

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

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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

DIPLOMSKI RAD



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DIPLOMSKI RAD

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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 (Bsu.), and Contrabassoon (Cbss.). The second system includes Horn (Hr.), Trumpet (Tpt.), Trombone (Tbn.), Bass Trombone (B. Tbn.), Tuba (Tub.), Timpani (Timp.), Snare Drum (Cm.), and Violin (Vln.). The third system includes Percussion (Perc.), Bass Drum (B. D.), Tom-tom (T. D.), Cymbal (Cym.), and Gong (Gong.). The fourth system includes Clarinet in C (Cl.), Piccolo (Pic.), Horn 1 (Hr. I), Horn 2 (Hr. II), Violin 1 (Vln. I), Violin 2 (Vln. II), Viola (Vla.), and Cello (Cb.). The score shows a unison movement where many instruments play the same melodic line. The Piccolo part is particularly active, with many notes and rests. The strings (Violins, Viola, Cello) also play a unison line, with some dynamics markings like *mf* and *pp*. The woodwinds and brass parts are mostly silent or play simple accompaniment.

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 standard orchestral format with multiple staves for different instruments. The instruments listed on the left are: Flauto (Flute), Flauto (Flute), Clarineti (Clarinets), Clarineti in Bb (Clarinets in Bb), Bass Clarinet in Bb, Bassoni (Bassoons), Contrabbasso (Double Bass), Horni in F (Horns in F), Trombe in Bb (Trumpets in Bb), Trombone (Trombone), Bass Trombone, Tuba, Timpani (Timpani), Cimbali (Cymbals), Vibrafono (Vibraphone), Maracas, Bass Drum, Tambora (Tambora), Cymbali (Cymbals), Cymbali (Cymbals), Glockenspiel, Cimbali (Cymbals), Flauto (Flute), Harpa 1 (Harp 1), Harpa 2 (Harp 2), Viola I (Viola I), Viola II (Viola II), Viola (Viola), Violoncello (Cello), and Double Bass. The score shows the thematic material of a minor second interval across various instruments, with some instruments having specific markings like "mf" and "f".

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, specifically the fourth measure of a piece. The score is written for a full orchestra and includes parts for Flute, Oboe, Clarinet, Bassoon, Trumpet, Trombone, Percussion, Violin, Viola, and Cello/Double Bass. The notation shows a complex texture with many notes and rests, illustrating the concept of additive synthesis through the gradual introduction of new sounds over time. The score is organized into systems, with each instrument or section represented by a set of staves. The notation includes various note values, rests, and dynamic markings, all contributing to the overall sound of the piece.

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 organized into systems of staves. The instruments listed on the left side of the page include:

- Flu. (Flute)
- Fl. (Flute)
- Obo. (Oboe)
- C. A. (Cor Anglais)
- Ho. C. I. (Horn in C I)
- C. I. (Trumpet in C I)
- H. C. I. (Horn in C I)
- Klar. (Clarinet)
- Fag. (Bassoon)
- Hr. (Harp)
- Trom. (Trombone)
- Tbn. (Trombone)
- B. Tbn. (Baritone Trombone)
- Tbn. (Trombone)
- Timp. (Timpani)
- Cim. (Cymbal)
- Vln. (Violin)
- Viol. (Violin)
- Vcl. (Violoncello)
- B. Vcl. (Bass Violoncello)
- Tuba
- Cim. (Cymbal)
- Glock. (Glockenspiel)
- Cac. (Cacophony)
- Pan. (Percussion)
- Hr. I. (Harp I)
- Hr. II. (Harp 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. At the end of the piece, there is a section where all instruments play a chromatic total, representing the full spectrum of sound. This is indicated by the text '2.1.e. Notni prikaz kromatskog totala u akordu, IV. st.' (2.1.e. Notational representation of chromatic total in chord, IV. st.).

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. The score is organized into four measures. The instruments listed on the left side of the score include: Flute (Fl.), Piccolo (Pic.), Oboe (Ob.), Cor Anglais (C.A.), Bassoon (Bb Cl.), Clarinet (Cl.), Bassoon (Bb Cl.), Bassoon (Bb Cl.), Clarinet (Cl.), Horn (Hr.), Trumpet (Tpt.), Trombone (Tbn.), Bass Trombone (B. Tbn.), Tuba (Tub.), Timpani (Timp.), Cymbals (Cym.), Violin (Vln.), Viola (Vla.), Violoncello (Vcl.), Double Bass (B. Cl.), Trumpet (Tpt.), Trombone (Tbn.), Bass Trombone (B. Tbn.), Tuba (Tub.), Snare Drum (Cym.), Cymbals (Cym.), Tom-toms (Tom.), Bass Drum (B. Cl.), and Double Bass (B. Cl.). The score shows a complex arrangement of notes and rests across these instruments, with some instruments playing sustained chords or textures. The first measure is particularly notable for its dense, vertical arrangement of notes, which is the focus of the text above.

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 a symphony, specifically the fourth movement. The score is written for a full orchestra and includes parts for woodwinds (Flute, Oboe, Clarinet, Bassoon, Trumpet, Trombone, Tuba, Snare Drum, Cymbal, Tom-tom, Gong, Triangle, Chimes, Glockenspiel, Harp, and Strings). The music is characterized by a complex rhythmic structure, featuring multiple time signatures and dynamic markings. The score is divided into measures, with some measures containing rests and others containing active musical notation. The overall texture is dense and intricate, reflecting the dramatic and experimental nature of the piece.

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 Flute (Fl.), Oboe (Ob.), Clarinet in A (C.A.), Bass Clarinet (Bb Cl.), Clarinet (Cl.), Bass Clarinet (Bb Cl.), Bassoon (Bsn.), and Contrabassoon (Cbn.). The second system includes Horn (Hr.), Trumpet (Tpt.), Trombone (Tbn.), Bass Trombone (B. Tbn.), and Tuba (Tub.). The third system includes Timpani (Timp.), Snare Drum (Cm.), and Violoncello (Vcl.). The fourth system includes Bass Drum (B. D.), Tom-tom (T. C.), Cymbal (Cym.), and Gong (Gbn.). The fifth system includes Cor Anglais (Cor.), Piccolo (Pic.), and Flute I (Fl. I). The sixth system includes Flute II (Fl. II), Viola (Via.), Violin I (Vn. I), Violin II (Vn. II), and Double Bass (Dbl.). The score shows various musical notations, including notes, rests, and dynamic markings. A key signature change is indicated by a double bar line with a sharp sign. The meter change is marked with a 4/4 time signature in the fourth measure. The Piccolo part has a melodic line with a crescendo hairpin. The Cor Anglais part has a melodic line with a crescendo hairpin. The Flute I part has a melodic line with a crescendo hairpin. The Flute II part has a melodic line with a crescendo hairpin. The Viola part has a melodic line with a crescendo hairpin. The Violin I part has a melodic line with a crescendo hairpin. The Violin II part has a melodic line with a crescendo hairpin. The Double Bass part has a melodic line with a crescendo hairpin.

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, focusing on the first three measures of the third movement. The score is written for a full orchestra, including woodwinds, brass, strings, and percussion. The notation is dense, with many notes and rests across multiple staves. The key signature has one flat, and the time signature is 3/4. The score is divided into measures by vertical bar lines.

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, Clarinet in Eb, Bass Clarinet in Eb, Saxophone, Contrabassoon, Horn in F, Trumpet in Bb, Trombone, Bass Trombone, and Tuba.
- System 2:** Includes Timpani, Cymbals, and Vibraphone. Below this system are staves for Mallet percussion set, Bass Drum, Tom tom, Cymbals, Glockenspiel, Chimes, and Piano.
- System 3:** Includes Harp I, Harp II, Viola I, Viola II, Viola, Violoncello, and Double Bass.

The notation shows repeating rhythmic patterns in the woodwind and brass sections, with dynamic markings such as *p* and *ff*. The string sections (Violins, Viola, Cello, and Double Bass) show sustained notes with dynamic markings like *pp*, *ppp*, and *pppp*.

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, specifically the third measure of a piece. The score is arranged in a standard orchestral format with multiple staves for different instruments. The instruments listed on the left side of the page are: Flute I, Flute II, Oboe I, Oboe II, Clarinet in A, Clarinet in Bb, Bassoon I, Bassoon II, Horn I, Horn II, Trumpet I, Trumpet II, Trombone I, Trombone II, Trombone III, Timpani, Cymbals, Violin I, Violin II, Viola, Cello, Double Bass, Percussion, and Strings. The notation includes various note values, rests, and dynamic markings such as 'ff' (fortissimo) and 'f' (forte). The score is presented in a clear, professional layout with a white background and black ink.

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 two systems of staves. The first system includes woodwinds (Piccolo, Flute, Oboe, Cor Anglais, Bassoon, Clarinet, Bassoon, Clarinet), brass (Trumpet, Trombone, Horn, Tuba, Euphonium, Trombone, Trumpet, Trombone, Tuba, Timpani, Cymbal, Snare Drum, Bass Drum, Tom-tom, Cymbal, Glockenspiel, Chimes), strings (Violin I, Violin II, Viola, Violoncello, Double Bass), and Percussion. The second system includes Percussion, Flute I, Flute II, 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 full orchestral arrangement. The score is organized into two systems of staves. The instruments listed on the left side of the page are: Flute (Fl.), Oboe (Ob.), Clarinet in A (C.A.), Bassoon (B.C.), Clarinet in Bb (Cl.), Bassoon in C (B.C.), Bassoon (B.), Clarinet in Bb (Cl.), Horn (Ho.), Trumpet (Tpt.), Trombone (Tbn.), Bass Trombone (B. Tbn.), Trombone (Tbn.), Snare Drum (Timp.), Cymbal (Cym.), Violin (Vln.), Viola (Vla.), Violoncello (Vcl.), Double Bass (K. B.), Tuba (Tub.), Cymbal (Cym.), Cymbal (Cym.), Snare Drum (Timp.), Cymbal (Cym.), Percussion (Per.), Horn 1 (Ho. I), Horn 2 (Ho. II), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Double Bass (K. B.). 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 'f'.

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.C.), Clarinet (Cl.), Bass Clarinet (B.Cl.), Bassoon (Bsu.), and Contrabass (Cbas.). The second system includes Flute (Fl.), Trumpet (Tpu.), Trombone (Tbn.), Bass Trombone (B. Tbn.), and Tuba (Tba.). The third system includes Timpani (Timp.), Concert Snare Drum (Csn.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Cello (Cvl.), Double Bass (Dbl.), and Contrabass (Cbas.). The fourth system includes Piccolo (Pic.), Horn I (Hp. I), Horn II (Hp. II), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Cello (Cvl.), and Double Bass (Dbl.). The notation includes various musical symbols such as notes, rests, and dynamic markings. The page number '18' is located in the top right corner, and a small number '37' is visible in the upper right margin of the score area.

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, showing the notation for various instruments. The score is organized into four systems of staves. The instruments listed on the left side of the page are: Fl., Ob., C.A., B.C., B., Cello, Hr., Tpt., Tbn., Timp., Cym., Glnk., B.D., Cym., Tr., Hr. 1, Hr. 2, Vln. I, Vln. II, Vla., and Db. The notation includes notes, rests, and dynamic markings such as 'ppp' and 'mf'. The score is presented in a standard musical notation format with a key signature of one flat and a 4/4 time signature.

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 written for a variety of instruments, including woodwinds (Flute, Oboe, Clarinet, Bassoon), brass (Horn, Trumpet, Trombone, Tuba), percussion (Snare Drum, Cymbal, Tom, Bass Drum, Triangle, Castanets), and strings (Violin I, Violin II, Viola, Violoncello, Double Bass). The music is characterized by a deep, dark register, with many notes written below the staff line, indicating a low, somber sound. The score is divided into measures, and there are some dynamic markings like 'ppp' (pianissimo) and 'f' (forte) visible. The overall texture is dense and focused on the lower frequencies.

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

The image shows a musical score for orchestra and choir, page 22. The score is arranged in a standard format with multiple staves. The instruments listed on the left side of the score are: Flute (Fl.), Oboe (Ob.), Clarinet in A (Cl. A.), Bassoon (B.C.), Bassoon (B.), Trumpet (T.), Trombone (B. Tr.), Percussion (Perc.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Cello/Double Bass (Cb.). The vocal parts are Soprano (Sop.), Alto (Alto), Tenor (Ten.), and Bass (B.). The score shows a complex texture in the lower register, with the vocal parts and some instrumental parts (like the cello and double bass) playing in a deep register. The vocal parts are written in a deep register, and the instrumental parts are also written in a deep register. The score is divided into four measures, with the vocal parts and some instrumental parts playing in a deep register. The vocal parts are written in a deep register, and the instrumental parts are also written in a deep register. The score is divided into four measures, with the vocal parts and some instrumental parts playing in a deep register. The vocal parts are written in a deep register, and the instrumental parts are also written in a deep register.

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

The image displays a page of a musical score for a symphony orchestra, page 23. The score is arranged in a standard orchestral format with staves for various instruments. The instruments listed on the left are: Fl. (Flute), Fl. (Flute), Ob. (Oboe), Cl. A. (Clarinets in A), Bb Cl. (Clarinets in Bb), Cl. (Clarinet), B. Cl. (Bass Clarinet), Bsn. (Bassoon), Chbn. (Chimpanzee), Hrn. (Horn), Trp. (Trumpet), Trbn. (Trombone), B. Trbn. (Baritone Trombone), Trbn. (Trombone), Timp. (Timpani), Cym. (Cymbal), Vln. (Violin), Perc. (Percussion), B. D. (Bass Drum), T. C. (Tom Cymbal), Cym. (Cymbal), Clack. (Clack), Ctr. (Cymbal), Perc. (Percussion), Hrn. I. (Horn I), Hrn. II. (Horn II), Vln. I. (Violin I), Vln. II. (Violin II), Vln. (Violin), and Cb. (Cello/Double Bass).

The score includes several performance instructions:

- For the Flute part: "Blow carefully like a flutist about. Result: noisy special sound." (Slovenian: "Blow carefully like a flutist about. Result: noisy special sound.")
- For the Cymbal part: "Blow a cymbal and make it sound like a flutist about. Result: noisy special sound." (Slovenian: "Blow a cymbal and make it sound like a flutist about. Result: noisy special sound.")
- For the Percussion part: "Repeat the notes given on a few strings. Use on the stick." (Slovenian: "Repeat the notes given on a few strings. Use on the stick.")

The score is written in a standard musical notation with various dynamic markings such as *p* (piano) and *f* (forte). The notation includes stems, beams, and notes for each instrument part.

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 from a symphony or opera. The score is organized into systems of staves. The instruments listed on the left side of the score are:

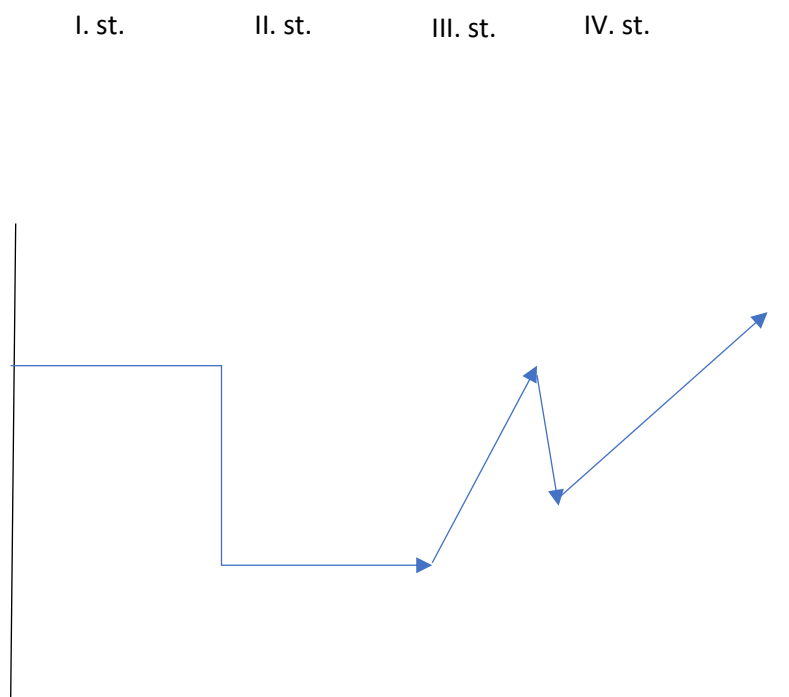
- Flu. (Flute)
- Fl. (Flute)
- Ob. (Oboe)
- C.A. (Clarinet in A)
- B.C. (Bassoon)
- Cl. (Clarinet)
- B.C. (Bassoon)
- Bas. (Bass)
- Chor. (Chorus)
- Hr. (Horn)
- Tpt. (Trumpet)
- Tbn. (Tuba)
- B. Tbn. (Baritone Tuba)
- Tbn. (Tuba)
- Timp. (Timpani)
- Cim. (Cymbal)
- Vcl. (Violin)
- Vcl. (Violin)
- B. Vcl. (Violoncello)
- T. C. (Trombone)
- Cim. (Cymbal)
- Cim. (Cymbal)
- Glock. (Glockenspiel)
- Cl. (Clarinete)
- Flu. (Flute)
- Flu. (Flute)
- Flu. 1 (Flute 1)
- Flu. 2 (Flute 2)
- Vcl. I (Violin I)
- Vcl. II (Violin II)
- Vcl. (Violin)
- Vcl. (Violin)
- Vcl. (Violin)
- Vcl. (Violin)

The score shows various 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, page 26, featuring a variety of instruments. The score is organized into 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.), Trumpet (Tpa.), Trombone (Tbn.), Trombone (Tbn.), Clarinet (Cl.), Bassoon (B.), Bassoon (B.), Horn (Ho.), Horn (Ho.), Horn (Ho.), Violin I (Vln. I), Violin II (Vln. II), Violin (Vln.), Viola (Vla.), and Double Bass (B.). The score shows musical notation for each instrument, including notes, rests, and dynamic markings. The notation is in a standard musical format with a key signature of one flat and a common time signature. The page number 26 is located in the top right corner.

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 of staves. The instruments listed on the left side of the page include: Flute (Fl.), Oboe (Ob.), Clarinet (Cl.), Bassoon (B. Cl.), Trumpet (Tr.), Trombone (B. Tr.), Timpani (Timp.), Snare Drum (Cym.), Cymbals (Cym.), Glockenspiel (Glock.), Cor Anglais (Cor.), Percussion (Perc.), Horns (Hr. I, Hr. II), Violins (Vln. I, Vln. II), Viola (Vla.), and Cellos/Double Basses (Vcl.). The score shows rhythmic patterns and dynamic markings across several measures, with a specific focus on rhythmic interventions in the third measure. The notation includes various rhythmic values, rests, and dynamic markings such as *f* and *mf*.

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

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

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, specifically a section of an apotheosis. The score is written for a full orchestra and includes parts for various instruments: 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 (Vln.), Viola (Vla.), Cello (Cl.), and Double Bass (Db.). The music is characterized by long, sustained notes and a slow, grandioso tempo. The score is written in a standard musical notation with a key signature of one flat and a time signature of 3/4. The tempo marking 'And. mos. molto' is visible at the beginning of the section. The score is divided into four measures, with the first measure containing a long, sustained note for the Flute and Oboe, and the second measure containing a long, sustained note for the Clarinet in A and Bassoon. The third and fourth measures contain long, sustained notes for the Horn, Trumpet, Trombone, and Percussion. The score is written in a standard musical notation with a key signature of one flat and a time signature of 3/4. The tempo marking 'And. mos. molto' is visible at the beginning of the section.

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:

Fl.
 Ob.
 C. A.
 Bb. Cl.
 Cl.
 B. Cl.
 Bsn.
 Cbass.
 Hr.
 Trp.
 Tbn.
 B. Tbn.
 Tbn.
 Timp.
 Cym.
 Gong.
 Hr.
 Trp.
 Cym.
 Cym.
 Gong.
 Cb.
 Psn.
 Hp. I.
 Hp. II.
 Vla. I.
 Vla. II.
 Vla.
 Vcl.
 Kb.

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 a symphony, specifically the fourth movement. The score is arranged in a traditional orchestral format with multiple staves for each instrument family. The instruments shown include Flute (Fl.), Oboe (Ob.), Clarinet in B-flat (Cl. B.), Bassoon (Fg.), Horn in F (K. F.), Trumpet in F (Tpt. F.), Trombone in F (Tbn. F.), Tuba (Tbn.), Snare Drum (Cym.), Cymbal (Cym.), Bass Drum (Cym.), Percussion (Perc.), Harp (Ar. H.), Violin I (Vln. I), Violin II (Vln. II), Viola (Vcl.), and Cello (Cb.). 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 a characteristic feature of certain modernist compositions, such as those by Schoenberg or Stravinsky, where the focus is on the intervallic relationships between notes rather than traditional harmonic structures.

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 redoslijedu 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.), Celeste (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) showing percussion parts: Timpani, Conga, Vibraphone, Percussion, B.D., T.A., Cym., Cym., and Glockenspiel.

2.6.e. Notni prikaz ritma.

93. Ragavardhana (19/8)

Musical score for Ragavardhana (19/8) showing percussion parts: Percussion, B.D., T.A., and Cym.

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 piano passage in the third movement.

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 shown in two staves, labeled 'Cel.' (Cello) and 'Pno.' (Piano). The score is written in 4/4 time and consists of four measures. The percussion parts are marked with various rhythmic patterns and dynamics, while the piano part features a melodic line with a crescendo and a fermata.

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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