuitional

Although it seems that *Aus den sieben Tagen* is an example for total indeterminacy in music, it is not quite true. There are many fragments of the pieces in which one needs to play exact rhythms. Mostly the performer has to have kind of self-confidence and belief in what he or she is doing. Since this is a piece that is created "here and now" by a group, it is crucial to have an ability to listen carefully to others and react to what they do. In *Richtige Dauern* one has to play and stop when he or she feels it should be stopped. In *Intensität* it is required to play a single sound until a musician feels the warmth in the whole body. Similarly, in *Setz die Segel zur Sonne* one has to play a tone and focus on its harmonics, then listen to other players and their tones, blend with them and come back to his/her tone. The idea is to create complete harmony "and the whole sound turns to gold/to pure, gently shimmering fire" as it is written in the text. Also in *Treffpunkt* musicians should "meet" in one tone. There are several movements of *Aus den sieben Tagen* that they seem to be very similar. Stockhausen asked to play in a rhythm of some vibrations, then to mix them together (*Verbindung*, *Nachtmusik*, *Abwärst, Aufwärst* and *Kommunion*). For example, in *Verbindung* there are vibrations of the body, heart, breathing, thinking, intuition, enlightenment and universe mentioned. Playing these rhythms requires a lot of consciousness and imagination. It seems to be something both rational and intuitive.

4.1. Experiencing *Aus den Sieben Tagen* as a Listener

Every performance of *Aus den sieben Tagen* as a very intimate time that one has to experience while being with musicians and being connected to them. Therefore, the author of this study does not recommend listening to the recording of the piece, because this kind of music is created here and now. Taking part in a concert can help to experience each sound with no certainty what will happen. By listening to the recording one assumes that the performance already took place, that the music on the CD is yet gone. Also one can perceive this piece as a total chaos. Intuitive music is very organic one – the music is being born, it lives and dies when it is finished. Although, one can have such an experience while taking part in any performance, there is one barrier. Because of the knowledge of styles, forms, genres and so on we somehow are not surprised by what is happening in the music now and we have some expectations on what will happen. Thanks to intuitive music one can get to the stage of deep or focused listening, which is listening with curiosity and with no certain expectations, letting the music be a guide and forgetting the time. Experiencing the piece in this way helps to understand the intuitive processes that are taking place on stage at the very moment that one listens.

4.2. Being a Player

At a concert at the Karol Lipiński Music Academy in Wrocław on 23 November 2013 a performance of *Aus den sieben Tagen* took place. It was during a festival called StArtFest that was organized by two students – Agata Chojnacka (née Kniaź) and Monika Wasilewska. The group of performers was diverse – there was a composer, a student of secondary school, musician and three theoreticians. Three pieces were performed – *Richtige Dauern*, *Treffpunkt* and *Verbindung*. The instruments used during the performance were: violin, viola, cello, double bass, accordion and electric guitar. The group was formed just for this occasion and there were no rehearsals nor had the group ever played together before. Some people from the group were not even playing their instruments for some time, but all wanted to experiment. The author of the study decided to play viola as she saw this instrument allows using more interesting effects than on violin. The experience of playing this piece was for the author something very new because of feeling connected to the people that were around and amazing freedom that one can express themselves the way they want mixed with remembering nothing from the performance.

Similar experience had a composer Johan Boberg who wrote an article about his experience of playing *Goldstaub*[7]. The text of this piece is as follows:

"Live completely alone for four days
without food
in complete silence, without much movement
Sleep as little as necessary
Think as little as possible

After four days, late at night
without conversation beforehand
play single sounds
WITHOUT THINKING which you are playing

Close your eyes
Just listen"

[7] The text of this composition is quoted after Johan Boberg: http://www.sonoloco.com/rev/stockhausen/goldstaubaccount.html

With his friend Fredrik Högberg Boberg decided to try playing the piece in 1990. They remained separated for four days in one of the small houses that their school was using for ensemble playing. They informed everyone about the experiment, so that no one would disturb them. They even were wearing earplugs all the time. After four days they met in a room and started playing. Boberg wrote (Boberg, online):

> "We took our positions, concentrated and started to play. I do not remember anything from that. It is like a black hole. I remember having the feeling that we didn't play very long, but I really don't know how long. Perhaps this was the only time during these four days that I actually didn't think at all. … GOLDSTAUB is for me a turning point in life that a great deal of my musical thinking is derived from. It is difficult to say exactly how, but I believe that GOLDSTAUB changed my life."

What is the key to experience playing *Aus den sieben Tagen* in the way Stockhausen wanted that means – playing without thinking, without feeling the time passing by, with intuition turned on? Maybe it is because of curiosity, openness, group of people to play with – one has to answer after their own experiments.

4.3. Using of *Aus den Sieben Tagen* in educating

The author of the study used this piece with her music therapy students[8]. They were asked to bring with them instruments that will help them to express them the most freely. After an introduction of what is the idea of intuitive music and the history of the creation of *Aus den Sieben Tagen*, two fragments were chosen and read loudly by one of the students. Then the light went off, so they had some time to think and prepare to play. It is worth noting that all of the music therapy students are using improvisation during their studies – while working with patients and at lessons at the academy, but at the same time most of them do not listen to new music, nor like it. For all of them playing intuitive music was something new. During the performance of *Treffpunkt*, two of them, without any agreement made before chose the same pitch to start with and did it at the same time. After the performance, they said it is very hard to get rid of harmonic and melodic thinking in order to blend with others and create harmony that they are used to. Students found out that the personalities of people playing as well as the general feeling of the group can be shown by intuitive music and affect the performance. They claimed that there are many factors that can change the performance – usage of light in the room or lack of it, the day, weather, feeling of doing something new and quite challenging were what they said that influenced them. The author sees that the more a group is opened to new music and new experiences in general, the better it can concentrate and really play the piece how Stockhausen wanted. The author, on the contrary, because of the role of a teacher had to become a kind of a guide. Therefore she had to start making music to break the silence and inspire students to use their intuition and take musical actions. Starting to play became a much rationalised action in order to help students to experience freedom of intuitive playing.

5. Was there the end of intuitive music? Similarities to other genres and contemporary approach to intuitive music

The aforementioned piece is rather hard to define or to be labelled. Is it a kind of musical theatre, maybe a performance or ritual on the stage? It can be a vocal piece as well as an instrumental one. *Aus den sieben Tagen* is not an only attempt of intuitive music. Between 1968 and 1970 Stockhausen wrote another set of text-compositions entitled *Für kommende Zeiten*. This kind of approach to musical material was helpful for the composer for years. Since 1980, Stockhausen's son Markus has been giving intuitive music concerts and workshops.

In 1990, the term intuitive music was used in rock music. Its definition was not so similar to what Stockhausen had in his mind, as it is understood as a kind of psychedelic rock, as Jim DeRogatis writes: "It's simply an approach to the recording studio as a tool to transport yourself and the listener some place else – some place strange and magical" (de Rogatis, online). As the representatives of this rock genre can be seen such groups as: *Velvet Underground, La Bradford, Flying Saucer Attack, Jessamine, Cul de Sac, Microstoria* czy *Windy* & *Carl*. A member of a group *Microstoria* said:

> "Our idea is to ask the listener to take a step 'inside' the music. It's not like we build a soundscape that we put down in your home; the music itself is the architecture. It is meant to be three-dimensional, so that you discover a sound behind the sound" (de Rogatis, online).

Also in 2002 a band called *Intuitive Music Orchestra* came into being. Musicians from this ensemble are giving concerts and recording CD without previous rehearsals together. They use diverse instruments, among which there are: french horn, saxophones, flutes, gongs, didgeridoo, percussion instruments, vocals and rubap.

[8] Twice – in 2016 and 2017. The more recent experience will be described in the study above.

We can also see some similarities to, for instance, Chinese music, where, according to the legend, in order to produce real music that was united with nature a musician had to understand processes and emotions within him (Sachs 1943: 106–107). Also thinking of a sound as something endless, thinking of no space or time is present in Eastern philosophy.

6. Conclusions

Rudolf Frisius said that: "Stockhausen has been continually proving his readiness and power to break free from what was known and to risk [doing – KB] something totally new" (Frisius 2010: 192–211). *Aus den sieben Tagen* is a very interesting and controversial piece, through which we can see that Stockhausen was not afraid of challenges and experiments.

The uniqueness of Stockhausen's intuitive music comes from a lot of freedom and a possibility to use imagination. Intuitive music sets musicians free from what they learned, from clichés. It helps to express oneself. At the same time the boundary between improvised and intuitive music still seems blurry. It is hard to get rid of all the rules, as sometimes playing according to them can be intuitive, therefore to break with them one has to rationalise what he or she is doing. Also being a kind of a guide to other performers, especially when being a teacher, seems to require only rational actions that concern when to start playing, which pitch to play, in order to give a comfortable space for others to perform totally freely. While performing, there are many factors that could make the actions of a performer rationalised – a feeling of doing something odd, being closed to new experiences, feeling not connected or distant to other instrumentalists, etc.

However, "Aus den sieben Tagen" is a very unique piece that is kind of Stockhausen's diary. The poetic texts are witnesses to what happened in his life and also his own music therapy. There is no place for coincident in this music, there is just consciousness. What Stockhausen really did can be described by the same words that Satprem wrote about Sri Aurobindo:

> "The age of adventures is over. Even if we reach the seventh galaxy, we will go there helmeted and mechanized, and it will not change a thing for us; we will find ourselves exactly as we are now: helpless children in the face of death, living beings who are not too sure how they live, why they are alive, or where they are going. … Sri Aurobindo leads us to a twofold discovery, which we so urgently need if we want to find an intelligible meaning to the suffocating chaos we live in, as well as a key for transforming our world. By following him step by step in his prodigious exploration, we are led to the most important discovery of all times, to the threshold of the Great Secret that is to change the face of this world, namely, that *consciousness is power*" (Satprem, online).

References

A Life Sketch, [online] http://www.sriaurobindoashram.org/ashram/sriauro/life_sketch.php.

Boberg, Johan. Through the Eye of the Golden Needle. Personal experiences of Stockhausen's GOLDSTAUB by Johan Boberg, [online] http://www.sonoloco.com/rev/stockhausen/goldstaubaccount.html.

De Rogatis, Jim. An Essential Overview of Intuitive Music, [online] http://www.jimdero.com/OtherWritings/Other%20Intuitive.htm.

Frisius, Rudolf. Muzyczne paradoksy i rozbieżności w twórczości Karlheinza Stockhausena [Musical paradoxes and disperancies in Karlheinz Stockhausen's output], [in:] *Nowa muzyka niemiecka* [New German Music], Daniel Cichy (editor), Kraków 2010, p. 192–211.

Jarzębska, Alicja. *Spór o piękno muzyki. Wprowadzenie do kultury muzycznej XX wieku* [A Dispute about Beauty of Music. An Introduction to Music Culture of 20th Century], Wrocław 2004.

Pasiecznik, Monika. *Rytuał superformuły. Karlheinz Stockhausen: Licht. Die Sieben Tage der Woche*, [Ritual of Superformula. Karlheinz Stockhausen: *Licht. Die Sieben Tagen der Woche*], Warszawa 2011.

Popean, Mihail Ioan. *The Stillness of the Silend Sound: a Tantric Analysis of Karlheinz Stockhausen's Aus den Sieben Tagen*, a dissertation, Graduate College of Bowling Green State University, Bowling Green (Ohio) 2015.

Sachs, Carl. *The rise of music in the ancient world. East and West*, New York 1943.

Satprem, *Sri Aurobindo, or The Adventure of Consciousness*, [online] http://www.aurobindo.ru/workings/satprem/adventure_of_consciousness_e.htm.

Stockhausen Edition No. 14 (Aus den sieben Tagen), [online] http://www.sonoloco.com/rev/stockhausen/14.html.

Stockhausen, Karlheinz. Questions and answers about intuitive music after his lecture given on 15th February 1972 at the Institute of Contemporary Arts in London, a video, [online] https://www.youtube.com/watch?v=yq3rbK1f7Fc.

Małgorzata Kaniowska

Neoclassicism vs Sonorism: Selected Performance Issues in Edward Bogusławski's Selected Works for Chamber Orchestra

Abstract. The subjects of the article are four compositions by Edward Bogusławski *Concerto classico per archi*, *Concerto-Fantasia per contrabasso ed archi*, *Musica per archi* and *Canzoni d'amore per voce recitazione, soprano, batteria ed archi* in the context of their formal and interpretative analysis. The compositions for string orchestra take a special place in Bogusławski's work, as well as compositions for typical ensembles expanded by single instruments. Understanding the creative process of the composer allows a performer – a soloist or a conductor to offer a more complete, a more in-depth interpretation of the compositions in question. Intuitive search for the best solutions will be supported by a rational analysis of the textural and sound processes taking place in the work.

Keywords: Silesian composers, Edward Bogusławski, composition, chamber orchestra, sonorism, neoclassicism, interpretation.

1. Introduction

The interests of Professor Edward Bogusławski (1940–2003), an outstanding Silesian composer, fluctuated throughout his career around the issue of sound and texture. Bogusławski, who "in the 1960s was at the beginning of his creative path, could discover and soak up the exciting world of sound of Arnold Schönberg, György Ligeti, John Cage and other artists as an observer at the Warsaw Autumn festivals and during lectures at the State Higher School of Music in Katowice, taught by Jan Gawlas, the author of the handbook on contemporary composition techniques, Witold Szalonek, one of the greatest enthusiasts of modernity in Silesia and later the creator of combined tones, and Bolesław Szabelski who at the age of 62 made a shift in his work towards new musical currents. On the other hand, Szabelski, an experienced educator and composer whose domain of interest was symphonic music, sparked in his young student an admiration for the mastery of form construction and an extraordinarily sensitive artistic taste of the works of Johann Sebastian Bach, Johannes Brahms and Béla Bartók" (Anna Stachura-Bogusławska 2009: 22).

In the broad portfolio of compositions for a variety of performing ensembles left behind by Edward Bogusławski, string quintets are definitely in a minority. During the forty years of his creative career, he wrote just three compositions for string orchestra – *Concerto classico per archi* and *Musica per archi*. Another noteworthy piece is *Concerto-Fantasia per contrabasso e archi,* where both in the solo part and the orchestral fabric string instruments constitute the essence.

The first and last of these works, *Concerto classico per archi*, and *Concerto-Fantasia per contrabasso e archi,* were recorded on the album "Edward Bogusławski – dzieła wybrane" (Edward Bogusławski – Selected Works) released in 2004 by Polish Radio Katowice. It was performed by the Camerata Impuls Chamber Orchestra under the baton of Małgorzata Kaniowska and with Aleksander Gabryś on the double bass solo. Concerto classico was additionally recorded in 1999 as an archival recording for Radio Katowice, by the Silesian Chamber Orchestra under the baton of Mirosław Błaszczyk.

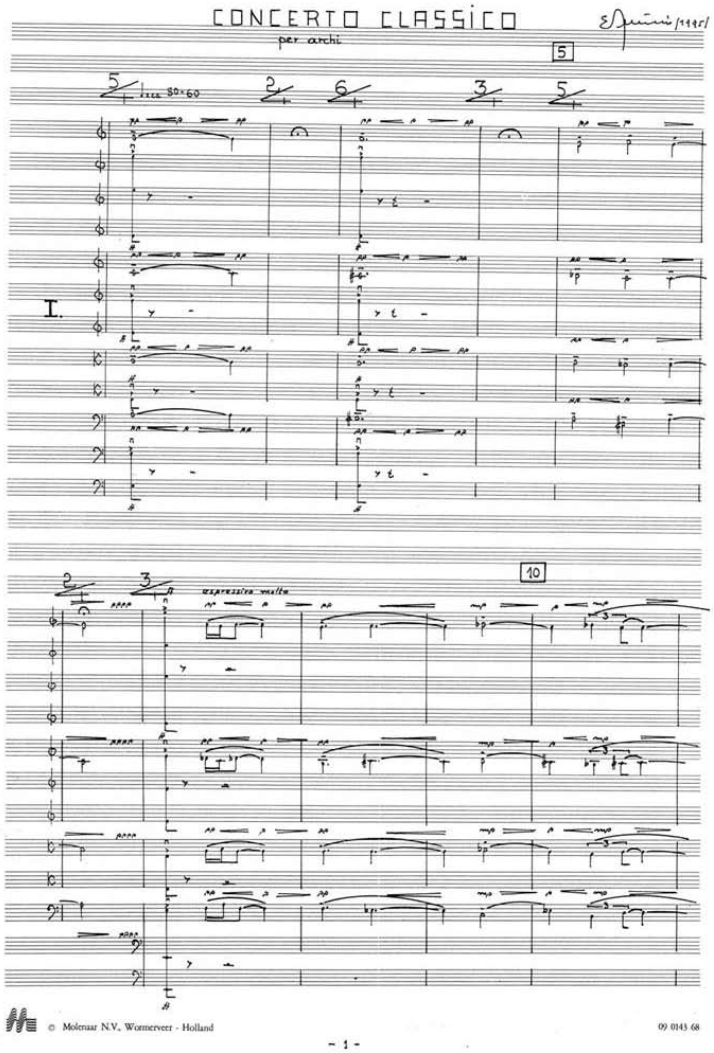
The two works are characterised by a similar string orchestra line-up, comprising four first violins, three second violins, two violas, two cellos, and one double bass. The prototype for this line-up was the Concerto Classico, a piece commissioned by Małgorzata Kaniowska and the Camerata Impuls Chamber Orchestra for its fifth anniversary. Interestingly, the score contains a note that it was composed in 1995, although the professor knew that the orchestra's jubilee fell in 1997. The contract was indeed signed at the end of 1995; whether the piece was actually composed that year, or whether Bogusławski was influenced by the number five in the anniversary date and recorded it also in the score as the year of composition remains a mystery. It also seems interesting that Camerata's actual jubilee year, 1997, was recorded on the score of Bogusławski's second composition for string orchestra, *Musica per archi*. These are the only string orchestra pieces in the composer's portfolio. Is it then just a coincidence, or did he erroneously switch the dates of composition of the two pieces? However, the date and place of the premiere of *Concerto classico* are indisputable. It took place in the Concert Hall of the Upper Silesian Museum in Bytom on 6 March 1997. At that time, Camerata's basic line-up comprised twelve musicians divided into the groups mentioned above and hence my (the conductor's) suggestion to limit the score (for mundane financial reasons) to such a line-up. As the composer himself admitted in the course of common discussions, this for him was an interesting challenge: on the one hand self-limitation resulting from the objective reality, and on the other, obtaining a rich, spatial sound of the strings, both in terms of timbre saturation and harmonic possibilities.

2. *Concerto classico per archi*

Concerto classico per archi comprises three movements. The external movements, where one can sense a greatly chimerical course of rhythm, on the one hand require an extraordinary performance precision in fast passages, and on the other hand, their lyrical fragments, which refer to the music material of the central movement, bring the listener to the dimension of different "temporality". As they intertwine in the course of the musical narration, the conductor needs to discipline the performers in terms of tempo, and at the same time has to be able to lead broad phrasing, in line with the rhythmically pulsating "time", imposed by the composer.

The middle movement is, in a way, "suspended outside of time"; the melodic lines of solo instruments led against the background of chord structures emerging from time to time pose for the conductor the task of temporally and spatially moulding the individual melodic and harmonic layers, and merging them into a whole that would be understandable for the audience. In the interpretation of this work, an extremely important role is played by silence – not only the moments of repose between the movements, which are of paramount importance for the process of binding the material of the work as a whole, but also the silence that appears during the development of individual movements. The entire composition is constituted around the silences-pauses of varying energy significance and of different functions. The essential role of the conductor is to interpret them accordingly, to skilfully draw out their meaning from the entire course of the musical narrative.

The importance of time and silence in the correct development of form and the sonoristic qualities of the work becomes clear as early as during the analysis of the introduction to the first movement of the Concerto Classico. A six-measure-long sequence that opens the work divides the phrase into three structures, of which the first two seem to be "wrapped" in silence, thanks to which their individual sound quality becomes very clear. It resembles gradual taming of sound emerging from "non-existence".



Example 1. *Concerto classico,* manuscript, p. 1

The third structure, centred on a string quartet solo, gradually gathers tensions, which the composer escalates by slowly increasing volume and, towards the end of the sequence by accumulating short, sharp chords and gradually thickening texture. The composer leads the music to a general pause, which is then in a way broken by a chord enhanced by another crescendo in the parts that join in to achieve full *tutti*, interrupted by delicate piano in the string quartet, only to return a moment later to very expressive *tutti fortissimo*. This prelude of an unusual expression leads to a strongly rhythmical passage of diversified metre. This "fluctuating" tempo, volatile texture, alternating *tutti* and solo in individual voices, which gradually build up or disappear, gives the quality of saturation to this mosaic of sounds shimmering with a peculiar colour.

The second movement brings to mind seemingly static, slow movements of Baroque concerti – solo parts that seem to spin off lazily against the homogenic sound of chords made up by the remaining parts; only a short middle episode recalls the violent emotions of the first movement. This is a perverse trick on the part of the composer who is aware that a break is needed after the expressive first movement, yet at the same time gradually builds tension in the listener awaiting the extremely energetic third movement, pulsating with rhythm.

3. *Musica per archi*

Musica per archi, the composition that won Second Prize at the Karol Szymanowski National Competition in Warsaw in 1997, is yet to have its premiere. Perhaps the reason for this is the extended size of the string quintet ensemble, comprising twelve first violins and twelve second violins, ten violas, as many cellos, and eight double basses. It is a one-movement piece, although the formal layout seems to be almost identical with the three-movement *Concerto classico*. It is not just the form that seems to be a carbon copy of the latter composition, but also the series of melodic motifs, rhythmic sequences, as well as harmony and texture solutions. *Musica per archi* seems to be a treasure trove of musical material, whose excess has been perfectly trimmed to create the *Concerto classico*.

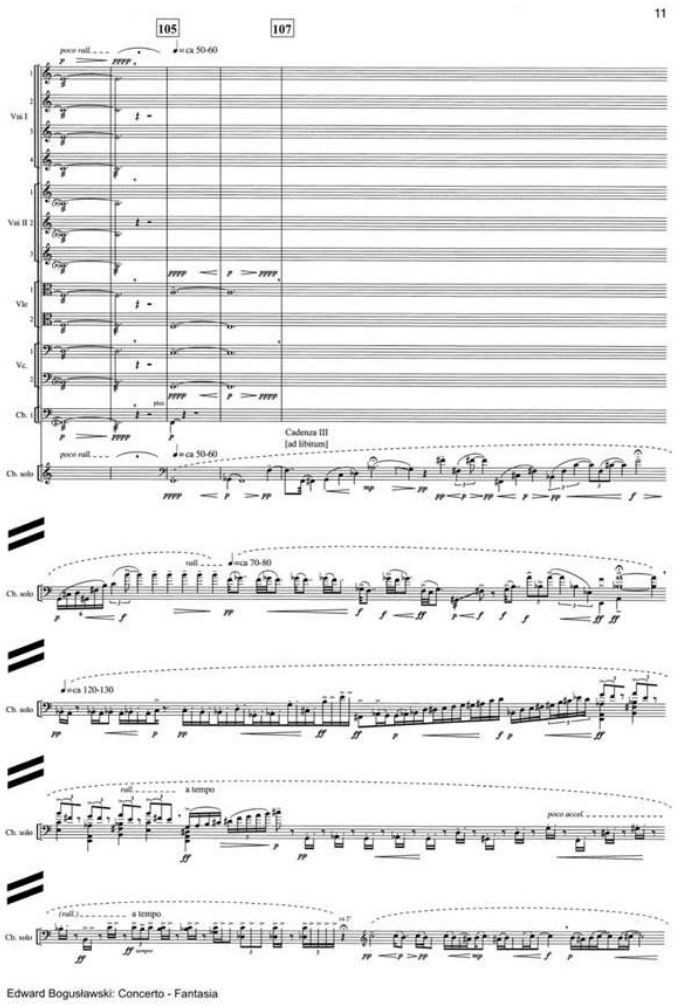
Recomposing his own material hardly seems to be an isolated phenomenon in the works of Edward Bogusławski, as in, for example, his *Pieśni Safony* (Sappho's Songs) for female reciting voice, flute, percussion, and two accordions, which many years later served as the foundation for composing his *Canzoni d'amore per voce recitazione, soprano, batteria e archi*. Such close links between *Musica per archi* and *Concerto classico* once again provoke the question which of these was created first, and whether the bold thesis about a mistake in dating both works is not, in fact, justified. This conclusion is supported also by the fact that the *Concerto-Fantasia per contrabasso e archi* was written just two years after Camerata's jubilee for the exact same line-up (apart from the double bass as a solo instrument) as *Concerto Classico*, and not *Musica per archi*, allegedly composed after the *Concerto*. Why was then *Musica per archi*, which doubled in a way the sound material of the *Concerto classico*, written for a much more "expensive" line-up, which could put its performances in question, if the twelve-person string orchestra worked well and was later frequently used by the composer? There seems to be just one answer – the switched dates on both scores.

4. *Concerto-Fantasia per contrabasso e archi*

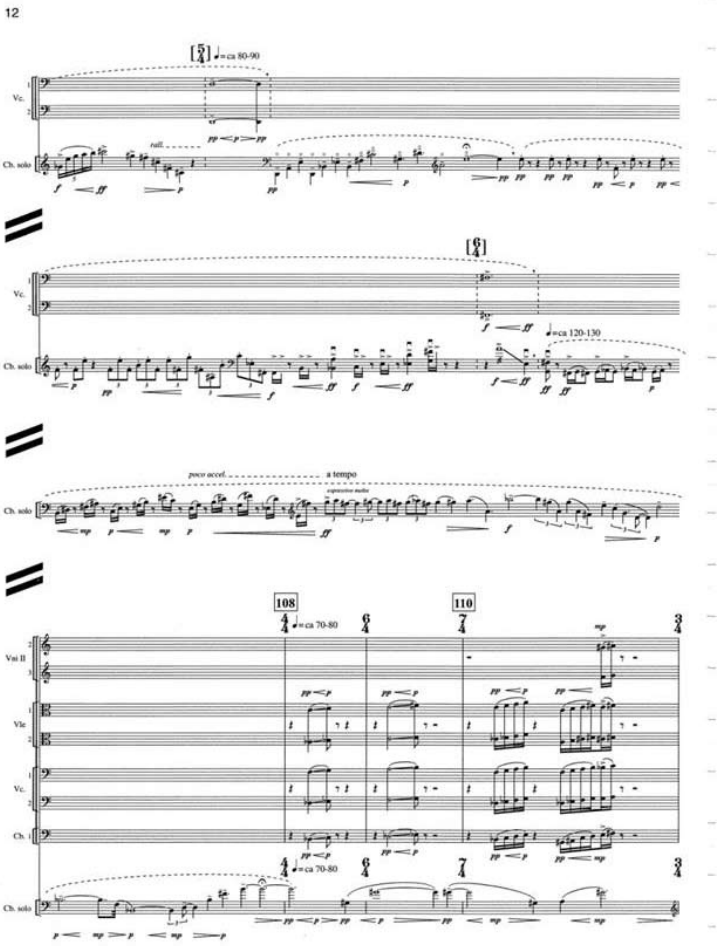
Concerto-Fantasia per contrabasso e archi was written in 1999. It was dedicated to the excellent double bass player Aleksander Gabryś, who performed the piece at its premiere in 2000 alongside the Silesian Chamber Orchestra conducted by Jacek Rogala, gracing the 9th Silesian Days of Contemporary Music Festival. He also performed the composition a year later with Camerata Impuls during the 83rd Silesian Composers' Tribune. Until this day, Gabryś had been the only artist to perform the solo part.

Concerto-Fantasia enchants with its succinct form, with three solo cadenzas at its core. It is around them that ensemble parts are built, with the double bass part sometimes blending in, and sometimes emerging to the surface of the orchestral fabric. The spectrum of timbre, expression and articulation of the double bass has been pushed to the limits of the instrument's design. This is due to the fact that the composer, when writing a piece for a specific artist, took into consideration the level of his double bass virtuosity, which, to anyone who has heard Aleksander play, seems to know no limits. The cadenzas mentioned above in which the composer tried to include the soloist's suggestions have often been performed by the artist during recitals as independent miniatures. This form of alternative presentation was approved by Edward Bogusławski. Here is what Aleksander Gabryś himself says about the cadenzas: "… while keeping his characteristic 'play' with motifs, the composer employed here double, and even triads, which resulted from the physical features of my hand, as I was the potential and then the actual first performer of the piece – we discovered these possibilities during rehearsals, which were always very interesting. Quite unconventional seem to be also the numerous

combinations with major seventh, also in a very low register. … Next to melodious harmonics-based phrases, there are also "wild" dynamic semiquaver motifs in the low register, and passages spanning the four octaves of the instrument. … The second cadenza is a natural expansion of the composing ideas included in the first cadenza, interlaced with 'pensiveness' and 'sigh' poetics. The culmination of this section is continued in a beautiful, intimate "ascent". In terms of interpretation, the most difficult moments for the double bass player appear in the third cadenza, where the earlier moods – contemplativo and feroce – clash in eight contrasting or resulting sequences …" (Iwona Bias, Monika Bieda, Anna Stachura 2005: 197–198).



Example 2. *Concerto-Fantasia*, III Cadenza, p. 11



Example 3. *Concerto-Fantasia*, III Cadenza, p. 12

The conductor is faced with the task of keeping the form coherent, and building tensions in orchestral "ritornellos", which correspond with the solo part based on the principles of co-operation and complement rather than competition. Despite frequent changes of tempo, the inner pulse of the entire composition is determined as a matter of fact by the initial pizzicato of the double bass, which fixes in the sphere of imagination both the pulse and, in the course of a short fragment, the harmonic centre of A minor, which serves as a starting point for the further "fancy" harmonic-melodic narration. Similar to *Concerto Classico*, *Concerto Fantasia* too uses a twelve-note chord – in its full or partial form – in various texture configurations. It is either lead from unison, by superimposing successive layers of instrumental parts and eventually reaching full orchestra, or in a reversed process of "fading away" by "subtracting" individual parts from *tutti*. The use of "micro-phrases" to form broader sound planes and emotional cantilenas, frequent changes of metre resulting from the musical

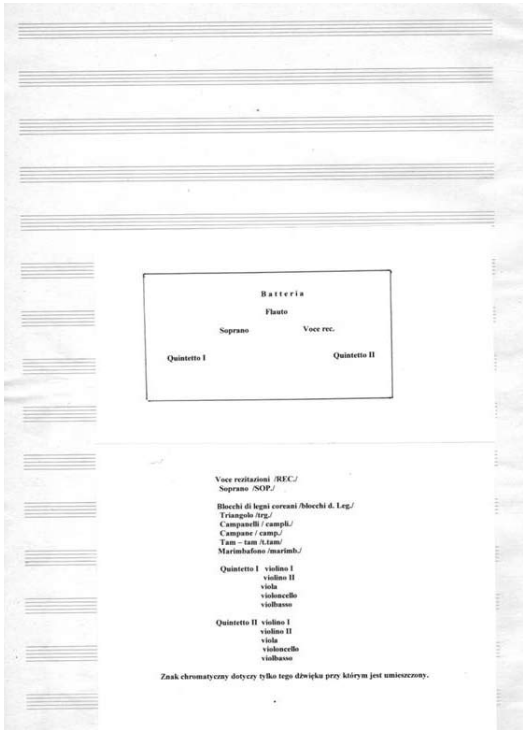
narration, synchronisation and precision of performance of the broken rhythmic motifs, which accumulate in the orchestra and as the result build a motor drive for solo parts – all these pose challenges for the conductor, who, while letting himself get carried away by the "energy" of the piece, must not forget about the structure of the form, which, contrary to the term "fantasia" used in the title, was very carefully "shaped" by the composer.

5. *Canzoni d'amore per voce recitazione, soprano, batteria e archi*

A different range of performing problems can be found in the *Canzoni d'amore per voce recitazione, soprano, batteria e archi*. It is a special composition, one of the last to be composed before the composer's death, and dated 2002/2003. The piece has its pre-source in *Pieśni Safony* (Sappho's Songs) for female reciting voice, flute, percussion and two accordions. During one of our meetings, Professor Bogusławski mentioned his plans of recomposing the piece, using a slightly modified ensemble. He asked then whether I would agree to premiere it. The final version of *Canzoni d'amore* was written for flute, percussion, two string quintets, reciting voice and soprano. Its premiere, scheduled for the autumn of 2003 to celebrate forty years of Edward Bogusławski's artistic work, did not take place, due to the unexpected and very painful loss caused by the professor's passing. *Canzoni d'amore* first saw the light of day in the form of a phonographic recording. Two years later, in 2006, it was premiered during the Silesian Composers' Tribune in the studio of Polish Radio Katowice with the participation of the Camerata Impuls Chamber Orchestra, a soprano – Ewa Biegas, a reciting voice – Magdalena Gołąb, and a flutist – Grażyna Jursza. The composer arranges the performers on the stage in an interesting way: the two string quintets face each other; behind them, as if in opposition, are the soprano and reciting voice, in the middle of the group is the rich instrumental set of percussion as well as the flute.

The stage arrangement poses a serious difficulty for the conductor in terms of balancing the sound of each group, so as to obtain sound space and, at the same time, maintain homogeneous colour of string instruments which conduct a dialogue between the individual parts of the two quintets. With such a stage arrangement, the instrumental parts have to be introduced with precision and special care, as in considerable sections of the score they are treated individually, both in terms of shaping melodic lines and rhythm, while fast, intermittent rhythmic motifs need to be synchronised with the ever-changing metre. The *ad libitum* section, short but important for the construction of the piece, highlights the importance of the recited text. Soon, however, the metric "bar" structure returns smoothly.

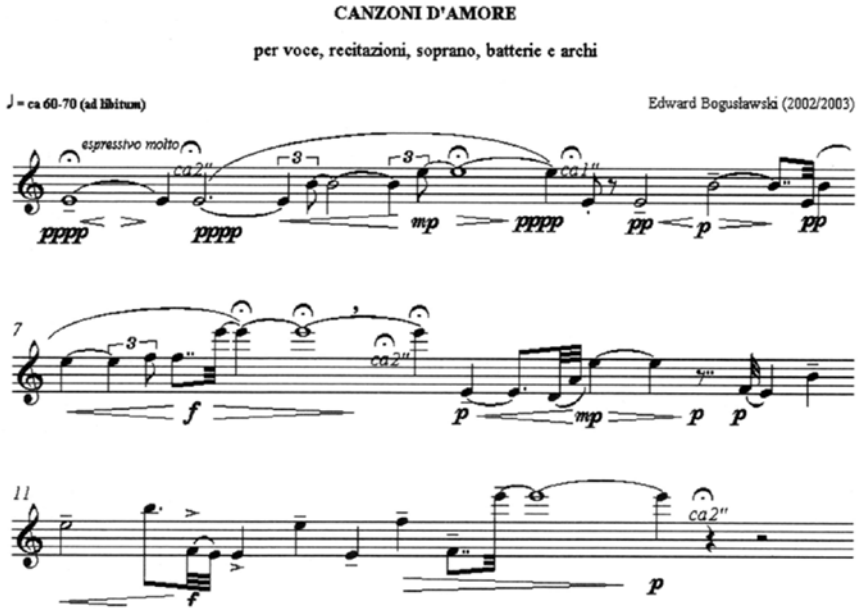
Leading individual parts, thickening or diluting them; a phenomenally beautiful cantilena of the soprano which appears in the form of a recitative as late as in bar No. 163 and is further developed against the orchestra for only 30 bars, but returns in the ending of the piece as a vocalise; a great sense of the timbre of percussion instruments, which complements the sound richness of the piece – thanks to all these features, the piece triggers experiences of a metaphysical kind. It is like a constant balancing act between the worlds of sound and silence. We see such precedence of time over shaping the melodic line in the flute part in the introductory section of the piece. Mutual time references of the melodic segments shaped around the "e" sound and the silence dividing them bring distant reminiscences of "liberating time" in Claude Debussy's *Prelude to the Afternoon of a Faun*.



Example 4. *Canzoni d'amore*, prelude to the score, manuscript

Despite determining the note values and the composer's suggestions regarding the tempo in metronomic terms, the sound sequences seem to run beyond time, which can hardly be determined with any unit of measurement (e.g. the beginning of the *Canzoni*). Time becomes a truly relative quality, while saturation of the silence with a stream of energy introduces the musical course into metaphysical dimensions, which Saint John of the Cross wrote about as "Music imbued with silence" (Saint John of the Cross 1998: 600). The atomisation of the parts (each instrument treated individually in relation to the melodic and rhythmic line), which mutually permeate and complete one another, creates

in a way multiple time dimensions, against which the recitation of Sappho's songs, introduced from time to time, seems to remain beyond any time category. The form of the work results from the text narration, music seems to be coupled with verbal expression, in a way becoming a musical version of an ancient Greek tragedy.



Example 5. *Canzoni d'amore*, p. 1

6. Concluding Remarks

In each of Bogusławski's compositions that I have had the privilege to work on quite striking was its hard-and-fast logic in terms of form shaping. Both in the sweeping cantilena, heavily saturated with emotion, as well as in the vividly rhythmical structures there is consistency and a calculated plan of the composer, who tied all the "microstructures" into a compact, harmonious whole. For performers, who are to "satisfy" the composer in their interpretation of his work, this is invaluable information, a clear guideline regarding the direction in which to develop the form, within which they can afford to deepen the emotional structure of the work. At the same time, the extraordinary sensitivity to timbre, the use of broad technical and sound capabilities of individual instruments and groups, allow us to claim that the sonoristic qualities were as important to the composer as the formal perfection of the composition. With regard to Edward Bogusławski's works for chamber orchestra, we can quote Steven Weinberg's words: "... it is beauty of simplicity and inevitability, the beauty of perfect structure, where all elements fit perfectly together and cannot be changed, the beauty of logical rigidity" (Weinberg 1994: 188).

References

Bias, Iwona; Bieda, Monika; Stachura, Stachura (2005). *Emocja utkana z dźwięku. Edward Bogusławski życie – dzieło* [Emotion Woven from the Sound. Edward Bogusławski: His Life and Work]. Częstochowa: Wydawnictwo Akademii im. Jana Długosza.

Św. Jan od Krzyża [St. John of the Cross] (1998). *Dzieła* [Works]. Cracow: Wydawnictwo Karmelitów Bosych.

Stachura-Bogusławska, Anna (2009). *Poszukiwanie własnego języka muzycznego. Dzieła wczesne Edwarda Bogusławskiego* [In Search of a Personal Musical Language. The Early Works of Edward Bogusławski]. *In: Prace Naukowe AJD w Częstochowie. Seria: Edukacja Muzyczna*, Vol. 4: 21–35.

Weinberg, Steven (1994). *Sen o teorii ostatecznej* [Dreams of a Final Theory: The Scientist's Search for the Ultimate Laws of Nature]. Warsaw: Wydawnictwo Alkazar.

Kalliopi Stigka

Georgios Bikos' Music World: When Intuition Meets Rationality

Abstract. Georgios Bikos (1967) is an unknown Greek contemporary composer. Composer, pianist, music teacher, sociologist, researcher and pedagogue are some of the expressions of the different facets of Bikos' personality. Influenced by classical music as well as by contemporary music movements, Bikos expresses his thoughts and feelings, among others, through his original compositions in which often *intuition meets rationality*. Songs, music for solo instruments, choral music, chamber music and music for theatre have been created by Bikos over the last thirty years. As we are convinced that Bikos' musical works are worth being known, in the frame of this paper, we wish, on the one hand, to present the unknown Greek composer and to expose his ideas about his sources of inspiration (poetry, politics etc.) and his creative principles through unedited private interviews, and on the other hand, to reveal the eventual meeting of *intuition with rationality* through specifically chosen musical extracts.

Keywords: Greek contemporary music, Georgios Bikos, songs, music for solo instruments, choral music, chamber music, music for theatre.

Introduction

Rationality or intuition: by definition, is it about an eternal opposition or about a probable intercomplementarity?

The first concept, is expressed in Greek by the term "Λογική" [Logiki] which has its roots in the ancient Greek verb "λέγω" [lego] meaning "I speak/I propose"; from that verb also comes the term "λ/Λόγος" [Logos]. The "λόγος" [logos] refers to the capacity of the human being to use the language; it refers to the speech (discourse), to the words (paroles), whereas the "Λόγος" [Logos] which is a synonym of "Λογική" [Logiki] (rationality), it refers to the capacity of the human being to formulate his thoughts rationally and with arguments and to formulate rational speech (Babiniotis 1998: 1023 and 1025; Academy of Athens 2014: 942).

The second concept is expressed in Greek by the term "διαίσθηση" [diaisthisi] and is issued by the ancient Greek verb "διαισθάνομαι" [diaisthanomai] which means having a presentiment, to perceive something independently of whether it is directly or immediately perceivable. That is to say, it is about the perception or the understanding without the contribution of the reason or of the sentiments (Babiniotis 1998: 487–488; Academy of Athens 2014: 424).

In Bikos' works, the "λόγος" [logos] (words/paroles) has a prominent position because, on the one hand, his first compositions were nothing else but the setting to music of poems which touched him in particular, and, on the other hand, because later he composes mainly for theatre. What intrigued our interest was to explore to what extent Bikos is setting to music the "λόγος" [logos] (speech) – poetic or theatrical – based on "Λόγος /Λογική" [Logos/Logiki] (rationality) or on "διαίσθηση" [diaisthisi] (intuition). Furthermore, it is also interesting to see whether his compositional process is based more on "intuition" or on "rationality" in the works where the "λόγος" [logos] is absent.

1. Short biography

Before considering the musical works by Bikos, we think it is necessary to present this unknown Greek composer.

Georgios Bikos, PhD, was born in Athens on 30 October 1967. His musical sensibility appeared during his early childhood and guided him to study the piano at the National Conservatory of Athens and to take his diploma in 1988. In the meantime, he discovered his hidden need to create music and he studied in parallel Harmony (diploma in 1988), Counterpoint (diploma in 1990), Fugue and Orchestration (diploma in 1993), and Composition. In parallel, until 1998, he was teaching piano and keyboards and in 1992 his book *A complete method to learn keyboards* was edited. However, his constantly increased sensibility and his profound humanism guided him to study Political Sciences, Public Administration and Public Politics at the University of Athens, Sociology at the Panteion University and Pedagogy at the SELETE (School of Pedagogues for Professional and Technological Education), and to take, in 2008, his PhD degree from the Department of Political Sciences and History of the Panteion University. He is Director of the 7th General Lyceum of Kallithea, Athens and he teaches as Associated Professor at the School of Pedagogical and Technological University (ASPAITE), at the Technological University of Athens, at the National and Kapodistrian University of Athens and at the Open Greek University.

As just mentioned, Bikos was born in the first year of the Greek military junta, he grew up during the military dictatorship which lasted seven awful years, from 1967 to 1974, and his adolescence came in the first years of the New Regime. The return to democracy and the end of the censorship (which was a usual phenomenon during the junta) provokes a big explosion of social life: the Greeks want to have fun and to enjoy freedom as well as artistic creation. During that time, all previously forbidden music (in particular Mikis Theodorakis' music) dominates in Greece and huge popular concerts are often organized. Side by side with Theodorakis, the composer Manos Hatzidakis continues to balance between the movement of the "art song" and the occidental classical music style. However, some years later, during the eighties, the "art song", and mainly the "political song", is not "in" anymore and its place is taken, on the one hand, by pop music stars revealed through the "new wave" music bands of the 70s and by new rock bands such as *Τερμίτες* [Termites] (main composer-singer: Lavrentis Mahairitsas) or *Τρύπες* [Trypes] (main composer-singer: Giannis Aggelakas) among others, and, on the other hand, by the "light popular song" called in Greek "*ελαφρολαϊκό*" [elafrolaïko], which mainly expresses lost loves and is characterized by a light easy poetic and musical style. In parallel, composers such as Giannis A. Papaioannou, Giorgos Sisilianos, Mihalis Adamis among others representing the "occidental contemporary music movements", dodecaphonism (twelve-tone technique) or atonality for example, create in particular symphonic works.

If we take into consideration the classical music studies of Bikos, we would expect that his musical works are closer to the works by these just mentioned "classical" Greek composers. But, that is not at all his case. As he always adored the "art song", Bikos' music style is completely tonal and his entry, during the nineties, to the "academic" milieu which was promoting the atonal music was just impossible. According to him, some of his young colleagues-composers were snubbing him but despite that, his work was approved by the music players and by the audience who were and still are present – we can confirm it – in his concerts.

However, only by focusing on his own words and on his musical works, it will we be able to understand and evaluate Bikos' intentions and his principles of music composing.

2. Novel catalogue[1]

Trying the very first classification of the musical works by Bikos, at the same time we cannot forget that he is also a very prolific author mainly of handbooks of teaching methods as well as of theatrical scripts and of libretti. We propose to distinguish two periods: the first one, that we will call "the works of youth", comprises the works composed between 1980 and 1994, and the second one, that we will call "the works of maturity", comprises the works composed between 1994 and 2017.

The first evaluation of the *Catalogue of Complete Music Works* by Bikos, presented as the Annex at the end of this article, shows us that during the First Period (even if we cannot ignore his first songs composed when he was about 14 years old and based on the poetry of important Greek and foreign poets by whom the composer was inspired), the majority of his works were for solo instruments (for pianoforte in fact) or for small ensembles of chamber music, as for example the *Αρχαιοελληνικό τελετουργικό* [Archaioelliniko teletourgiko] (Ancient Greek Ceremony), composed in 1990, for septet: for pianoforte, viola, cello, two guitars, flute and clarinet. As far as the Second Period is concerned, the "λόγος" dominates as Bikos composes mainly songs with an intensive theatricality and music for theatre which is his second passion.

Consequently, we are wondering which role of "logos" for Bikos when he composes is. Does the "logos" guide him to act rationally or intuitively?

3. Principles of Music Composing

Going back to the international musicological bibliography we find a plethora of studies regarding the procedure of the creation of a musical work. Is it about an intuitive or rational procedure? If we ignore the works of the so called "contemporary" music where the musical work is not restricted to the score, as this has been created by the composer, regardless of whether it is intuitive or rational procedure, but it is the result of the performer's interpretation each time (i.e. *In C* by Steve Reich etc.), the rest of the works are obviously the result of either an intuitive or rational procedure or the combination of the two.

In Bikos' case, as this current article constitutes the first and the only, for the time being, scientific approach of his unpublished, not recorded and little interpreted musical work, we cannot refer to other relevant bibliographic references except the private interviews he gave us between August and November 2017.

[1] We think it is worth noticing that this is the very first catalogue of the works of Georgios Bikos as well as that this article is the very first scientific presentation – publication about Bikos' music works and that is why all over this article there is not one scientific reference about him and or/his works.

According to his sayings, the musical work which consists of "the content" and "the form", is the outcome of as much an intuitive as rational procedure, as the former – "the content" – comes spontaneously as response to some external (i.e. poem reading) or internal (i.e. mood and mental disposition of the composer) stimulus, while the latter – "the form" – is the result of the process of the "data" of the content according to the "rules of harmony". Specifically, he mentions:

> "The constitutive elements of a musical work/of a musical composition are the Content and the Form. The Content concerns the Melody – motifs, sentences, themes which constitute the microstructure of the melody and the Harmony. The Form concerns the development of the themes and the parts which are formed, that is to say the macrostructure. The Content-the melody and the Harmony (as aesthetics) come out undoubtedly in a spontaneous way, it is the expression of sentiments, it is born intuitively; on the other hand, the Form is the result of Rational thoughts following among others the well-known to all of us 'harmony rules'. In other words, the initial conception of the musical idea is the result of inspiration, it is a spontaneous and instinctive procedure and gives birth to the melody and to the 'aesthetic' harmony. When from there on, 'aesthetic' harmony meets 'harmony rules', Intuition meets Rationality" (Stigka 2017).

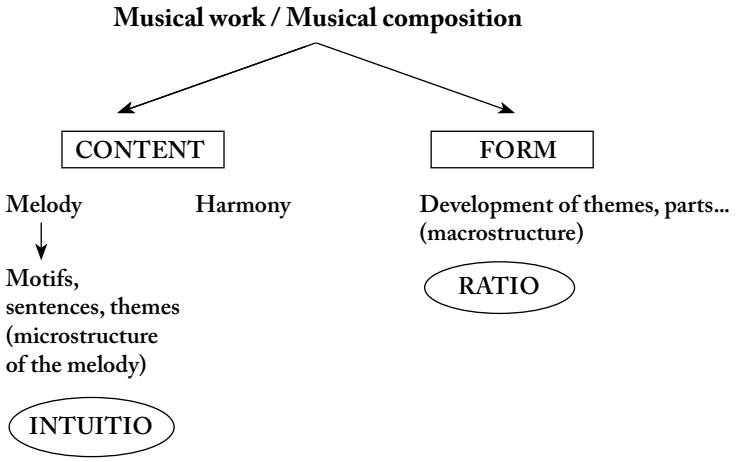


Figure 1. The Constitutive Elements of a musical work

Nevertheless, Bikos differentiates the procedure of composition depending on the genre of musical work. He considers that in the case of instrumental music, despite the fact that the basic melody is the result of intuitive procedure, rationality overrides intuition, as right from the beginning the composer knows the duration the work must have on the basis of which he chooses the musical genre or/and the musical form and of course the timbres (instruments).

More precisely, Bikos says:

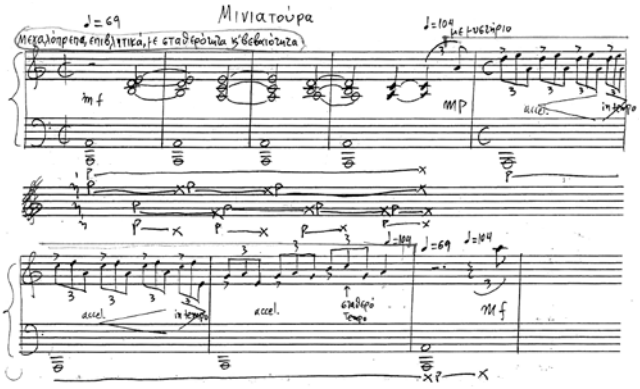
> "As far as instrumental music, which is self-referential or intro-referential, is concerned, firstly, I write the basic musical idea which is always the product of momentary inspiration, as a 'musical theme'. After that, I work on it in order to take its form; it's then that I will have an idea about the total duration of the piece, but usually, I know its duration even BEFORE I start to work on its form. Finally, I structure its development to the different instruments which will be used for its interpretation; in fact, I have already thought about the number and the kind of instruments that I will use. Besides, when I compose for instruments, I always think of their timbre (it is evident, that if the work is commissioned, I know its duration and the kind of instruments that I will use, even BEFORE I write its first theme).
>
> But there is also the case that I want to compose a work for only one solo instrument-protagonist (because I never compose for solo instrument, I did it only for solo pianoforte during my youth.) So, in that case, it is obvious that from the very first time of the conception of the musical theme, I 'listen' to it, consequently I write it, only for that specific solo instrument, always thinking about its tessiture and about the way that it interprets its different sounds" (Stigka 2017).

And he continues:

> "If we need to speak in sociological terms, we can say that 'melody is the base and the form is the edifice'; we have to deal with 'constructive logic'. Consequently, we cannot but confirm that the procedure of composing instrumental music is completely rational; it is proved through the structure of the piece, by the 'form' itself which is an indication of rationality" (Stigka 2017).

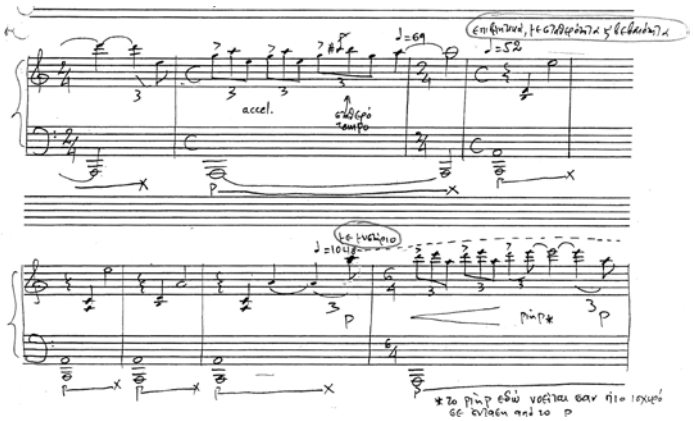
It is a fact that the analysis of some works by Bikos confirms his words.

In *Miniature*, the piece for pianoforte composed in 1994, the form is elementary constituted by one unique musical theme (m. 4–7) – undoubtedly it is the result of a spontaneous inspiration – which is repeated.

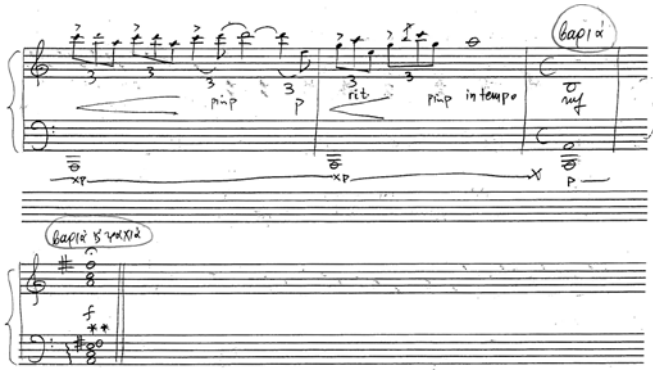


Extract 1. Bikos G., *Miniature*, 1994, © G. Bikos

However, it is worth underlining the performing indications mentioned by the composer on the score: *"majestically, imposingly, with stability and certainty/ with mystery/ seriously/ seriously and roughly"*.



Extract 2. Bikos G., *Miniature*, 1994, © G. Bikos



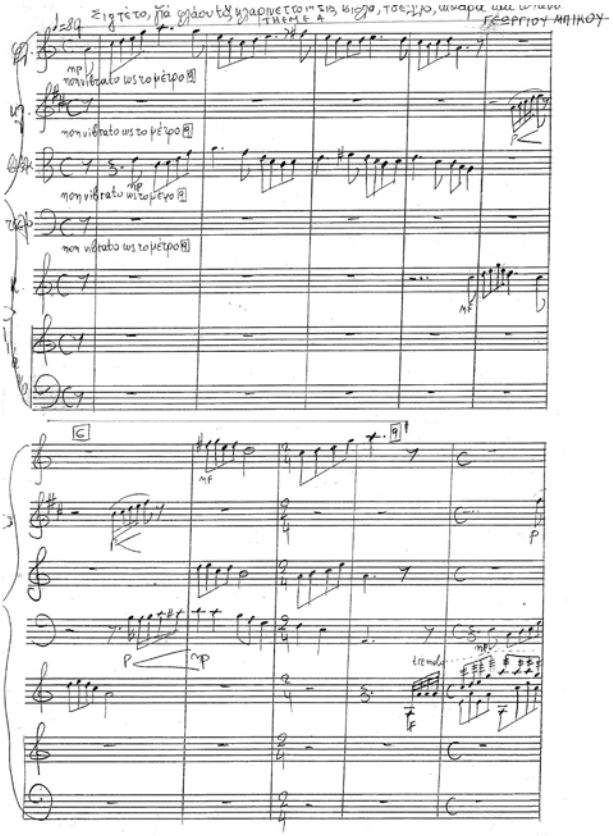
Extract 3. Bikos G., *Miniature*, 1994, © G. Bikos

These performing indications are original for such a simplistic composition. Thanks to these, though, Bikos managed to incorporate the whole *Miniature* into the music for the theatrical play *Στέλλα Βιολάντη* [Stella Violanti]. This three-act theatrical play which was written in 1901 by the renowned Greek writer Grigorios Xenopoulos, through Stella Violanti's love with a young man addresses the conflict between the father, who wants to impose his own way of thinking and the daughter, who wants to decide about her life herself. In the play, the authoritativeness of the paterfamilias is stigmatized, who, at the time, had the right of life and death over the other dependent members of his family.

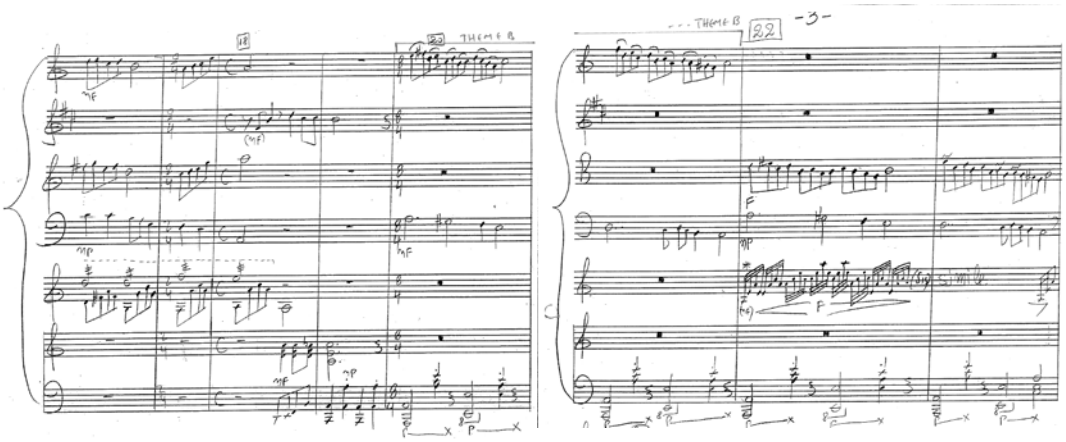
The *Miniature* was introduced to the music of the play as the "theme of the death and its advent". The aforementioned performing indications which are related to the figure of Caron and his approach, increase the sentiment of agony and expectation to the public (just like in the ancient Greek drama) testifying the composer's sensitivity to the theatrical text and proving the important semantic role of music to the theatrical work. In that case, it is obvious that the composing procession is totally rational.

As far as Chamber Music pieces are concerned, their structure seems more complicated, as for instance of *Αρχαιοελληνικό τελετουργικό* [Archaioelliniko teletourgiko] (Ancient Greek Ceremony) of Period I and of *Scherzo for flute, clarinet in Si♭ and piano* of Period II.

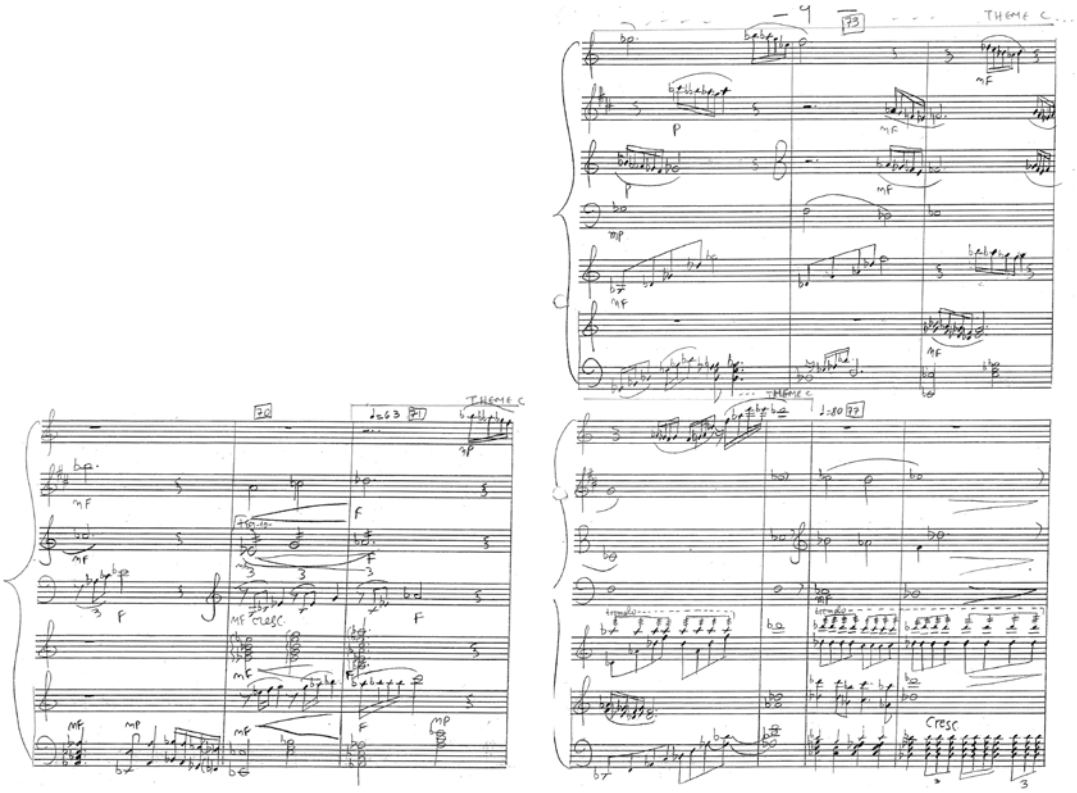
The first one, *Ancient Greek Ceremony,* which is the first piece of Chamber Music by Bikos, is a sextet for flute, clarinet in si♭, viola, cello, guitar, and pianoforte, composed also in 1990 and its duration is about 4:30 minutes. Its structure is based on three themes A / B / C (m. 1–9 / m. 20–21 / 71–76) which reappears rhythmically and tonally varied.



Extract 4. Bikos G., *Greek Ancient Ceremony*, 1990, © G. Bikos



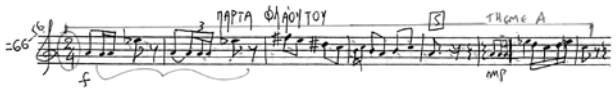
Extract 5. Bikos G., *Greek Ancient Ceremony*, 1990, © G. Bikos



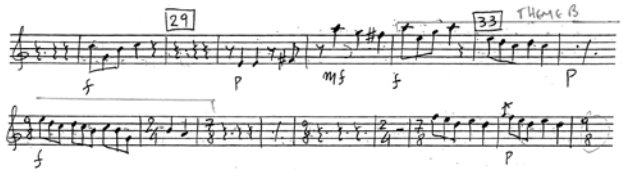
Extract 6. Bikos G., *Greek Ancient Ceremony*, 1990, © G. Bikos

It is particularly interesting that the piece starts in a modal way (Theme A) referring in that way to the ancient Greek modes and it ends in a jazz style (Theme C), proving that way the assimilation by the composer of the musical elements issued both by the tradition of his homeland and by the 'music à la mode' at the time of the conception of this work which influenced him equally.

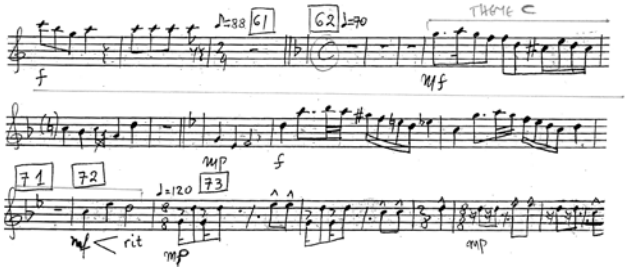
The second one, the *Scherzo for flute, clarinet in Si♭ and pianoforte*, composed in 1996, lasts about 11–13 minutes. The use of different rhythms (as 2/4, 7/8, 8/8, 4/4 or 9/8) all over the piece is especially interesting. Its structure does not look like the 'usual structure' of occidental classical music pieces, but it comprises several different musical themes which constitute small parts. The first three of them (A / B / C: m. 1–8 / m. 32–35 / m. 65–72) are the most important and original.



Extract 7. Bikos G., *Scherzo for flute, clarinet in Si♭ and pianoforte* (flute part), 1996, © G. Bikos

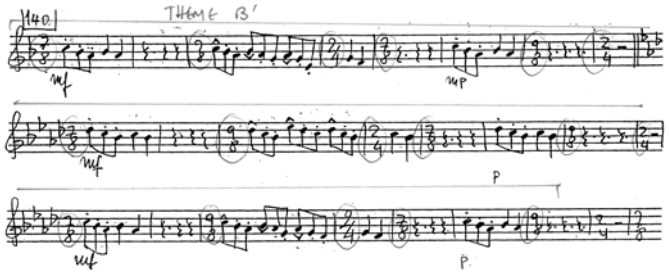


Extract 8. Bikos G., *Scherzo for flute, clarinet in Si♭ and pianoforte* (flute part), 1996, © G. Bikos



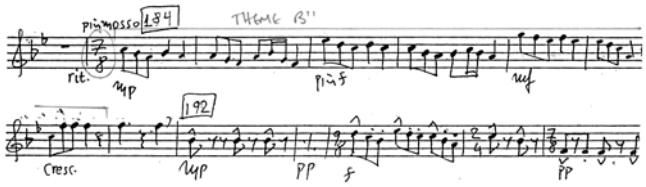
Extract 9. Bikos G., *Scherzo for flute, clarinet in Si♭ and pianoforte* (flute part), 1996, © G. Bikos

In the first two measures of the introductory first theme (Extract 7), the composer by mimicking the "voice" of the cuckoo attracts the listener and invites him to listen to what follows. The second theme, which reappears more than once either transposed (m. 140–162):

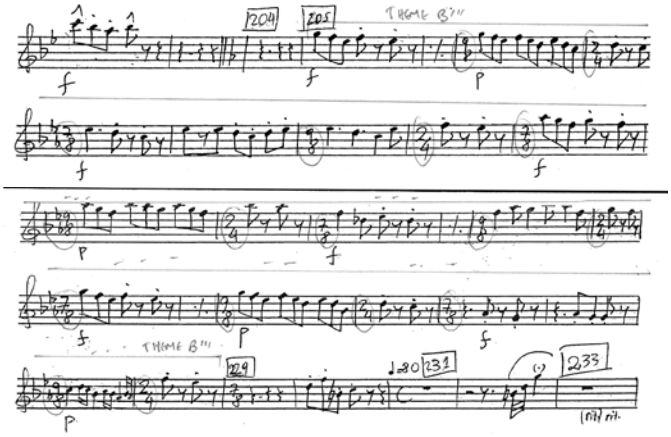


Extract 10. Bikos G., *Scherzo for flute, clarinet in Si♭ and pianoforte* (flute part), 1996, © G. Bikos

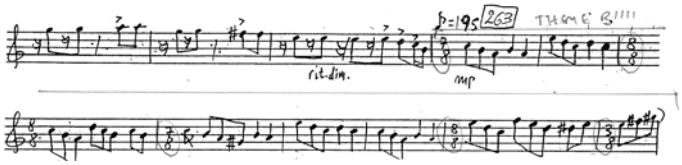
or changed rhythmically (m. 184–190, 205–228, 263–270):



Extract 11. Bikos G., *Scherzo for flute, clarinet in Si♭ and pianoforte* (flute part), 1996, © G. Bikos



Extract 12. Bikos G., *Scherzo for flute, clarinet in Si♭ and pianoforte* (flute part), 1996, © G. Bikos



Extract 13. Bikos G., *Scherzo for flute, clarinet in Si♭ and pianoforte* (flute part), 1996, © G. Bikos

is based on the continuous exchanges of the rhythms and mainly the odd rhythms (7/8, 9/8…) which refer to Greek traditional music ("demotic music"). Its originality lies exactly in this that it is the composer who has very little relationship with traditional music, reveals spontaneous elements of tradition in a composition of his which is aimed at being performed by a classical trio (flute, clarinet and piano). Besides, this second theme is used by the composer for the Finale. The interest of the third theme (Extract 9) is focused on the lyricism of the western melodic line which is opposed to the previous hearing of the elements of Greek traditional music.

It is evident, so, that even if the conception of the initial motifs is intuitive, their elaboration, their development or their variation and the creation of a concrete structure form of the musical piece are certainly the result of rational procedures.

As for setting to music poetical or theatrical text, according to Bikos, the composer is limited by the "inspiration" of the poet/author which came before. In other words, composers' inspiration should be adapted both to the meaningful content and to the rhythm of the poetical/theatrical text. Despite that, even if the setting to musical procedure gives us a "hetero-referential" or "extro-referential" music and the composer should "serve" the inspiration of the poet/author which means he should act rationally, no one can limit the spontaneous/instinctive conception of the melodic motives which are born (or not) from the sentiments evoked to him during the first reading of the poetical/theatrical text.

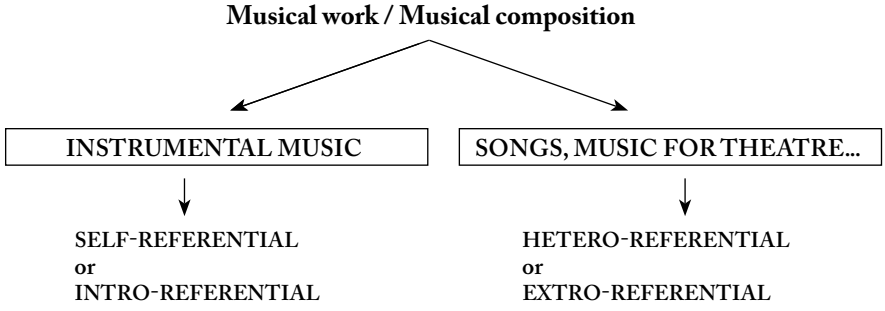


Figure 2. "Hetero-referential" or "Extro-referential" music

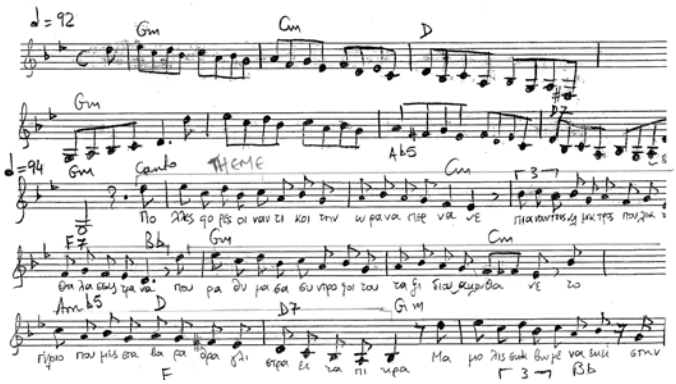
Bikos says about that: "When I set to music poems, it is because obviously I have been inspired by their content which I have felt and understood enough or deeply" (Stigka 2017).

An interesting example of spontaneous expression of the composer's sentiments is the setting to music of the Charles Baudelaire's well-known poem *Albatros*s in its Greek translation:

L'Albatros	**The Albatross**	**Το άλμπατρος**
Souvent, pour s'amuser, les hommes d'équipage Prennent des albatros, vastes oiseaux des mers, Qui suivent, indolents compagnons de voyage, Le navire glissant sur les gouffres amers.	Sometimes, to entertain themselves, the men of the crew Lure upon deck an unlucky albatross, one of those vast birds of the sea, That follow unwearied the voyage through, Flying in slow and elegant circles above the mast.	Πολλές φορές οι ναυτικοί, την ώρα να περνάνε, πιάνουνε τ΄ άλμπατρος – πουλιά της θάλασσας τρανά- που ράθυμα, σαν σύντροφοι του ταξιδιού, ακολουθάνε, το πλοίο που μες στα βάραθρα γλιστράει, τα πικρά.
À peine les ont-ils déposés sur les planches, Que ces rois de l'azur, maladroits et honteux, Laissent piteusement leurs grandes ailes blanches Comme des avirons traîner à côté d'eux.	No sooner have they disentangled him from their nets Than this aerial colossus, shorn of his pride, Goes hobbling pitiably across the planks and lets His great wings hang like heavy, useless oars at his side.	Μα μόλις σκλαβωμένα εκεί στην κουπαστή τα δέσουν, οι βασιλιάδες τ΄ ουρανού, σκυφτοί κι άχαροι πια, τ΄ άσπρα μεγάλα τους φτερά τ΄ αφήνουνε να πέσουν και στα πλευρά τους θλιβερά να σέρνονται κουπιά.
Ce voyageur ailé, comme il est gauche et veule! Lui, naguère si beau, qu'il est comique et laid! L'un agace son bec avec un brûle-gueule, L'autre mime, en boitant, l'infirme qui volait!	How droll is the poor floundering creature, how limp and weak. He, but a moment past so lordly, flying in state! They tease him: One of them tries to stick a pipe in his beak; Another mimics with laughter his odd lurching gait.	Αυτά που ΄ναι τόσο όμορφα, τα σύννεφα όταν σκίζουν, πως είναι τώρα κωμικά κι άσχημα και δειλά! Άλλοι με πίπες αναφτές τα ράμφη τους κεντρίζουν, κι άλλοι πηδάνε σαν κουτσοί, κοροϊδευτικά.
Le Poète est semblable au prince des nuées Qui hante la tempête et se rit de l'archer; Exilé sur le sol au milieu des huées, Ses ailes de géant l'empêchent de marcher.	The Poet is like that wild inheritor of the cloud, A rider of storms, above the range of arrows and slings, Exiled on earth, at bay amid the jeering crowd, He cannot walk for his unmanageable wings.	Μ΄ αυτούς τους νεφοπρίγκιπες κι ο Ποιητής πώς μοιάζει! Δεν σκιάζεται τις σαΐτιές, τις θύελλες αψηφά, μα ξένος μες στον κόσμο αυτόν που γύρω του χουγιάζει, σκοντάφτει απ΄ τα γιγάντια του φτερά σαν περπατά.
Charles Baudelaire, *Les Fleurs du Mal*, 1859 (Paris: Poulet-Malassis et de Broise, 1861)	George Dillon, *Flowers of Evil* (NY: Harper and Brothers, 1936)	Γ. Σημηριώτης

This poem written in 1859, is a part of the section "The Spleen and the Ideal" of Baudelaire's poetical work *Les Fleurs du Mal* (Flowers of Evil). This section is referring to the desperate human being who fights between the elevation/liberation and the attraction to the fall; this desperation is at the origin of the melancholy called "spleen" which is inseparable from the human being. *The albatross* has been inspired by Baudelaire during a naval trip to India; finally, the trip stopped at Mauritius Island. "The albatross" symbolizes for Baudelaire, the conscience to be different from the others. In this way, Baudelaire is referring to his own situation as he was completely ignored by the society during his life. Baudelaire was a part of the generation of "damned poets" who were not understood by the people of their epoch. The first three stanzas concern the albatross but the last one is devoted to the poet himself.

A mainly syllabic setting to music for this poem was chosen by Bikos. The one and only lyrical theme which dominates



Extract 14. Bikos G., *Albatros*, 1980, © G. Bikos

is based on descending thirds symbolizing the descent of "the albatross" (which is the personification of the poet) from the freedom of the sky to the prison of the ship or in other words from the level of the poet who is a genius, to the baseness of the common people who cannot understand him and consider him a "damned" person.

Furthermore, if we see the *Catalogue of Complete Music Works*, it is obvious that composing music for theatre is the main preoccupation of Bikos in the last twenty years. He says, himself:

> "I adore the relation between music and theatre and between music and the poetic or lyrical speech. That is why 60% of my works and 100% of my works composed in the last 18 years are music for scene and songs for theatre performances. It is also interesting, finally, I think my tendency to transform in a theatrical version some of my choral works or some of my songs based on poetry. And I mean that I imagine them directionally and theatrically performed (that is the way I realize the public performance – presentation – interpretation – and that is something that I really have adored in the last twenty years)" (Stigka 2017).

This preference of Bikos is completely consistent with his general point of view about the social role of music and by extension of the composer. As he believes that the success of a music work is based both on the composer's intelligence and on the audience's acceptance. Despite the fact that he thinks that "when you compose for the theatre or the cinema you do not think about the public but only if your music suits the scenario or the script" (Stigka 2017), we believe that his preference for the music for theatre in the last two decades emanates from his need to express his thoughts and his feelings but mainly from his undoubted talent for communication.

Conclusion

To conclude, it seems evident that in the case of Bikos, rationality is flirting with intuition all over his artistic works. But, we think that as far as songs are concerned, the intuition leads while rationality dominates in his more "savant" works. In any case, we consider (that's why we wanted to present this unknown musical work) that Bikos' musical work, reflection of his humanistic personality, is worth being studied, performed and recorded.

In other words, we can say that in the case of Georgios Bikos there is a rational explanation for everything and thus, inspiration (intuition), structure (rationality) and aesthetics (interpretation) balance and converse both in his scientific word and in his artistic work.

References

Useful Dictionary of Neohellenic Language. Academy of Athens (2014). *Useful Dictionary of Neohellenic Language*. Athens: the author.
Babiniotis, Georgios (1998). *Dictionary of Neohellenic Language.* Athens: Lexicological Center.
Stigka, Kalliopi (2017). *Unedited Interviews of Georgios Bikos*. Athens: Author's Private Archives

ANNEX

Catalogue of Complete Music Works by Georgios Bikos

Period I. The "works of youth"

I. Songs
The Theater (*Το θέατρο*), poetry by L. Porfyras, 1980
The Albatross (*Άλμπατρος*), poetry by Ch. Baudelaire (translation in Greek by G. Simiriotis), 1980
Nostalgies (*Νοσταλγίες*), poetry by K. Ouranis, 1980
Peace (*Ειρήνη*), poetry by Nikiforos Vrettakos, 1984
Lullaby (*Νανούρισμα*), poetry by M. Polydouri, 1986
The arrival (*Το φτάσιμο*), poetry by G. Drossinis, 1987
Hymn and Lamentation for Cyprus (*Ύμνος και θρήνος για την Κύπρο*), poetry by Y. Ritsos, 1988

II. Choral Music
Peace (*Ειρήνη*) for 4 voices choral, poetry by Nikiforos Vrettakos, 1988

III. For Solo Instruments
Prelude n. 1 for pianoforte, (*Πρελούδιο αρ. 1 για πιάνο*), 1990
Prelude n. 2 for pianoforte, (*Πρελούδιο αρ. 2 για πιάνο*), 1991
Fantasia n. 1 for pianoforte (*Φαντασία αρ. 1 για πιάνο*), 1991
Fantasia n. 2 for pianoforte (*Φαντασία αρ. 2 για πιάνο*), 1992
Miniature for pianoforte (*Μινιατούρα για πιάνο*), 1994

IV. Chamber Music
Ancient Greek Ceremony (*Αρχαιοελληνικό τελετουργικό*), sextet for flute, clarinet, viola, cello, guitar, and pianoforte, 1990
Fantasia for flute and guitar (*Φαντασία για φλάουτο και κιθάρα*), 1993
Two Romances for flute, violin, guitar (*Δύο Ρομάντζες για φλάουτο, βιολί και κιθάρα*), 1993

V. Diverse
Untitled, music for advertising, 1988

Period II. The "works of maturity"

I. Songs
Close to you (*Κοντά σου*), poetry by M. Polydouri, 1996
Cycle of 4 songs, poetry by T. Karageorgiou [poetical collection: Poetical Technology (*Ποιητική Τεχνολογία*)], 2012 [The song "The life goes on" (*Η ζωή συνεχίζεται*) of this cycle of songs, has been honored with the 2nd Price on the National Contest of Contemporary Art Song, in Stylida, in 2013]
Cycle of 5 songs, poetry by B. Brecht (translation in Greek by M. Ploritis)
Mythical and Gold (*Μυθικά και Χρυσά*), poetry by G. Kassimatis, 2013

II. Choral Music
Sunrise, Sunset (*Αυγή – δειλινό*), by Jerry Bock from the musical "Fiddler on the Roof", Translation in Greek: Aphrodite Manou, Arrangement for 3 voices choral
Revolutionary or If everything never changes (*Επαναστατικό ή Αν μείνουν τα πράγματα όπως είναι*), for 3 and 4 voices choral (included to the Cycle of 5 songs), poetry by B. Brecht, 1998 [The 3 voices choral version has been interpreted by the Mixt Choral of the Municipality of Tavros – Athens on the National Musical – Choral Competition in Thessaloniki and has had the First Price of the Audience on 23 April 2017]

III. For Solo Instruments
Miniature (*Μινιατούρα*), for solo contrabass, 2001

IV. Chamber Music

Scherzo for flute and piano (*Σκέρτσο για φλάουτο και πιάνο*), 1994

Little Scherzo for cello and piano (*Μικρό σκέρτσο για τσέλο και πιάνο*), commissioned by the famous cellist Eleftherios Papastavrou [First Performance by the duet Eleftherios Papastavrou (cello) and Parry Derebei-Papastravrou (piano) at the Music Hall of the Philological Association "Parnassos"], 1994

Scherzo for flute, violin and guitar (*Σκέρτσο για φλάουτο, βιολί και κιθάρα*), 1995

Scherzo for flute, clarinet and piano (*Σκέρτσο για φλάουτο, κλαρινέτο και πιάνο*), 1996

V. Music for Theater

The trip (*Το ταξίδι*), by Sideris Halioris, for small music-theater vocal ensemble, 1994

Stella Violanti (*Στέλλα Βιολάντη*), by G. Xenopoulos, 1994 [Troupe of Elsa Vergi; protagonists: Mairi Vidali, Christos Fragkos]

Assemblywomen (*Εκκλησιάζουσες*), by Aristophanes, 1996 [Troupe of Comedy Laboratory of the Municipality of Kallithea-Athens]

Fear and Misery of the Third Reich (*Τρόμος και Αθλιότητα στο 3ο Ράιχ*), 2001 [Stage manager: B. Sarigiannidis; Troupe of Sivitanideios School; Performance honored with the 2nd Price on the School Artistic Competition organized by the Ministry of National Education in 2002]

Peace (*Ειρήνη*) by Aristophanes, 2004 [Troupe of the 3rd General Lyceum of Kallithea-Athens]

Loans and Ideals (*Δανεικά και ιδανικά*), rock opera, duration: 50 min, libretto written by G. Bikos based on Don Juan by Moliere, 2005 [Troupe of the 4th General Lyceum of Kallithea-Athens]

Cherubim (*Χερουβείμ*), by G. Xenopoulos, 2006 [Troupe of the 4th General Lyceum of Kallithea-Athens]

Scarecrows' dream (*Το όνειρο του σκιάχτρου*), by Eug. Trivizas [music and songs by G. Bikos), 2006 [Troupe of the 4th General Lyceum of Kallithea-Athens]

The miser (*Ο φιλάργυρος*), by Molière [music and songs by G. Bikos), 2007 [Troupe of the 4th General Lyceum of Kallithea-Athens]

Plutus (*Πλούτος*) by Aristophanes, 2008 [Troupe of the 4th General Lyceum of Kallithea-Athens]

The secret of Countess Valeraina (*Το μυστικό της κοντέσας Βαλέραινας*), by G. Xenopoulos, 2014 [Troupe of the 1st General Lyceum of Piraeus (2014) and Troupe of school leavers of the 1st General Lyceum of Piraeus (2016): 2 news songs have been added for this second performance]

VI. Music Arrangements

Pictures of childhood by Aram Khachaturian, for chamber music ensemble (flute, clarinet, viola, cello, guitar, piano), 1996 [interpreted in Athens (1996) and in Tripoli (1997)]

The turn of N to Z (*Η στροφή του Ν σε Ζ*) by R. Deligiannaki, for chamber music ensemble (flute, clarinet, alto, cello, guitar, piano), 1997

VII. Diverse

Untitled, theme song for a radio program, 2013

Apie autorius / About the authors

Katarzyna BARTOS, teaching assistant at Karol Lipiński Music Academy in Wrocław, Poland, PhD student of music theory at Music Academy in Kraków. She was a scholar of Erasmus-programme (Universität für Musik und darstellende Kunst Wien). Her MA thesis was: "Light in Agata Zubel's and Grażyna Pstrokońska-Nawratil's Music". As a theorist she gave papers in Poland, Lithuania, Great Britain, Greece, Norway, Portugal and Switzerland. Her interests range from music, especially folk, contemporary and Polish, the issue of symmetry in art and mathematics to cultures of Asia and Oceania.

James DALTON has been a professor of music theory at the Boston Conservatory at Berklee since 2000. He previously taught at Merrimack College, Fitchberg State University, University of Idaho, and Georgian Court College. As a music theorist, Dalton's interests and research have ranged from palindromes and symmetrical musical structures to just intonation and microtonality. He has presented at conferences in the United States and abroad, including the Northeast Chapter of the Society for Ethnomusicology, the Society for American Music, the Macro Analysis Creative Research Organization, and "Beyond the Semitone" (Aberdeen, Scotland). Dalton's compositions have been performed throughout the United States, Canada, and Europe by the Providence Mandolin Orchestra, Enigmatica, Toronto Camerata, Ensemble Decadanse, Transient Canvas, Scottish Voices, Sharan Leventhal, Stephen Altoft, Marti Epstein, Paul Ayres, Aaron Larget-Caplan, and Carson Cooman; and at such venues as the Kansas Symposium of New Music, Musiques Nouvelles (Lunel, France), EUROMicroFest, Sound (Festival of New Music, Scotland), and Akademie der Tonkunst (Darmstadt, Germany). Dalton performs on guitar, mandolin, banjo, and other plucked string instruments with soprano Maggi Smith-Dalton, specializing in historically informed performance of 19th- and 20th-century American music. Together, they have released four recordings. He freelances in orchestral, chamber music, new music, and theater/opera pit orchestra settings and has played with orchestras around the world including the Macao Orchestra in China and the Orquesta Filarmónica de Jalisco in Guadalajara, Mexico. Dalton has degrees from Rutgers University and the University of Idaho. He studied composition with George Walker, Louie White, Neely Bruce, Robert Dickow, and Daniel Bukvich; and guitar with Michael Newman and John Abercrombie. Dalton contributed to *Music in American Life* (ABC-CLIO) and a forthcoming book on the early banjo. He is the author of *Mandolin for Beginners* (Alfred, 2001).

Francesco FINOCCHIARO studied Oboe at Catania Conservatory and Musicology at the University of Bologna. His research interests focus on the points of connection between composition, theory, and aesthetics in twentieth-century music. He has dedicated his studies to the Second Viennese School and has released the Italian edition of Arnold Schönberg's treatise *The Musical Idea* (Astrolabio-Ubaldini, 2011). He has also published extensively on film music, with particular regard to the relationship between cinema and avant-gardes (*Musical Modernism and German Cinema from 1913 to 1930*, Palgrave Macmillan, 2017*)*. He taught in Italy at the Universities of Bologna, Milan, Florence, as well as at Ferrara Conservatory, and in Austria at the University of Vienna. Since 2013 he has worked as Senior Research Scientist on silent film music at the Department of Musicology of the University of Vienna.

Stephen GUOKAS holds a Masters Degree in Music History from the University of Cincinnati, College-Conservatory of Music. The grandson of Lithuanian immigrants, his research focuses primarily on Central and Eastern European nationalism around the turn of the twentieth century. He has presented on these topics in Minnesota, Cincinnati, and Dublin, Ireland. Stephen spent July 2015 in Lithuania conducting research at the M.K. Čiurlionis National Art Museum and Archives in Kaunas, Lithuania; research that he employed for master's thesis concerning Čiurlionis and Lithuanian nationalism. Stephen currently serves as the music minister at St. Mildred's Catholic Church in Somerset, Kentucky, United States of America, while continuing his research into nationalism and the movements that birthed it.

Bert Van HERCK is full time faculty member at New England Conservatory, teaching theory and composition. He holds a PhD from Harvard University where he studied with Magnus Lindberg, Julian Anderson, Chaya Czernowin, Brian Ferneyhough, and Helmut Lachenmann. With Hans Tutschku, he studied electroacoustic music. In the fall of 2006 he was an exchange scholar at Columbia University, working with Tristan Murail. Besides his compositional activities, his interest in music theory has lead to presentations at international conferences on the music by Oliver Knussen, spectral music, and the music of Magnus Lindberg. Recently he presented his research on Scriabin at EuroMAC 9 in Strasbourg, and is currently working on an article contributing to the forthcoming Oxford Handbook on Spectral Music. His compositions have been performed in several countries and festivals, including the Gaudeamus Week, and ISCM World New Music Days in Sweden and Australia.

Rimantas JANELIAUSKAS (b. 1947), Prof. Dr. Mus., Lithuanian composer, pianist and pedagogue. In 1962–1966 he studied at the Kaunas Secondary School of Art; from 1966–1973, at the Lithuanian State Conservatory, the piano class of Prof. Jurgis Karnavičius and in 1973–1978, the composition class of Prof. Julius Juzeliūnas. In 1979–1980 he improved his skills at the Department of Composition. In 1983 he submitted his thesis "Aspects of Functional Dynamics in the Work of Contemporary Lithuanian Composers" and was awarded his doctor's degree. In 1989 a concert of his works was arranged. Until 2017 Janeliauskas held the position of Professor at the Department of Composition of the Lithuanian Academy of Music and Theatre, where he taught theory and composition of music. The composer's theoretical interests are focused on systematics of the principles of composing. He has organized 17 international conferences on musicology, has edited and issued the publications "Principles of Music Composing" (2000–2017) and a series of research papers on the cycles of Čiurlionis' music in Lithuanian and foreign languages.

He has written the monograph "M. K. Čiurlionis' Unidentified Musical Cycles" (2010), which was awarded as the best work of Musicology in 2010 (V. Landsbergis Prize). Among the composer's best works are Symphony, Quartet, Triptych, Sonata for piano, Sonata for violin and piano, *Gintarėliai* for piano etc.

Dr. hab. **Małgorzata KANIOWSKA** (PhD), assistant professor, Deputy Dean of the Faculty of Fine Arts and Music for Scientific, Artistic Research and International Cooperation University of Silesia in Katowice. Conductor, lecturer, composer, initiator and organiser of a series of educational and cultural events. As a conductor she participated in the international and national music festivals, among others: the Warsaw Autumn in Warsaw, Organ Conversatory in Legnica, the Silesian Days of Contemporary Music in Katowice, the International Festival Laboratory of Contemporary Music in Warsaw. She recorded 14 CD's and made the premiere recording of Ryszard & Aleksander Gabryś Music for strings, Edward Bogusławski Selected Works, etc. Author of monographies: "The Importance of Time and Silence in Contemporary Music" (2007), "A Conductor – Co-Author. Limits of Intervention in an Interpretation of Contemporary Scores. Ryszard and Aleksander Gabryś – "Music for Strings" (2012). Author of articles, among others: "Cultural politics – who needs arts and culture in Poland at the present time?"; "Bluebeard's fairy tale as the source of an inspiration for B. Bartók's stage works"; "Old Time In New Music – From the Notes of Conductor". A participant of the international conferences in Kiev (Ukraine), Daugavpils (Latvia), Vilnius (Lithuania), Ariel (Israel).

Arthur KAPTAINIS has been the classical music critic of the *Montreal Gazette* since 1986 and wrote for the *National Post* from 2010 to 2016. His articles appear in *Classical Voice North America*, *La Scena Musicale*, *Ludwig van Toronto* and *Ludwig van Montréal*. He has appeared as an authority on music on the CBC radio and television networks. Arthur Kaptainis holds an MA in musicology from the University of Toronto. He is a member of the board of directors of the Music Critics Association of North America.

Mark KONEWKO, Ph.D. is currently a full-time faculty member in the College of Communication at Marquette University teaching classes in the Business of Music, Music technology, Music Appreciation and Carillon Discovery. He is the carillonneur and the Director of the Marquette University Chorus and Chamber Choir. He also is the Director of Music and Liturgy at Saint Eugene Congregation in Fox Point, Wisconsin. He has directed choirs and performed on organ and carillon nationally in America and internationally in Germany, The Netherlands, France, and Italy. He has composed music for the theatrical productions of Midsummer Night's Dream, Cherry Orchard, and As You Like as well as other works. Mark Konewko hold both a Doctor of Philosophy and Masters in Business Administration from Cardinal Stritch University. He studied under Dr. Lodine and Dr. B. Lynn Hebert at DePaul University completing a Masters of Music in Organ Performance. He continued his studies on the carillon with Todd Fair, Jacque Maassen, and Bernard Winsemius at the University of Utrecht; Amersfoort, The Netherlands. Awards and honors include the Gold Medal of Recognition, *Grande Maestro* from Badia Tedalda, Italy, a Scholarship to the Netherlands School of Carillon, The Netherlands, and a Certificate of Excellence in Carillon Performances from the University of Utrecht; Amersfoort, The Netherlands. Most recently he was a recipient of the Marquette University's Way-Klingler Teaching Enhancement Grant for the Joan of Arc: Hearken to My Voice project. Konewko is an Academic member of the Visual and performing Arts Research Unit for ATINER Athens Institute for Education and Research, an academic organization in Athens, Greece. He is a reviewer of scholarly articles for ATINER publications. He enjoys the orthodox and the innovative in music specializing in Early Italian music, the American folk music tradition, and contemporary performance art.

Aleksandar KONTIĆ is a psychoanalyst and psychotherapist from Belgrade. He is a member of the International Psychoanalytical Association, and the European Psychoanalytic Federation. He has got a Master's degree in psychology at the Faculty of Philosophy in Belgrade, and completed didactic psychoanalysis with Prof. Vladimir Petrović, as well as a psychoanalytic training within the Belgrade Psychoanalytical Society. Psychoanalytic work was supervised by prominent training psychoanalysts, including Daniel Widlöcher (Paris), John Kafka (Washington DC), Gábor Szőnyi (Budapest), Abigail Glomb (Tel Aviv), Cláudio Laks Eizirik (Sao Paolo), etc. He is the author of a number of works from the domain of applied psychology and psychoanalysis, published at home and abroad. He lectured by invitation at higher education institutions at home and abroad.

Markos LEKKAS studied Composition at York University (BFA) and at the University of Toronto (MusM and MusDoc). Among his analytical projects have been the music of Berg, Brahms and Bach. Teaches Music Theory and Analysis.

Miglė MILIŪNAITĖ graduated from the Faculty of Philosophy at Vilnius University. She's interested in Philosophy of Music and aims to consider cultural phenomena in the perspective of secularization. She is also interested in performance of baroque music and is studying Harpsichord with Dr. Balys Vaitkus at the Lithuanian Academy of Music and Theatre. Before that she graduated in Music Theory and Composition with Prof. Teisutis Makačinas form the Vilnius Juozas Tallat-Kelpša Conservatory and Education of Music at the Lithuanian University of Educational Science.

Yusuke NAKAHARA, born in Japan, studied musicology at the Liszt Ferenc Music Academy in Budapest (2007–2012), and continued PhD study there on a Hungarian state scholarship (2012–2015). His doctoral dissertation is on the creative process of Béla Bartók's *Mikrokosmos*. Since September 2015, he has been a research assistant at the Budapest Bartók Archives. He has been contributing to work on the *Béla Bartók Complete Critical Edition*, and is the editor of the *Mikrokosmos* volumes to be published in 2018.

Manos PANAYIOTAKIS was born in Heraklion, Crete, Greece in 1982. He studied musicology at the University of Athens, theory of music with Dimitri Sykias, flute with Iwona Glinka and composition with Theodore Antoniou at "Musical Horizons" conservatory in Athens. During the period 2007–2011 he studied composition with Thomas Simaku for a Master and a PhD degree at the University of York, funded by

IKY (State Scholarships Foundation). Member of the Greek Composers Union, he has taught at the Music Department of Aristotle University of Thessaloniki (Greece). As a composer, he has collaborated with various performers, ensembles, dancers and choreographers in Greece, United Kingdom, United States, Italy, Germany and Austria. In 2008 his work "Talus" was published by the Berben publications in Ancona, after been award the first prize at Volos Composition Competition and in 2013, his or orchestral work "Echosymplokon" was selected for the ISCM festival in Vienna. In 2016, his solo flute work "Along the Cygnus Wall" was released by Sarton records in Warsaw, performed by Iwona Glinka. In 2016 he published his workbook on the first two grades of music theory "Learning Music" in collaboration with fellow music teacher, Elena Perisynaki. He has also presented and published various papers on composition and contemporary music at conferences in Lithuania, Serbia, Finland, Ireland, the United Kingdom, Greece and Cyprus. Today, he teaches at the Department of Music Technology and Acoustics Engineering of TEI-Crete, at Colours Conservatory (Greece) and in Primary Education.

Roger REDGATE is a composer, conductor and improviser. He graduated at the Royal College of Music, where he won prizes for composition, violin performance, harmony and counterpoint, studying composition with Edwin Roxburgh and electronic music with Lawrence Casserley. He continued his studies in Freiberg with Brian Ferneyhough. He was invited as guest composer and conductor at the Darmstädter Ferienkurse für Neue Musik from 1984–1994 where he received the Kranichsteiner Musikpreis for composition. His compositions have been performed extensively throughout Europe, Australia and the USA and he has received commissions from the BBC, the European Commission, the French Ministry of Culture, The Darmstädter Ferienkurse für Neue Musik, The Huddersfield Festival, the Venice Biennale and Ensemble 21 New York. His compositions are published by Editions Henry Lemoine, Paris and United Music Publishers, London. He is professor of Composition at Goldsmiths, University of London, where is director of the Contemporary Music Research Unit.

Manuel Antonio Dominguez SALAS. Born in Mexico City (1975). Composer, theoretic and percussionist. In 2006 achieved the master degree in Composition, in 2010 achieved the master degree in Theory of Music; both at the Academy of Music in Bydgoszcz, Poland. Since 2000 has been an active performer, composer and theorist in Mexico and Poland. In 2010 he was appointed as pedagogue of Theory of Music at the Public School of Music in the city of Płock, Poland, function that he has kept until today. In October 2015 began his studies at the PhD program in Theory of Music at the Academy of Music in Cracow, Poland. His development in the analysis of the musical creation help him to apply new observations on the random counterpoint in the musical work of Witold Lutosławski (1913–1994), as well as to investigate the phenomenon of the continuous in music, which led him to focus his analysis on the so-called *Macro timbre,* a new methodology of musical creation created by the Mexican artist Julio Estrada (1943).

Kalliopi STIGA, born in Athens (Greece), studied piano at the Conservatory of Athens, and Musicology at the Ionian University of Corfu (Greece), Université de Paris IV-Sorbonne (France) and Université Lumière-Lyon II (France), taking a Diploma, D.E.A. and PhD in Literature and Arts respectively. Her PhD thesis is entitled "*Mikis Theodorakis: the poet who brought "savant music" and "popular music" together*". For her research, she was honored with a prize and a grant from the Gazi-Triantafyllopoulos Foundation in 2002. In 2010 she was qualified as Maître de Conférences by the French National Council of Universities (CNU). Since September 1998, she has been an established music teacher in Greece. She worked in the Department of Musicology of the National and Kapodistrian University of Athens (2007–2010) and in the Department of Primary Level Education of the Demorcritus University of Thrace (2010). For two years (September 2014 to September 2016) she worked as a Consultant for Music at the Institute of Educational Policy of Greece, Ministry of Education, Research and Religion. Her research interests are in the fields of sociology of music and of history of Greek contemporary popular music. She gives lectures in Greece and abroad, writes articles in musicological revues and participates in international conferences (Portugal, France, Lithuania, Mexico, Canada, Serbia, UK, Finland, Latvia, Cyprus, Belgium, Turkey, Algeria…).

Dr. **Mark VUORINEN** is Assistant Professor of Music at Conrad Grebel University College at the University of Waterloo, Canada, where he teaches courses in conducting, music history and conducts the University of Waterloo Chamber Choir. He is also Artistic Director of Kitchener-Waterloo's Grand Philharmonic Choir, and the Elora Singers, one of Canada's premiere professional chamber choirs. Mark studied music at Wilfrid Laurier University, Yale University's Institute of Sacred Music and the University of Toronto. He has given first performances and Canadian premieres of works by many composers, including John Burge, Timothy Corlis, Robinson McClellan, James Whitbourn and Jonathon Dove. He has performed as part of concert series at Toronto's Music Gallery, the Stratford Summer Music Festival, the Elora Festival and the Luminato Festival and has given an all-night performance of Joby Talbot's moving *Path of Miracles* as part of Toronto's Nuit Blanche Arts Festival. Other recent concert highlights include performances of Beethoven's *Missa Solemnis*, Benjamin Britten's *War Requiem*, Arvo Pärt's *Credo* and *Passio*. Mark delivered papers on Arvo Pärt's music at Boston University's "Arvo Pärt and Contemporary Spirituality Conference" in 2010 and at the St. Vladimir's Seminary's Arvo Pärt Project: Sounding the Sacred conference in New York City in May 2017. He has published on Arvo Pärt in the Université de Montréal's Circuit Musiques Contemporaines and the Research Memorandum Series of Chorus America.

Australian composer **Chris WILLIAMS** is a graduate of the Sydney Conservatorium of Music and completed a Master of Philosophy in composition at the University of Oxford. In 2012 he was commissioned by Carnegie Hall where he worked with composer-in-residence Kaija Saariaho. Previously, Chris was one of only six composers worldwide to be selected by Sir Peter Maxwell Davies to attend his Advanced Composition course at the Dartington International Summer School in England. In 2015 Chris Williams was the inaugural Friends of the National Library of Australia Creative Arts Fellow. He has lectured at the Sydney Conservatorium of

Music, and taught composition at the University of Oxford. He currently works at the BBC Music Library, in London, and recently won the composition prize for the Australian International Chopin Competition. He is an Associate Artist at the Australian Music Centre and is represented by Aurora Artists' Management.

Miloš ZATKALIK, a composer and music theorist, professor at the University of Arts in Belgrade. For several years visiting professor at universities in Novi Sad, Kragujevac and Banjaluka (Bosnia and Herzegovina). Lectured by invitation at universities in Canada, Norway, Germany, the USA, Slovenia and Australia. Research interests include analysis of 20th-century music; relationships between music and literature; psychoanalytic aspects of music analysis. Recent publications include a book on post-tonal prolongation; he is currently writing a book on goal-oriented processes in post-tonal music.

MUZIKOS KOMPONAVIMO PRINCIPAI: ***ratio versus intuitio***
PRINCIPLES OF MUSIC COMPOSING: ***ratio versus intuitio***

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