

In the beginning was..., za simfonijski orkestar i udaraljke

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Master's thesis / Diplomski rad

2023

Degree Grantor / Ustanova koja je dodijelila akademski / stručni stupanj: **University of Zagreb, Academy of Music / Sveučilište u Zagrebu, Muzička akademija**

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Download date / Datum preuzimanja: **2024-07-16**



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SVEUČILIŠTE U ZAGREBU

MUZIČKA AKADEMIJA

I. ODSJEK ZA KOMPOZICIJU I TEORIJU GLAZBE

SARA JAKOPOVIĆ

IN THE BEGINNING WAS...,
ZA SIMFONIJSKI ORKESTAR I UDARALJKE

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DIPLOMSKI RAD

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Ak.god. 2022./2023.

ZAGREB, 2023.

DIPLOMSKI RAD ODOBRILO MENTOR

Potpis

U Zagrebu, _____

Diplomski rad obranjen _____

POVJERENSTVO:

1. _____

2. _____

3. _____

OPASKA:

PAPIRNATA KOPIJA RADA DOSTAVLJENA JE ZA POHRANU KNJIŽNICI MUZIČKE
AKADEMIJE

Sažetak

Cilj ovog rada jest pružiti analitički uvid u autorsku skladbu *In the beginning was...*, za simfonijski orkestar i udaraljke. Skladba će biti sagledana iz različitih aspekata, a sve kako bi se opisao skladateljski glazbeni jezik.

Ključne riječi: *In the beginning was*, simfonijski orkestar, udaraljke, analiza

Summary

The aim of this work is to provide an analytical insight into the author's composition *In the beginning was...*, for symphony orchestra and percussion. The composition will be viewed from different aspects, all in order to describe the composer's musical language.

Key words: *In the beginning was*, symphony orchestra, percussion, analysis

Predgovor

Zahvaljujem svom mentoru, red. prof. art. Berislavu Šipušu na svim sugestijama i podršci tijekom izrade diplomskog rada, kao i na svemu naučenom tijekom studija Kompozicije. Također, zahvaljujem svim profesorima, bliskim osobama i kolegama koji su me podržali u dosadašnjem glazbenom obrazovanju te poticali moj razvoj i napredak.

Život umjetnika pun je izazova, stoga se s velikom zahvalnošću prisjećam svake lijepe interakcije s osobama koje su me inspirirale, motivirale i koje su u mom životu ostavile snažan trag.

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1. Uvod

Tijekom studija Kompozicije imala sam prilike okušati se u skladanju za različite sastave te istražiti različite instrumente i njihove mogućnosti. I dok svaki sastav ima svoju problematiku, može se činiti kako simfonijski orkestar kao golemi muzički korpus sa sobom donosi i proporcionalnu problematiku. Ipak, u upotrebi simfonijskog orkestra vidim izuzetan potencijal i čitavu paletu timbralnih nijansi. Simfonijski orkestar čini se prikladnim za svečanu prigodu diplomskog ispita, no istovremeno obvezuje na stvaranje skladbe dostojne ovakvog grandioznog sastava. Premda svako razdoblje u povijesti glazbe nudi svoju definiciju „dostojnog“ i „kvalitetnog“, moj cilj prilikom skladanja djela bio je istražiti različite zvukovne mogućnosti *tutti* ansambla, ali i kombinacija između pojedinih instrumentalnih sekcija.

Dodatni izazov predstavlja sekcija udaraljki koju sam odlučila istaknuti u ovoj skladbi – raznovrsnost udaraljki, proširene tehnike te zvukovne mogućnosti ove sekcije nagnali su me da ju kroz ovu skladbu istražim i nerijetko stavim u prvi plan. Uz instrumente koji se uvriježeno smatraju udaraljka, u svojoj skladbi često grupiram sve instrumente koji u tom momentu izvode perkusivni efekt – primjeri toga su upotreba klavira kao udaraljke, gudači u kontekstu *Bartok pizzicata*, udarac po žicama harfe, ali i perkusivni efekti u puhačkoj sekciji kao što su *slap*, *tongue ram* i sl.

1.1. Utjecaji

U skladanju, a vjerujem i u ostalim umjetnostima, neporeciv je utjecaj povijesnog konteksta. Sve što sam naučila tijekom studija na mene je ostavilo trag, a pred kraj studija posebno me zaintrigirao spektralizam. Naglasak na fizikalnim svojstvima zvuka¹ i tonskih visina sugerira znanstveni pristup u procesu stvaranja, što se isprva može činiti krutim i distanciranim od umjetnosti. Jasno, fizikalna svojstva zvuka uvijek su prisutna, neovisno o

¹ Joshua Fineberg, *APPENDIX I. Guide to the Basic Concepts and Techniques of Spectral Music*. Overseas Publishers Association, 2000., str. 81-82

pristupu umjetnika. Razmišljanja sam da znanstveni pristup može pružiti bolje razumijevanje i kontrolu prilikom stvaranja te dodatno osnažiti umjetnički aspekt skladbe – o tome svjedoče opusi mnogih spektralista, poput Gérarda Griseya, Tristana Muraila i Kaije Saariaho.

U skladbi *In the beginning was...* prisutne su spektralističke tendencije, no ističe se i težnja naslijeđu hrvatske skladateljske baštine koja obiluje muzikalnošću, inventivnošću i zanimljivim zvukovnim situacijama.

1.2. Općenite ideje

U posljednje vrijeme glazbu promatram, između ostalog, kao stimulans. Glazba je zvučni podražaj koji stimulira osjetilo sluha, kao što boje stimuliraju osjetilo vida, začini osjetilo okusa itd. Možda je takvo razmišljanje rezultat moje sinestezije, no smatram da ovakav pristup zvuku, na trenutak odriješen poetičnog i apstraktnog, nudi konkretna rješenja u procesu stvaranja suvremene glazbe, koja se sve više udaljava od klasične tradicije utemeljene na tonalitetnim zakonitostima. Kako stvoriti muzikalnu, uzbudljivu glazbu koja je lišena teme, važnosti tonskih visina, tonaliteta i klasične harmonije? Spektralistički pristup glazbi nudi neke od mogućih odgovora. Sve prethodno navedeno, naime, sadrži zakonitosti na koje se lako osloniti prilikom stvaranja. Bez toga, logično je da će dramaturgija djela ovisiti o ostalim glazbenim sastavnicama poput ritma, timbra i registara. Smatram da promatranje glazbe kao stimulansa naglasak stavlja upravo na dramaturgiju koja se ostvaruje svjesno, a ne tek kao slučajni rezultat ostalih glazbenih sastavnica.

Znanost i umjetnost čine se dijametralno različitima, no oboje odlikuju zakonitosti, istraživanje i znatiželja. Njihova simbioza vidljiva je, između ostalog, u elektroničkoj glazbi, a osnovne koncepte, kao i pristup u stvaranju, nastojala sam primijeniti u svojoj skladbi.

1.3. Naziv djela i naslovi stavaka

Skladba *In the beginning was...* ima četiri stavka:

I. *The Big Bang*

II. *The String(s) Theory*

III. *Plucking Constant*

IV. *Dark Matter*

U naslovima stavaka ističu se pojmovi koji su poznati u znanosti, a vezani su uz postanak svemira.

I. *The Big Bang* [Veliki prasak]

II. *The String(s) Theory* [Teorija struna]

III. *Plucking Constant* - igra riječi na Planckovu konstantu

IV. *Dark Matter* [Tamna tvar]

Zanimljivo je da ovi pojmovi postoje i u glazbenom kontekstu, što sam iskoristila ne samo kao humorističnu igru riječi, već i kao sugestiju na spektralizam koji također objedinjuje dva svijeta – znanost i umjetnost. Nema potrebe detaljno objašnjavati spomenute pojmove – ne samo zato jer su popularni, već i zato jer ih ne želim dovoditi u vezu s muzičkim sadržajem na programni način. Poput kakvog spektograma, ili pak poteza kistom, naslovi stavaka su polazišna točka koja utječe na glazbene sastavnice djela. Tako će prvi stavak biti poticaj za gromoglasne *tutti* momente te udaraljkaški ostinato; drugi će stavak naglasak staviti na gudače i ostale žičane instrumente; treći stavak oponaša konstantno trzanje žice, dok će se u četvrtom stavku istaknuti duboki registar.

Osim toga, naslov djela spojen s naslovom prvoga stavka zvuči kao oksimoron, *In the beginning was... The Big Bang* [U početku bijaše... Veliki prasak] a sve kako bi se ponovno sugerirala dualnost, spoj dvaju kontrastnih elemenata.

2. Analiza skladbe *In the beginning was...* - elementi stila

2.1. Izostanak teme u tradicionalnom smislu; tematski materijali

U skladu sa spektralističkim tendencijama, pokušala sam stvoriti skladbu bez teme u tradicionalnom smislu. Stoga se može govoriti tek o tematskim materijalima koji tijekom skladbe neprestano doživljavaju svoju transformaciju. Riječ je o svojevrsnim intervalskim ćelijama koje se tijekom skladbe javljaju rastavljeno ili kao dio akorda, no čija jezgrovitost, kao i same intervalske osobitosti, sprječavaju nastanak teme u tradicionalnom smislu. Uostalom, tema podrazumijeva horizontalno promišljanje, dok spektralizam stavlja naglasak na vertikalni aspekt skladbe. Jasno, horizontalno promišljanje prisutno je u vidu ritamskog razvoja dionica

2.1.a. Notni prikaz ritamskog razvoja dionica u skladbi *In the beginning was...*

te u situacijama unisonog kretanja.

The image displays a page of a musical score, page 5, featuring a variety of instruments. The score is organized into systems. The first system includes Piccolo (Pic.), Flute (Fl.), Oboe (Ob.), Clarinet in A (C.A.), Clarinet in Bb (Bb Cl.), Clarinet in C (Cl.), Bass Clarinet (B. Cl.), Bassoon (Bsn.), and Contrabassoon (Cbssn.). The second system includes Horn (Hr.), Trumpet (Tpt.), Trombone (Tbn.), Bass Trombone (B. Tbn.), Tuba (Tuba), Timpani (Timp.), Cymbal (Cym.), and Violin (Vln.). The third system includes Percussion (Perc.), Bass Drum (B. Dr.), Snare Drum (S. Dr.), Cymbal (Cym.), and Glockenspiel (Glock.). The fourth system includes Clarinet in C (Cl.), Piccolo (Pic.), Horn 1 (Hr. I), Horn 2 (Hr. II), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Cello (Cb.). The score shows a unison movement across several instruments, with notes and rests clearly visible on the staves. The notation includes various musical symbols such as clefs, time signatures, and dynamic markings.

2.1.b. Notni prikaz unisonog kretanja u skladbi.

Postupnom gradacijom, razvojno tretiranje tematskih materijala zasigurno je doprinijelo dramaturgiji djela. Pritom treba naglasiti kako nije riječ o prokomponiranoj formi skladbe – prisutna razvojnost rezultat je ekonomičnosti materijala. Izvrstan primjer toga jest četvrti stavak u kojemu se jednostavan interval male sekunde

The image displays a musical score for the fourth movement, titled "Misterioso 2/4". The score is arranged in a vertical column of staves, grouped into three sections. The first section includes Flute, Clarinet in Bb, Bass Clarinet in Bb, Bassoon, Contrabassoon, Horn in F, Trumpet in Bb, Trombone, Bass Trombone, Tuba, Timpani, Cymbals, and Vibraphone. The second section includes Mallet Percussion in one, Bass Drum, Tom-tom, Snare Drum, and Glockenspiel. The third section includes Viola I, Viola II, Violin I, Violin II, and Double Bass. The score shows the thematic material of a minor second interval across various instruments, with some instruments having rests or specific markings.

2.1.c. Notni prikaz tematskog materijala male sekunde u četvrtom stavku.

kontinuirano nadograđuje slijedeći principe aditivne sinteze,

The image displays a musical score for a symphony orchestra, illustrating the concept of additive synthesis through a gradual buildup of sound in the fourth measure. The score is organized into systems of staves, each representing a different instrument or section. The instruments listed on the left side of the score are: Flute (Fl.), Oboe (Ob.), Clarinet in A (C.A.), Clarinet in Bb (Bb.Cl.), Clarinet in C (Cl.), Bassoon (B.Cl.), Bassoon (Bsn.), Clarinet in Bb (Clan.), Horn in F (Ho.), Trumpet (Trp.), Trombone (Tbn.), Trombone (B. Tbn.), Trombone (Tbn.), Percussion (Perc.), Cymbal (Cym.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Cello (Cel.), Percussion (Perc.), Percussion 1 (Pp. 1), Percussion 2 (Pp. 2), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Cello/Double Bass (Cb.). The score shows a series of chords that become increasingly complex and dense over time, illustrating the concept of additive synthesis. The music is written in a 4/4 time signature and features a series of chords that become increasingly complex and dense over time, illustrating the concept of additive synthesis. The score is organized into systems of staves, each representing a different instrument or section. The instruments listed on the left side of the score are: Flute (Fl.), Oboe (Ob.), Clarinet in A (C.A.), Clarinet in Bb (Bb.Cl.), Clarinet in C (Cl.), Bassoon (B.Cl.), Bassoon (Bsn.), Clarinet in Bb (Clan.), Horn in F (Ho.), Trumpet (Trp.), Trombone (Tbn.), Trombone (B. Tbn.), Trombone (Tbn.), Percussion (Perc.), Cymbal (Cym.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Cello (Cel.), Percussion (Perc.), Percussion 1 (Pp. 1), Percussion 2 (Pp. 2), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Cello/Double Bass (Cb.).

2.1.d. Notni prikaz gradacije tematskog materijala male sekunde u četvrtom stavku uz pomoć aditivne sinteze.

a sve kako bi na kraju skladbe u vertikali zazvučao kromatski total, odnosno potpuni zvučni spektar.

The image displays a page from a musical score, likely for an orchestra and strings. The score is written in a standard musical notation with multiple staves. The instruments listed on the left side of the score include:

- Flu. (Flute)
- Fl. (Flute)
- Obo. (Oboe)
- C. A. (Clarinet in A)
- B. C. (Bassoon)
- C. (Clarinet)
- B. C. (Bassoon)
- Klar. (Clarinet)
- Chas. (Chamberlain)
- Hr. (Horn)
- Trom. (Trumpet)
- Trom. (Trumpet)
- B. Trom. (Bass Trombone)
- Trom. (Trumpet)
- Timp. (Timpani)
- Cim. (Cymbal)
- Vln. (Violin)
- Viol. (Violin)
- B. Vln. (Bass Violin)
- Vcl. (Violoncello)
- Cim. (Cymbal)
- Cim. (Cymbal)
- Glock. (Glockenspiel)
- Cac. (Cacophony)
- Pan. (Pan flute)
- Hr. I. (Horn I)
- Hr. II. (Horn II)
- Vln. I. (Violin I)
- Vln. II. (Violin II)
- Vcl. (Violoncello)
- Db. (Double Bass)

The score shows a complex arrangement of notes and rests across these instruments. The final measure of the piece features a chromatic total, where all instruments play a sequence of notes that cover the entire chromatic scale, creating a rich, full-spectrum sound.

2.1.e. Notni prikaz kromatskog totala u akordu, IV. st.

U četvrtom stavku, gore prikazani akord rezultat je razvojnosti intervalske ćelije – idejom aditivne sinteze ostvarena je vertikalna dimenzija stavka. Ipak, riječ je o akordu identičnom onom iz prvog stavka:

The image displays a detailed musical score for a large orchestra, organized into four measures. The instruments listed on the left side of the score include:

- Flute (Fl.)
- Oboe (Ob.)
- Clarinet in A (C.A.)
- Bassoon (Bb.C.)
- Clarinet in Bb (Cl.)
- Bassoon in C (B.C.)
- Trumpet (Trp.)
- Trombone (Tbn.)
- Baritone (B. Trp.)
- Tuba (Tub.)
- Timpani (Timp.)
- Cymbals (Cym.)
- Violins (Vln. I, Vln. II)
- Violas (Vla.)
- Cello (Cel.)
- Double Bass (Kon.)
- Percussion (Perc.)
- Harps (Hp. I, Hp. II)

The score shows a complex arrangement of notes and rests across these instruments, with some instruments having multiple staves. The first measure is particularly dense with notes, illustrating the 'akord rezultat' mentioned in the text. The subsequent measures show variations in the orchestration and dynamics.

2.1.f. Notni prikaz akorda u prvom stavku.

Za razliku od prvog stavka u kojemu je spomenuti akord predstavljen *in medias res*, četvrti ga stavak polako izgrađuje – identičnost prvoga i posljednjega akorda u skladbi pokušaj je da se, unatoč razvojnosti materijala, osjeti zaokruženost forme na makrorazini.

Dramaturška zanimljivost četvrtoga stavka vidljiva je u neočekivanim intervencijama – dinamičnim prekidima inertne teksture. I dok je glavnina četvrtog stavka u četveročetvrtinskoj mjeri, spomenute intervencije razbijaju metar svojim nepravilnim složenim mjerama.

The image displays a page of a musical score for the fourth movement. It features a complex orchestration with multiple staves for various instruments. The score is organized into four measures. The first measure shows a change in meter from 4/4 to 3/4. The notation includes various rhythmic values, dynamics, and articulations. The instruments listed on the left include Flutes (Fl.), Oboes (Ob.), Clarinets (Cl.), Bassoons (B.Cl.), Horns (Hr.), Trumpets (Trp.), Trombones (Tbn.), Percussion (Perc.), Violins (Vln.), Violas (Vla.), Cellos (Cello), Double Basses (Cb.), and Piano (P).

2.1.g. Notni prikaz izmjene mjera u četvrtom stavku.

The image displays a page of a musical score, page 11, featuring a change of meter in the fourth measure. The score is organized into several systems of staves. The top system includes staves for Flute (Fl.), Oboe (Ob.), Clarinet in A (C.A.), Bassoon (B.C.), Clarinet in Bb (Cl.), Bassoon in C (B.C.), and Cello (Cello). The second system includes Horns (Hr.), Trumpets (Tpu.), Trombones (Tbn.), and Bass Trombone (B. Tbn.). The third system includes Timpani (Timp.), Contrabass (Con.), Violoncello (Vcl.), and Double Bass (B. D.). The fourth system includes Tenor (T.), Alto (A.), Contrabass (Con.), and Double Bass (B. D.). The fifth system includes Clarinet in Bb (Cl.), Bassoon (B.), and Double Bass (B. D.). The sixth system includes Clarinet in Bb (Cl.), Bassoon (B.), and Double Bass (B. D.). The seventh system includes Flute (Fl.), Piccolo (Pic.), Horn 1 (Hr. I), and Horn 2 (Hr. II). The eighth system includes Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Cello (Cello). The score shows a change of meter in the fourth measure, indicated by a double bar line and a new time signature. The notation includes various musical symbols such as notes, rests, and dynamic markings.

2.1.h. Notni prikaz izmjene mjera u četvrtom stavku.

Riječ je o materijalu trećeg stavka,

The image shows a page of a musical score, likely for a symphony orchestra. It contains multiple staves of music, including woodwinds (Flute, Oboe, Clarinet, Bassoon), brass (Trumpet, Trombone, Tuba, Euphonium), strings (Violin I, Violin II, Viola, Violoncello, Double Bass), and percussion (Timpani, Snare Drum, Cymbals, Triangle, Gong, Chimes, Tom-toms, Bass Drum, and Cymbal). The score is written in a standard musical notation with a key signature of one flat and a time signature of 3/4. The first three measures are shown, with various notes, rests, and dynamic markings. The notation is dense, with many notes and rests across multiple staves.

2.1.i. Notni prikaz tematskog materijala trećega stavka.

a čija razvojnost podrazumijeva promjenu timbra, odnosno prelazak s klavira i čeleste na set udaraljki.

Vrijedi izdvojiti materijale trećeg stavka. Na samom početku, unisono kretanje repetirajućih tonova

III.
The Plucking Constant

The image displays a musical score for the piece "The Plucking Constant" (III.). The score is organized into three systems, each beginning with the tempo marking "Nervoso 2=140".

- System 1:** Includes Flauto, Flauto piccolo, Oboe, Clarinet in Bb, Bass Clarinet in Bb, Saxophone, Contrabassoon, Horn in F, Trumpet in Bb, Trombone, Bass Trombone, and Tuba.
- System 2:** Includes Timpani, Cymbals, and Vibraphone.
- System 3:** Includes Maracas, Bass Drum, Tom tom, Cymbals, Glockenspiel, Chimes, Piano, Harp 1, and Harp 2.

The score shows a complex arrangement of instruments. The first system features a prominent melodic line in the Flauto and Flauto piccolo parts, which is repeated across the other instruments in the system. The second system features a rhythmic pattern in the Timpani and Cymbals parts. The third system features a melodic line in the Harp 1 and Harp 2 parts, which is repeated across the other instruments in the system.

2.1.j. Notni prikaz repetirajućih tonova u trećem stavku.

razvija se do akordičke strukture koja je najčešće građena od intervala kvarte, septime ili sekunde.

The image displays a page of a musical score, likely for an orchestra and strings. The score is organized into systems of staves. The instruments listed on the left side of the page include: Flute (Fl.), Oboe (Ob.), Clarinet in A (Cl. A.), Clarinet in Bb (Cl. Bb.), Bassoon (Fag.), Horn in F (R. Hrn.), Trumpet in D (T. Hrn.), Trombone in Bb (B. T. Hrn.), Trombone in F (T. Hrn.), Timpani (Timp.), Cymbals (Cim.), Violins (Vln.), Viola (Vcl.), Violoncello (Vcl. C.), Double Bass (K. B.), Tuba (T. C.), Euphonium (Eup.), Glockenspiel (Glock.), Chimes (Cim.), Percussion (Perc.), Trumpet I (Tr. I), Trumpet II (Tr. II), Violin I (Vln. I), Violin II (Vln. II), Viola (Vcl.), and Double Bass (K. B.). The score is divided into measures, with the third measure showing a complex chordal structure. This structure is characterized by intervals of fourths, sevenths, and seconds, as mentioned in the text. The notation includes various musical symbols such as notes, rests, and dynamic markings.

2.1.k. Notni prikaz akordičke strukture u trećem stavku.

Tijekom trećeg stavka prisutno je razvojno širenje intervala, pa tako nastaje specifični niz tonskih visina u prikazanom ulomku



2.1.1. Notni prikaz intervalskog niza u trećem stavku.

Uporno ponavljanje spomenutog niza u dionici klavira prilika je za različite timbralne situacije u kojima se istražuju orkestracijske mogućnosti.

The image displays a page of a musical score, page 16, featuring a complex orchestration. The score is organized into two main systems of staves. The first system includes woodwinds (Piccolo, Flute, Oboe, Cor Anglais, Bassoon, Clarinet, Bassoon, Clarinet, Bassoon, Trumpet, Trombone, Tuba, Snare Drum, Cymbal, Gong, Bass Drum, Tom-tom, Cymbal, Gong, Cymbal, Gong), strings (Violin I, Violin II, Viola, Violoncello, Double Bass), and Percussion (Percussion 1, Percussion 2). The second system includes Percussion, Violin I, Violin II, Viola, Violoncello, and Double Bass. The score shows various musical notations including notes, rests, and dynamic markings.

2.1.m. Notni prikaz intervalskog niza u trećem stavku.

The image displays a page of a musical score, page 17, featuring a grand staff with multiple staves for various instruments. The instruments listed on the left are: Flute (Fl.), Oboe (Ob.), Clarinet in A (C.A.), Clarinet in B-flat (Bb.C.), Clarinet in C (C.), Bassoon (Bb.), Contrabass (Cb.), Horn in F (Ho.), Trumpet (Tpt.), Trombone (Tbn.), Bass Trombone (B. Tbn.), Tuba (Tub.), Snare Drum (Timp.), Cymbals (Cym.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Cello (Vcl.), Double Bass (Cb.), Percussion (Per.), Horn I (Ho. I), Horn II (Ho. II), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Double Bass (Cb.). The score shows musical notation for the first three measures of a piece, with a key signature of one flat and a common time signature. The notation includes notes, rests, and dynamic markings such as 'p' and 'mf'.

2.1.n. Notni prikaz intervalskog niza u trećem stavku.

This page of a musical score, numbered 18, features a large ensemble of instruments. The score is organized into several systems of staves. The first system includes Flute (Fl.), Oboe (Ob.), Clarinet in A (C. A.), Bass Clarinet (B. Cl.), Clarinet (Cl.), Bass Clarinet (B. Cl.), Bassoon (B.), and Contrabass (Cb.). The second system includes Flute (Fl.), Trumpet (Tpt.), Trombone (Tbn.), Bass Trombone (B. Tbn.), and Tuba (Tub.). The third system includes Timpani (Timp.), Cymbals (Cym.), Violin (Vln.), Viola (Vla.), Bassoon (B.), Trumpet (Tpt.), Trombone (Tbn.), Cymbals (Cym.), Glockenspiel (Glock.), and Contrabass (Cb.). The fourth system includes Flute (Fl.), Horn 1 (Hp. I.), Horn 2 (Hp. II.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Violoncello (Vcl.), and Double Bass (B.). The score shows musical notation for various instruments, including melodic lines, rests, and dynamic markings. The page number '18' is located in the top right corner.

2.1.o. Notni prikaz intervalskog niza u trećem stavku.

2.2. Zvučni spektar

Izostanak teme pruža priliku da se istaknu ostali aspekti glazbe. Poigravanje različitim registrima i timbralnim odnosima donosi interesantne zvučne senzacije. Tijekom skladbe nastojim slušatelja provesti kroz različite registre, a njihova izmjena nerijetko je glavni alat u postizanju napetosti. Posebno je to vidljivo u drugom stavku, koji obiluje različitim registrima, teksturama i timbralnim situacijama. Visoki registar flažoleta, kao i boja gudača u kombinaciji s visokim registrom udaraljki, rezultirat će nježnim, ugodnim zvukom, gotovo šumom. Uvidom u partituru jasno je da je uvijek riječ o disonantnim akordima, no unatoč tome odabir registra i kombiniranje specifičnih instrumentalnih sekcija rezultirat će različitim akustičkim fenomenima. Srodno odnosu konsonance i disonance, drugi stavak donosi izmjenu ugodnih, odnosno mekih te oštih, odnosno grubih zvukova. Početak drugog stavka, kao i kraj, obiluju teksturama u visokom registru.

The image displays a page of a musical score, page 20, focusing on high register textures. The score is organized into several systems of staves. The top systems include woodwinds (Flutes, Oboes, Clarinets, Bassoons) and strings (Basses, Cellos, Horns). The middle systems include Percussion (Timpani, Cymbals, Snare Drum, Double Basses) and more woodwinds (Horns). The bottom systems feature Violins I and II, Viola, Cello, and Double Bass. The notation includes various musical symbols such as notes, rests, and dynamic markings like 'ppp' and 'pp'. The score is presented in a clean, black-and-white format.

2.2.a. Notni prikaz tekstura u visokom registru, II.st.

Središnji dio drugoga stavka donosi kontrastnu situaciju – duboki, tamni registar postignut različitim proširenim tehnikama. Premda statičan, središnji dio stavka koji obiluje oštrijim zvukovima, donosi napetost u odnosu na početak stavka.

The image displays a page of a musical score for a symphony orchestra. The score is arranged in a standard format with multiple staves for different instruments. The instruments listed on the left side of the score are: Flute (Fl.), Oboe (Ob.), Clarinet in A (Cl. A.), Clarinet in Bb (Cl. Bb.), Bassoon (B. Cl.), Bassoon (B.), Contrabassoon (Cbs.), Horn in F (Hr.), Trumpet in F (Trp.), Trumpet in F (Trp.), Trombone in F (R. Trbn.), Trombone in F (Trbn.), Trombone in Ebb (Tbn.), Tuba (Tuba), Timpani (Timp.), Cymbals (Cym.), Violin I (Vln. I.), Violin II (Vln. II.), Viola (Vla.), Violoncello (Vcl.), Double Bass (Dbl.), and Percussion (Perc.). The score shows a deep, dark register in the lower strings, with a prominent bassoon line in the middle of the page. The music is written in a dark, dense style, with many notes and rests. The score is divided into measures by vertical bar lines. The overall appearance is that of a professional musical score for a symphony orchestra.

2.2.b. Notni prikaz tekstura u dubokom registru, II.st.

22

Pho. II
Fl. I
Ob.
C. A.
B. C.
Cl.
B. Cl.
Bsn.
Cbn.
Hr. I
Hr. II
Trp. I
Trp. II
B. Trp. I
B. Trp. II
Timp.
Cym.
Vln. I
Vln. II
Vcllo
K. B.
K. D.
K. A.
Cym.
Glock.
Cac.
Pho. I
Hr. I
Hr. II
Vln. I
Vln. II
Vcllo
K. B.
K. D.

und sagen: Gedulde,
Gedulde, Gedulde,
Gedulde, Gedulde,
Gedulde, Gedulde,
Gedulde, Gedulde,
Gedulde, Gedulde,
Gedulde, Gedulde,
Gedulde, Gedulde,
Gedulde, Gedulde,

2.2.c. Notni prikaz tekstura u dubokom registru, II.st.

Fl.
 Fl.
 Ob.
 C. A.
 Bb Cl.
 Cl.
 B. Cl.
 Sax.
 Clarinet
 Hrn.
 Trp.
 Trbn.
 B. Trbn.
 Trbn.
 Timp.
 Cym.
 Glock.
 Chm.
 Perc.
 R. Dr.
 T. C.
 Cym.
 Cym.
 Glock.
 Chm.
 Perc.
 Hr. I.
 Hr. II.
 Vla.
 Vla.
 Vcl.
 Cb.

*How cymbals like a fluster sheet.
Result: noisy special sound.*
*How cymbals and snare drum like a fluster sheet.
Result: noisy special sound.*
repeat notes glissando on a few strings, then on the strings

2.2.d. Notni prikaz tekstura u dubokom registru, II.st.

Stoga će povratak na A dio stavka, odnosno visoki registar, poslužiti kao katarza stavka u dramaturškom smislu, a sve zahvaljujući suprotstavljanju različitih registara.

The image displays a musical score for a high register section, likely the end of a piece. The score is organized into several systems of staves. The instruments and voices included are:

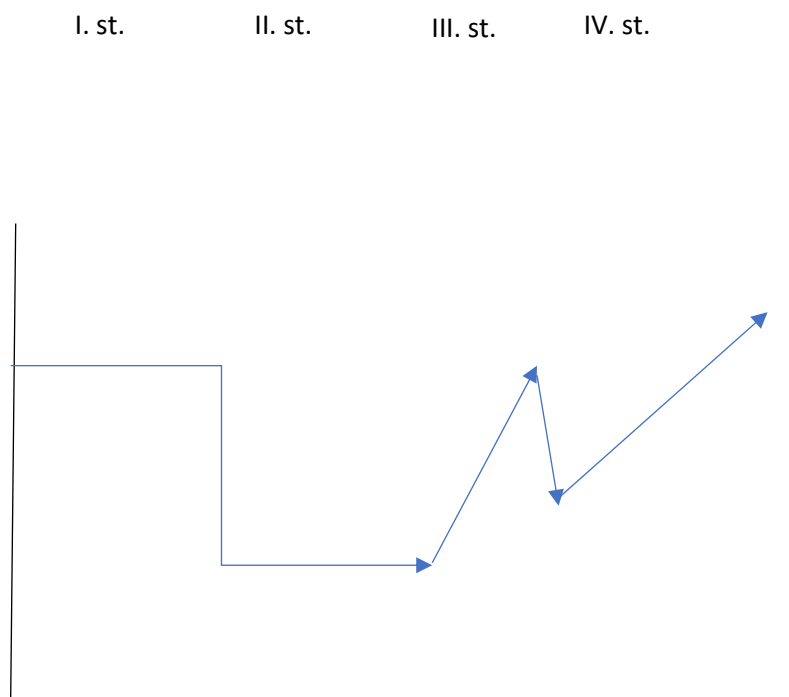
- Flutes (Fl.):** Flute 1 and Flute 2.
- Oboes (Ob.):** Oboe 1 and Oboe 2.
- Clarinets (Cl.):** Clarinet in A and Clarinet in B.
- Bassoons (B.C.):** Bassoon 1 and Bassoon 2.
- Trumpets (Tr.):** Trumpet 1 and Trumpet 2.
- Timpani (Timp.):** Timpani.
- Violins (Vln.):** Violin 1 and Violin 2.
- Violas (Vla.):** Viola.
- Cellos (Vcl.):** Cello.
- Double Basses (Cb.):** Double Bass.
- Woodwinds:** Piccolo, English Horn (Eng. Hrn.), and Bass Clarinet (B. Clar.).
- Strings:** Violin 1, Violin 2, Viola, Cello, and Double Bass.

The score features a variety of musical notations, including notes, rests, and dynamic markings such as *ppp* (pianissimo) and *pp* (piano). The notation is dense and complex, reflecting the high register and intricate texture of the music.

2.2.e. Notni prikaz tekstura u visokom, kraj drugoga stavka.

2.3. Dramaturgija

Premda se dramaturgija često ostvaruje kao rezultat djelovanja različitih glazbenih sastavnica, u ovoj skladbi slučaj je obratan. Glazbene sastavnice uvjetovane su postavljenom, odnosno unaprijed planiranom dramaturgijom. U nastavku slijedi prikaz napetosti u vremenu kroz četiri stavka.



Na mikrorazini, svaki stavak ima vlastiti dramaturški razvoj. Prvi stavak donosi neprestanu energičnost i pokretljivost od početka do samog kraja stavka. Drugi stavak služi kao kontrast prvome. Minimalnim sadržajem, zvučnim bojama i teksturama postiže se smanjenje napetosti u odnosu na prvi stavak. Treći stavak donosi zanimljivosti u dramaturškom pogledu. Nakon pokretljivih situacija

The image displays a page of a musical score, likely for a symphony orchestra. The score is organized into several systems of staves. The instruments listed on the left side of the page are: Flute (Fl.), Piccolo (Pic.), Oboe (Ob.), Cor Anglais (C.A.), Bassoon (B.C.), Clarinet (Cl.), Bassoon (B.C.), Bassoon (B.), Clarinet (Cl.), Horn (Ho.), Trumpet (Tpa.), Trombone (Tbn.), Bass Trombone (B. Tbn.), Trombone (Tbn.), Timpani (Timp.), Cymbals (Cym.), Violin (Vln.), Viola (Vla.), Violoncello (Vcl.), Double Bass (B.D.), Tuba (Tuba), Cymbals (Cym.), Glockenspiel (Glock.), Cymbals (Cym.), Percussion (Perc.), Horn 1 (Ho. 1), Horn 2 (Ho. 2), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Cello (Vcl.). The score shows various musical notations, including notes, rests, and dynamic markings. The percussion part includes a section with the word 'Perc.' written above the staff. The string parts include a section with the word 'Vcl.' written above the staff. The score is presented in a standard musical notation style, with a key signature of one flat and a common time signature.

2.3.b. Notni prikaz pokretljivih situacija u trećem stavku.

te izrazito ritmičnih intervencija

The image displays a page of a musical score, likely for an orchestra and strings. The score is organized into systems, with each system containing multiple staves for different instruments. The instruments listed on the left side of the page include: Flute (Fl.), Clarinet (Cl.), Bassoon (B. Cl.), Oboe (Ob.), Trumpet (Tr.), Trombone (B. Tr.), Tuba (Tu.), Timpani (Timp.), Snare Drum (Cym.), Cymbals (Cym.), Gong (Gong), Cello (Cel.), Double Bass (D. B.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Cello/Double Bass (Vcl./D. B.). The score shows rhythmic patterns and accents across the measures, with some instruments having more active parts than others. The notation includes various rhythmic values, rests, and dynamic markings.

2.3.c. Notni prikaz ritmičnih intervencija u trećem stavku.

stavak bi opravdano mogao završiti repetirajućom gestom u 102. taktu.

Musical score for a symphony, page 28. The score is arranged in systems for various instruments. The instruments listed on the left are: Flute (Fl.), Oboe (Ob.), Clarinet in A (Cl. A), Bass Clarinet (B. Cl.), Clarinet in Bb (Cl. Bb), Bassoon (Bass.), Contrabassoon (Cbass.), Horn in F (Horn), Trumpet (Trpt.), Trombone (B. Trbn.), Tuba (Tuba), Timpani (Timp.), Cymbal (Cym.), Violin (Vln.), Viola (Vla.), Violoncello (Vcl.), Double Bass (Kontrabas), Trombone (B. Trbn.), Trumpet (Trpt.), Horn in F (Horn), Viola (Vla.), Violoncello (Vcl.), Double Bass (Kontrabas), and Double Bass (Kontrabas).

The score features complex rhythmic patterns and dynamics. A section of the score is highlighted with a box, containing the following text: "would collapse on the visible edge of time with a weightless gesture".

2.3.d. Notni prikaz mogućeg završetka trećega stavka.

Ipak, skladateljska odluka da nakon toga uslijedi apoteoza u vidu sporog odlomka rezultirala je neočekivanim raspletom stavka.

The image displays a page of a musical score, likely for an orchestra. The score is written on multiple staves, each labeled with an instrument. The instruments listed on the left side of the page are: Flute (Fl.), Oboe (Ob.), Clarinet in A (Cl. A), Clarinet in Bb (Cl. Bb), Bassoon (B. Cl.), Horn (Hr.), Trumpet (Trp.), Trombone (Tbn.), Percussion (Perc.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Violoncello (Vcl.), and Double Bass (Db.). The score shows a section with a 'pp' (pianissimo) dynamic marking, indicating a very soft volume. The music consists of long, sustained notes, characteristic of an apotheosis or a slow, dramatic passage. The notation includes various musical symbols such as stems, beams, and dynamic markings.

2.3.e. Notni prikaz apoteoze u trećem stavku.

Po uzoru na elektroničku glazbu, spomenuti odlomak oponaša alate dostupne u mnogim računalnim programima za obradu zvuka. Akord koji je razvučen, zaustavljen u vremenu podsjeća na manipulaciju zvuka pomoću alata *time stretch*, *freeze* ili pak *GRM Tools Evolution*.

Nakon kratkog smirenja na kraju trećeg stavka, četvrti stavak donosi neprestanu gradaciju napetosti do gromoglasnog *tutti* na samom kraju.

2.4. Dinamika

Premda je neporeciva važnost dinamike u ostvarivanju karaktera glazbenog sadržaja, u ovoj skladbi dinamika je stavljena u drugi plan. Minimalistički, blokovski građena, čini napetosnu konstantu na koju će utjecati ostale glazbene sastavnice, poput registara, ritma itd.

2.5. Vertikalna sastavnica

U skladbi *In the beginning was...* ne može se govoriti o harmonijskom jeziku u klasičnom, tradicionalnom smislu. Ipak, ne može se poreći postojanje vertikalnog razmišljanja tijekom svih stavaka. Akordi ovdje nisu u službi funkcija, već su poput zamišljenih spektograma u kojima se ističu različite parcijale (također zamišljenog) alikvotnog niza. Posebno je to vidljivo u četvrtom stavku, u kojemu akord nastupa kao jedinstvena zvučna masa, čija je boja rezultat koncepta aditivne sinteze:

The image displays a page of a musical score, page 31, showing a vertical view of the score in the fourth measure. The score is organized into systems of staves. The top system includes Flute (Fl.), Oboe (Ob.), Clarinet in A (C. A.), Clarinet in B-flat (Bb Cl.), Clarinet in C (Cl.), Bass Clarinet (B. Cl.), Bassoon (Bsn.), and Contrabassoon (Cbass.). The second system includes Horn (Hr.), Trumpet (Tpt.), Trombone (Tbn.), and Bass Trombone (B. Tbn.). The third system includes Timpani (Timp.), Cymbals (Cym.), and Violins (Vln.). The fourth system includes Viola (Vla.), Violoncello (Vcl.), and Double Bass (Dbass.). The fifth system includes Percussion (Perc.), Snare Drum (B. D.), Tom-tom (T. d.), Cymbals (Cym.), and Glockenspiel (Glock.). The sixth system includes Cello (Cello), Percussion (Perc.), and Harp I (Hp. I). The seventh system includes Harp II (Hp. II), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Double Bass (Dbass.). The score shows various musical notations, including notes, rests, and dynamic markings, illustrating the vertical structure of the music in that specific measure.

2.5.a. Notni prikaz vertikale u četvrtom stavku.

Zanimljiv je ulomak četvrtog stavka u kojemu tonovi akorda ne nastupaju istovremeno, no intervalskim razmacima podsjećaju na alikvotni niz neke tonske visine.

The image displays a complex musical score for an orchestra, specifically a section from the fourth movement. The score is arranged in a traditional orchestral layout with multiple staves for each instrument family. The instruments shown include Flute (Fl.), Oboe (Ob.), Clarinet in B-flat (Cl. B.), Bassoon (Fag.), Horns (R. C. and L. C.), Trumpets (Tr.), Trombones (Tbn.), Timpani (Tim.), Snare Drum (Cm.), Bass Drum (Cb.), Cymbals (Cym.), and Piano (Pno.). The score features a series of chords where the notes do not enter simultaneously. Instead, they are staggered in time, creating an intervallic pattern that resembles a non-harmonic series. This is achieved through the use of slurs and precise rhythmic markings across the various parts, illustrating the concept of an artificial non-harmonic series.

2.5.b. Notni prikaz umjetnog alikvotnog niza u četvrtom stavku.

2.6. Ritam

Ritamska dimenzija prisutna je tijekom cijele skladbe, a posebno u prvom stavku *The Big Bang*. Nametljivim ritamskim *ostinatom* u udaraljka postiče se neumorna energičnost koja priliči prvome stavku. Zanimljivost ritma i metra prvi stavak duguje upotrebi indijskih ritmova koji su fascinirali i Oliviera Messiaena, a koji je kategorizirao i opisao svih 120 ritmova, poznatih kao *Deçî-Tâlas*². Svi ritmovi preuzeti su pak iz pete knjige *Samgîta-Ratnâkara*, u kojoj je autor prvi puta kategorizirao i naveo indijske ritmove³.

Prema kraju stavka ritmovi su sve složeniji, a u nastavku slijede redni brojevi prema *Deçî-Tâlas* tablici, njihovi nazivi te mjera prema redosljedu pojavnosti:

115. Sarasvatikhantabharana (7/8)

2.6.a. Notni prikaz ritma.

113. Kaladhvani (8/8)

2.6.b. Notni prikaz ritma.

² Melody Baggech, *An English Translation of Olivier Messiaen's Traité de Rythme, de Couleur, e t D'ornithologie*, disertacija, The University of Oklahoma, 1998., str. 303.

³ Olivier Messiaen, *The Technique of My Musical Language*, Editions Musicales, 1944., str. 14-15

120. Çârngadeva (11/8)

Musical score for Çârngadeva (11/8). The score includes staves for Timpani (Timp.), Conga (Cong.), Vibraphone (Vib.), Percussion (perc.), and Bass Drum (B. D.). The percussion parts feature a rhythmic pattern of eighth notes, with a forte (*ff*) dynamic marking.

2.6.c. Notni prikaz ritma.

105. Candrakalâ (16/8)

Musical score for Candrakalâ (16/8). The score includes staves for Timpani (Timp.), Conga (Cong.), Vibraphone (Vib.), Percussion (perc.), Bass Drum (B. D.), Tom-tom (T. t.), Cymbal (Cym.), Glockenspiel (Glock.), Celesta (Cel.), and Piano (Pno.). The percussion parts feature a rhythmic pattern of eighth notes, with a forte (*ff*) dynamic marking. The piano part features a complex rhythmic pattern of eighth notes.

2.6.d. Notni prikaz ritma.

88. Laksmica (17/8)

Musical score for Laksmica (17/8) featuring percussion instruments. The score includes staves for Timpani (Timp.), Conga (Cnt.), Vibraphone (Vib.), Percussion (perc.), B.D., T.A., Cym., Cym., and Glock. The music is written in 17/8 time and includes dynamic markings such as *ff*.

2.6.e. Notni prikaz ritma.

93. Ragavardhana (19/8)

Musical score for Ragavardhana (19/8) focusing on the rhythmic notation for percussion instruments: B.D., T.A., and Cym. The score is in 19/8 time and includes a dynamic marking of *ff*.

2.6.f. Notni prikaz ritma.

Trinaestosminska mjera (13/8) koja počinje u 37. taktu nema indijsku inačicu, no može se objasniti kao retrogradna Candrakalâ kojoj nedostaju prva i posljednja ritamska vrijednost (3+3+3+2+2). Svi navedeni ritmovi su razvijani tijekom stavka i slobodno varirani, a često se javljaju u augmentaciji u odnosu na ritam prikazan u Deçî-Tâlas. Kompleksnost ritmova i mjera suprotstavljena je naizgled jednostavnom formalnom planu prvoga stavka. Naime, svaka mjera traje točno dvanaest taktova, što sugerira tradicionalnu pravilnost u izgradnji forme. Ipak, svaki nadolazeći ulomak od dvanaest taktova sve je duljeg trajanja u odnosu na prethodne. Na taj način se i protok vremena u glazbi relativizira te podvrgava manipulaciji.

Ostali stavci skladbe ne služe se indijskim ritmovima, već donose lažnu reminiscenciju na prvi stavak u vidu ritmičnih perkusivnih solističkih intervencija, poput klavirskih pasaža u trećem stavku,

Musical score for piano (Pno) showing a passage in the third movement. The score is in 13/8 time and features a complex rhythmic pattern.

2.6.g. Notni prikaz klavirskih pasaža u trećem stavku.

ili pak udaraljkaških ulomaka u četvrtom stavku,

The image displays a musical score for the fourth movement, featuring percussion and piano parts. The percussion section includes Timpani (Timp.), Conga (Cong.), Vibraphone (Vib.), Percussion (perc.), Bass Drum (B.D.), Tom-tom (T.-t.), Cymbals (Cym.), and Glockenspiel (Glock.). The piano part is divided into Cello (Cel.) and Piano (Pno.). The score is written in 4/4 time and consists of four measures. The percussion parts are characterized by rhythmic patterns, including eighth and sixteenth notes, and rests. The piano part features a melodic line with a long, sweeping slur across the measures, indicating a continuous, flowing passage.

2.6.h. Notni prikaz klavirskih pasaža u trećem stavku.

u kojima brze izmjene mjera unose pokretljivost i nepredvidljivost.

3. Zaključak

Cilj ove analize jest pružiti uvid u elemente skladateljskog stila koji, gledajući ukupno, daju jasniju sliku o skladateljskim tendencijama i namjerama prilikom stvaranja. Svaka moja dosadašnja skladba tijekom studija služila je učenju, razvijanju i njegovanju vlastitih interesa – isto se može reći i za ovu skladbu. Znatiželja me odvela u svijet spektralizma koji me fascinirao brojnim mogućnostima, a koje sam željela istražiti u vlastitoj skladbi. Tijekom procesa stvaranja, privukao me do tada još nedovoljno istraženi teren proširenih tehnika na instrumentima, tehnološke mogućnosti koje nudi područje elektroničke glazbe, kao i izazov da u skladanju objedinim umjetnički i znanstveni pristup. Nadam se da će ovi elementi rezultirati zvučnim podražajima koji su slušatelju zanimljivi te za kojima će rado posezati. Smatram da završetkom studija ne prestaje učenje – velika mi je želja nastaviti se razvijati i napredovati, a vjerujem da će i moj stil sazrijevati iskustvom i njegovanjem skladateljskog poziva.

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