

SVEUČILIŠTE U ZAGREBU MUZIČKA AKADEMIJA

III ODSJEK

FRANCESCO MAZZOLENI

**The percussion opus of Igor Kuljerić with focus on *Toccata*
and *Concerto for Ivana***

DIPLOMSKI RAD



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Mentor: izv. prof. art. Ivana Kuljerić Bilić

Student: Francesco Mazzoleni

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DIPLOMSKI RAD ODOBRILO MENTOR

izv. prof. art. Ivana Kuljerić Bilic



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POVJERENSTVO:

1. izv. prof. art. Ivana Kuljerić Bilic
2. red. prof. art. Igor Lešnik
3. prof. art. Krešimir Seletković
4. nasl. doc. Božidar Rebić
5. nasl. doc. Marko Mihajlović

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1. Introduction

To find the reason why I decided to approach this topic for my final thesis, we need to go back in time, more concretely, four years ago. As a first task in my studies in Zagreb Music Academy, I was given a percussion score that had the biggest percussion set-up I had (and have) ever encountered. In this particular scenario, I was performing the percussion part that accompanies the marimba in the chamber adaptation of *Concerto for Ivana*, done actually by professor Ivana Kuljerić Bilić herself and her mother Vanja Kuljerić who was in charge of the piano part. By working on this piece from the accompaniment's point of view, I could already observe and notice the special way of writing of Igor Kuljerić. But it was also the possibility of working on the piece with professor Ivana Kuljerić Bilić that motivated me to give a deeper look in this style.

Four years later and after working in so many other compositions with professor Ivana Kuljerić Bilić, I find this analysis - this time from the soloist's point of view - the best way to understand Igor Kuljerić's impact on my professor's musical aesthetics.

Getting into the research, I found an extra motivation: there is no comparative study that would focus on the use of percussion instruments (solo or in orchestra) in Kuljerić's opus.

My goal is to give a better perspective and understanding of composer's percussion music through the study of his biography and opus, creating a general catalogue of his pieces, (examining the treatment of percussion in orchestral, choral and chamber settings) and finally, through the analysis of Kuljerić's two pieces featured on the program of my Masters graduation-recital: *Toccata for Vibraphone and Piano* and *Concerto for Ivana for Marimba and Orchestra*. My approach will take into consideration several elements: historical context, music form, harmony, melody, instrumental technique and several remarks and thoughts from the performer's point of view.

2. Biography of Igor Kuljerić

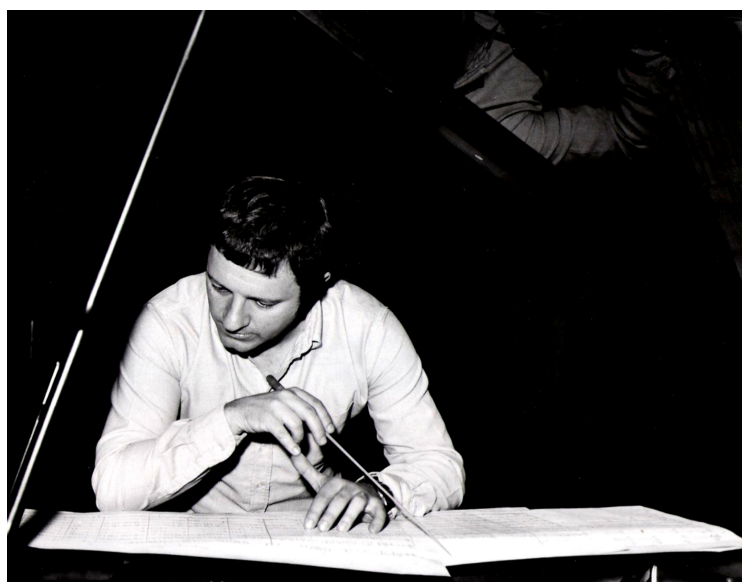
Igor Kuljerić was born on 1st February 1938 in Šibenik, Croatia. His parents Marija and Antun are both originally from the Island of Silba¹, where Igor spent his childhood years. It is a place that would later become a big source of inspiration for the composer. Literature and writing attracted Igor Kuljerić from his young age so he decided to enroll into English studies at the University of Zadar. Until Kuljerić came to Zagreb, his music studies were all private. Only in

¹ Croatian island in the Adriatic Sea

Zagreb did he decide to pursue them in a more institutional frame: with the help and support of his dear friend and colleague Pavle Dešpalj, and after a year of studies at the Lisinski Music School, in 1957, he enrolled into composition studies in the class of Stjepan Šulek at the Music Academy of Zagreb. Since the beginning of his studies Igor Kuljerić was very successful, with most of his first compositions being regularly premiered.

In the same time, he started working as accompanist in the Croatian National Theater in Zagreb. Soon after his graduation in 1963, Kuljerić became a member of Zagreb Soloists as a cembalist and assistant conductor to Antonio Janigro. After receiving a grant from the Italian government in 1975, he studied opera repertoire at La Scala in Milan. He also took part in the experimental musical activities at the Studio di fonologia musicale of RAI² along with Luigi Nono and other important figures of the music avant-garde.

In 1968 he started his intensive cooperation with RTZ³, later called HRT⁴ that will last until his death. He worked as conductor of Orchestra and Choir, as composer and arranger for all of its ensembles. During his professional career Kuljerić took over many important positions in Croatian cultural institutions, including music directorships of festivals TMSJ⁵ (1977-1988), Music Biennale Zagreb (1980-1983), Dubrovnik Summer Festival (1984-85), Vatroslav Lisinski Concert Hall (1980-84) and Croatian National Theatre (1994-2003).



Picture 1 Igor Kuljerić in 1979

² Radiotelevisione Italiana

³ Radiotelevizija Zagreb

⁴ Hrvatska radio televizija

⁵ Tribina muzičkog stvaralaštva Jugoslavije

The opus of Igor Kuljerić is particularly rich and diverse, and therefore difficult to classify. Kuljerić composed music for theater productions, movie soundtracks, crossover projects and was a particularly prolific arranger. He was a member of Croatian Academy of Arts and Sciences (HAZU) and through his life, he has received all the major Croatian awards, and the UNESCO award. His compositions are regularly performed home and abroad.

3. Opus

“Kuljerić is one of the most successful avant-garde Croatian composers. In his works for the stage he uses variety of new compositional and technical procedures to promote dramatic development...”⁶

Throughout his composing period from years 1960 to 2006 and with his extensive work, Igor Kuljerić made an exceptionally valuable contribution to Croatian music. He wrote for solo and chamber music; orchestral and choral settings; he wrote oratorios, operas, arrangements, adaptations, film, theater and incidental music. In general, Igor Kuljerić explores many different possibilities of sound realization in his work.

It is interesting to observe the development of his style from his early student works, through avant-garde rebellion in the seventies and early eighties, influenced by electroacoustic research in Italy and the experience of actual tendencies in the period when he was given the directorships of Opatija Contemporary Festival and Music Biennale of Zagreb; to his final disconnection from the avant-garde, while still embracing the positive experiences which he used in his future pieces. Thus it is difficult to define a general compositional style of Igor Kuljerić, since throughout his musical life he composed and experimented with many different kinds of music.

To create a deeper understanding of his aesthetics I bring the division of Kuljerić’s musical style and interest made by the Croatian musicologist Nikša Gligo.⁷ Gligo extractes several constants that even by their occasional contradiction show Kuljerić’s musical persona:

⁶ Kos, K. Igor Kuljeric (2001), in: *Grove Music Online*.

⁷ Gligo, N. Igor Kuljeric, nekrolog, in: Sedak, E. (ed.) *Spomenica preminulim akademikima: Igor Kuljerić: 1938.-2006*. Hrvatska akademija znanosti i umjetnosti. 2008, pp. 757-760.

- a) the soundscape created by a special kind of improvisational interaction between the soloist (or group of soloists) and the ensemble
- b) entering into dialogue with the Croatian music heritage, so that its features are reinterpreted through modern expression, as evidence of its contemporary relevance
- c) re-examining the constructive expressive properties of folklore materials
- d) composing of didactically oriented applied music, adapted to the abilities of amateur performers
- e) a particular interest in musical theater

To the division, Gligo adds:

“If it seems that there is something missing to define more closely Kuljerić's music personality (since the mentioned primarily relates to Kuljerić as a composer), then we should most certainly add his music versatility, care for every moment of life and not just his music, and the effort to live the music with full power and in all the spaces occupied not only by one specific music but by all possible kinds of music - since those spaces for Kuljerić were indeed the spaces of intense and versatile life in the full sense of the word, beyond all habits, routines and the expected!”⁸

His words have helped me to understand and recognize some common features in his compositions and to understand the inspirations that defined him as composer better.

The following chapter brings a selection of pieces from his opus that include percussion.

4 Catalogue of works with percussion

4.1 Orchestral repertoire

Among his early works, the first piece he wrote with the use of percussion was already during his studies at the Music Academy. That's the case of *Ballet Suite I and II for Symphony Orchestra* (1964-65). The number of percussionists required for this composition is three, following a timpanist⁹. That's a considerable number taking in consideration that it is the first time he composed for this instrument. The piece is written in a more-to-say conventional, academic style. In

⁸ Gligo, N. Igor Kuljeric, nekrolog, in: Sedak, E. (ed.) *Spomenica preminulim akademikima: Igor Kuljerić: 1938.-2006*

⁹ For more clarity following the traditional orchestra setting, in all the pieces for symphony orchestra the presence of a timpanist in the orchestra I will specify the timpani disposition.

the same year he created *Concerto overture for Symphony Orchestra*, in whose case he used only two percussionists and timpani, and the writing for percussion is also more conventional.

In 1970 he wrote *Figurazioni con tromba*, one of his first emblematic pieces, an avant-garde concert piece for solo trumpet(s). The piece exists in three versions, the last one from 1976 (for solo trumpet and two orchestras, symphony orchestra and big band) and it has the following disposition of orchestra percussion:

Percussion I Marimba, 2 cymbals, tam-tam, maracas, 1 timpani, snare drum, crotales

Percussion II Xylophone, tubular bells, tam-tam, snare drum, 1 timpani

Percussion III Vibraphone, 2 cymbals, 3 bongos, guiro, maracas, 5 temple blocks

Percussion IV Glockenspiel, hi-hat, 3 wood blocks, conga, tambourine, claves, 3 gongs

This specific distribution of four percussionists - each of them assigned with a different keyboard instrument: marimba, vibraphone, xylophone and glockenspiel, with added extra percussion; will become one of Kuljerić's trademarks when writing for percussion in a symphony orchestra setting.

In 1972, Kuljerić wrote *Solo-Tutti for Piano and Symphony Orchestra* with four percussionists (without timpani). Seven years later he composed *Koralna predigra/Choral Overture*, another avant-garde piece with many open sections. It is interesting for its use of four timpani, one for each percussionist in the section, in addition to the orchestra timpanist with his usual set. Again, the percussionists are also assigned each with a different keyboard instrument - marimba, vibraphone, xylophone, and this time introducing the tubular bells. This instrument, echoing the sound of the church bells from the island of his ancestors, will in the future become one of his favorite instruments for dramatic climaxes.

In 1986, *Risuono di gavotta* opens a further development in his style. Here Kuljerić mixes and reinterprets parts of music history: traditional music and avant-garde experiences. The avant-garde influence is mostly seen in his treatment of *free/ad libitum* situations and the extended techniques in the instrumentation. These sections are important for Kuljerić's style, and the role of percussion is important in defining the color and the atmosphere. The percussion section asks for four players (without timpani), playing marimba, vibraphone, tubular bells/crotales and various other percussion, including a small drum-set (the composer asks for a jazz set, probably inspired by his experiences with the Radio Big Band), which he will later also use in his *Concert Piece for Flutes* and *Pop Concerto for Trumpet*.

Two years later, Kuljerić composed *Concertpiece in D for Flutes and Orchestra*, another piece with a disposition of four percussionists, with many keyboard instruments.

List of instruments:

I Vibraphone, 2 bongos, 5 temple-blocks

II Xylophone, tam-tam, crotales, suspended cymbal, guiro, wind chimes

III Marimba, tam-tam, jazz set

IV Glockenspiel, tubular bells, suspended cymbal, gong, 2 tam-tams, whip

The ballet *Riky Levy* written in 1991, with three percussionists and timpani in the orchestra, has a prominent use of vibraphone and marimba, a pairing of instruments he will often use.

In 1999, Kuljerić made an orchestral version *Riki Levy five scenes for Orchestra*.

The instrumentation for the suite asks for a slightly different disposition in the timpani/percussion section. Still, their role is very dominant, especially for vibraphone, glockenspiel and timpani.

The composer uses free situations and his taste for instrumentation to bring out different colors (oriental bazaar) and emotions (love, death).

List of instruments:

I vibraphone, snare drum

II tubular bells, crotales, sonagli, glass-chimes, suspended cymbal, gong, bass drum.

III glockenspiel, cymbal, suspended cymbal, tam-tam, 5 temple blocks, guiro, frusta, snare drum.

The same year, he created *Pop concert for Solo Trumpet and Orchestra*, a three movement concerto inspired by pop music featuring four percussionists and one timpanist.

The last orchestral piece composed with the use of percussion is *Bel kamen kampanela (2006)*. The composer unfortunately didn't live to hear its premiere. The piece asks for three percussionists and two timpanists. It opens with a big glissando with two hammers on the tubular bells, which are, as mentioned before, one of his recognizable features (and are also present in the *Concerto for Ivana*). The bells keep their very important role throughout the piece, bringing thematic material and a colorful, spiritual reminder of the church bells of his beloved island Silba where he was to be buried soon after the completion of the piece.

4.2 Choral, oratorio and opera opus:

From the beginning of his artistic life, Igor Kuljerić managed to successfully combine two careers: composing and conducting. Already during his studies, he started to work as accompanist and assistant conductor in the Croatian National Opera in Zagreb. A few years later, he became the cembalist and the assistant conductor of Antonio Janigro in the Zagreb Soloists, with whom he did his conducting debut during their tour in the USA in 1968. That year he also started to collaborate with the Choir and the Orchestra of the Croatian Radiotelevision. With them, he premiered many pieces of Croatian composers and regularly performed international contemporary repertoire. The cooperation with the Choir was particularly intense, since he has always had a particular interest in vocal expression and written word.

The first choral piece where we find the use of percussion is *Quam pulchra es* written in 1972, an *hommage* to the Croatian baroque composer Ivan Lukačić, as the subtitle states (*Omaggio a Lukačić*). The compositional technique uses avant-garde decomposing of a famous motet of this 17th century Dalmatian composer. Here he uses some of his favorite percussion instruments for intensive coloring - tam tams and timpani.

In the same period we also find *Galeotova pesan /The Galley-slave's song* for mixed choir and timpani. Kuljerić composed it in 1976, using the text of the Croatian writer Vladimir Nazor. Seven years later he composed *Kanconijer* for actors, mixed choir and symphony orchestra, with the usage of four percussionists and no timpani.

One year later, Kuljerić finished his first opera, *Moć vrline/Power of virtue*, using a chamber orchestra that features a percussion quartet.

The opera *Richard III*, composed in 1987, is written for 4 percussionist and timpani. The libretto is written by Nenad Turkalj and Igor Kuljerić himself, using the template of William Shakespeare.

It has a very interesting use of temple blocks, which are featured as the solo and sometimes only instrument accompanying the monologue of Richard. The theme of the *gavotte* is colored by percussion keyboard instruments is also used in the orchestral work *Risuono di gavotta*, and actually originates from his theater music. The postmodern technique of recycling and reinterpreting, together with the process of developing the melodic material through new and innovative instrumentation are strong characteristics of his style.

In 1990 Kuljerić finished *The Ballads of Petrica Kerempuh*. The piece is based on a collection of poems made by the Croatian writer Miroslav Krleža. It's written for soloists, mixed and children choir and symphony orchestra with four percussionists and no timpani. Two years later he composes *Glazba za Osmana/Music for Osman* for soloists, in which we see an important use of marimba and vibraphone. It's composed for mixed choir and symphony orchestra, with three percussionists and timpani. Next came *Sonata od sna/Dream Music*, written for soloists, mixed choir and instrumental ensemble with two solo percussionists (marimba and vibraphone) in 1993. The same year Kuljerić composed *Zadarske Aklamacije/Zadar Acclamations for Mixed Choir, Organ and Timpani*.

In 1996 he writes one of his most important pieces, the monumental *Hrvatski glagoljaški rekvijem/Croatian Glagolitic Requiem* written for soloists, mixed choir and symphony orchestra. The number of percussionists in the orchestra is three plus timpani. Vibraphone, xylophone and timpani have a very important role: solo sections, intonation for singers and choir, free situations, thematic material and dialogue with singers. Kuljerić also created a chamber version of the same piece, where timpani and percussion are treated as soloists.

In 2003 the composer finished his last opera, *Animal Farm*. This time he wrote the libretto himself, based on the novel of George Orwell. Timpani and percussion (3) have a very important role, subliming all the experiences from previous pieces.

4.3 Arrangements, adaptations, film and incidental music

Kuljerić was a practical musician always searching for new repertoires and ways of keeping his ensembles busy. In many of his arrangements we find important usage of percussion.

Igor Kuljerić arranged evergreens with vibraphone as the solo instrument, spirituals and a collection of Croatian Christmas songs with the usage of vibraphone, glockenspiel, crotales, cymbals and small percussion. He composed a considerable amount of incidental (music for the opening of Mediterranean games in Split, Universiade in Zagreb and Winter Olympiade in Sarajevo); crossover (symphonic rock); theater and film music.

All the music mentioned above has recognizable features of Kuljerić's writing for percussion - the disposition; use of particular instruments and their importance in the overall texture from thematic to atmospheric, especially in the open section and *ad libitum* moments.

4.4 Solo and chamber repertoire

Kuljerić started writing for percussion in a chamber context as early as in 1975, while he was doing electronic experiments in Studio di fonologia musicale in Milano. *Les Echos* for chamber ensemble is the first piece where we can see the use of percussion in a chamber group. It's interesting to notice that Kuljerić was already attracted by the sound of keyboard percussion using marimba and vibraphone.

The instruments he used were:

I: marimba, bongos, 5 temple blocks, 1 timpani, maracas, 3 crotales, 2 tam-tams, 2 gongs, 2 cymbals

II: vibraphone, tubular bells, 1 timpani, sand blocks, triangle, tambourine, 3 crotales, 2 cymbals, 2 gongs, 2 tam-tams.

In 1988 Kuljerić composed *Toccata* for vibraphone and piano, his first piece for solo percussion. This piece will further be analyzed in the following chapters.

One year later, Kuljerić composed another chamber music piece with percussion: *Valcer (D9-G9)* composed for vibraphone, marimba, clarinet and piano. Again, Kuljerić makes his favorite pairing of mallet keyboard instruments. Whenever he decided to use the marimba, there was always a tendency of having it in dialogue or unison with the vibraphone.

One year later he published *Chaconne* for percussion quartet. It is the first piece where we find the exclusive use of percussion. The piece was created on the initiative of Igor Lešnik for the Supercussion group. That was an important decision because it was to be recorded as the album *Five quartets &...* by the same ensemble alongside other pieces by Croatian composers, marking the development of the Croatian percussion school and repertoire.

The following is the list of instruments used:

I: vibraphone, low tam tam, low cymbal, castanets, wooden toy

II: vibraphone, tam-tam, cymbal, 5 temple blocks, tubular bells

III: marimba, tam-tam, cymbal, glockenspiel, wind chimes, castanets, small, bells, 5 temple blocks

IV: marimba low tam-tam, low cymbal, antique cymbal, wooden toy

In 1991 Kuljerić composed his first marimba solo piece, *Lied ohne Worte*, an *hommage* to the homonymous piano piece of Felix Mendelssohn. In his first approach to solo marimba, Kuljerić makes use of rolled notes and fast broken rhythmical motives. Soon he approaches marimba as soloist with the orchestra. As a result, *Barocchiana for Marimba and Strings*, created in 1993 where he takes on the experiences of marimba writing from *Lied ohne Worte* and of the treatment of mallet percussion in his other pieces. He wrote another piece of chamber music in 1997, *Chopin op. 17 number 4* for vibraphone and flute. Kuljerić reinterprets the piano piece in his own style, with open sections for both players, playing around the Chopin's melodies, using the post-modern techniques of pastiche, collage and deconstruction.

Four years later marimba conquered the big stage. In 2001 there were very few marimba concertos and solo marimba repertoire was much smaller. Drawn by the development of the instrument and its expressive possibilities, following the initiative of his daughter Ivana Kuljerić Bilić who is a percussionist and marimbas, he created *Concerto for Ivana for Marimba and Orchestra*.

There are two percussionists in the orchestration, handling a large set up of instruments:

I Vibraphone, crotales, suspended cymbal, 5 temple block, 3 tom-toms, congas, snare drum, frusta, claves.

II Glockenspiel, tubular bells, cymbals a 2, gong, 2 bongos, shaker, snare drum, bass drum, castanets, darabuka, guiro, 5 temple blocks.

It was premiered 22nd March 2001 by the Orchestra of the Radiotelevision conducted by Igor Kuljerić himself and Ivana Kuljerić Bilić on marimba.

A more detailed analysis of the work, alongside the treatment of the marimba, the instrumentation and the adaption for chamber ensemble will be discussed in the following chapters.

The same year Kuljerić rearranged *Barocchiana* for marimba solo, alongside his daughter Ivana Kuljerić Bilić who did a first performance of this version in Sofia, in 2001. Two years later, he composed again for marimba as a solo instrument with string ensemble - *Folk Art II*, based on Ivana Kuljerić Bilić's piece *Tafate* for marimba solo.

5 *Toccata for vibraphone and piano*

“Toccata belongs to a particular area of composers interest, together with pieces like *Chaconne* or *Risuono di gavotta* which call for some specific musical forms of the past times.

Its form invokes the persistence of the rhythm, activating and developing patterns from particular metric and interval cells. The *ostinato* model helps the blending of the two instruments – vibraphone and piano, and changes the dialogue into a monologue. In this context, the two instrumentalists – the vibraphonist and the pianist, work as one priest who is performing an ironic mini ritual for the cult of the Great Mechanism. Intensive virtuosity builds the overall harmonic image. The melodic cells are exploring roots of Croatian music heritage and its deeper Slavic and Mediterranean layers.”¹⁰

Toccata for Vibraphone and Piano is the first percussion piece written by Igor Kuljerić treating the instrument as a solo. It was premiered on 16th October 1988, with Ivana Kuljerić Bilić on vibraphone and Antun Kraljević on piano during the *Euphonia* series of concerts.

The fact that his daughter played the instrument, that it was the first instrument she had at home and he was listening to her practicing, was probably the key one for him to start composing for solo vibraphones.

In the analysis of the piece, we have to take into consideration the history of toccata as a musical form in general, and the fact that it came from Baroque times when toccatas were used as a warming up (etude, practice), as a way of getting “in contact” with the instrument (from the Italian *toccare*, to touch), and were usually written for keyboard instruments featuring fast-moving virtuosic sections and chordal parts. With this in mind, the shape of toccata itself and the prominent use of improvisation, it makes sense that Kuljerić took toccata as the first form for a new instrument he composed for. We find improvisation and many open sections left for the performer to interpretate.

¹⁰ Personal archive of the composer.

5.1 General Analysis

I see the formal division of *Toccata* as A (bar 1-67), B (bar 68-101), A1 (bar 102-126), C (bar 127-234), A2 (237-243). The main generating melodic element used throughout the whole piece are the dissonant intervals - seconds and sevenths, and modal features taken from archaic folk music superposed with some almost jazzy harmonies (here in *quasi campane*), which are one of the trademarks of vibraphone, just like fast repetitive playing is for percussion in general. It is this we can see on the picture below: a patchwork of familiar features that are put in an unusual position and interaction, creating a new sonority.



Picture 2

Kuljerić uses short rhythmical cells that are often displaced from the main meter just like he does with the melodic ones that are created out of displacements from the tonal focus. That we find in the beginning of the *Toccata* (see picture 3).

Toccata
za vibrafon i glasovir / for vibes and piano

Igor Kuljerić

Allegro vivo (♩ cca 95 - 100)
marcato

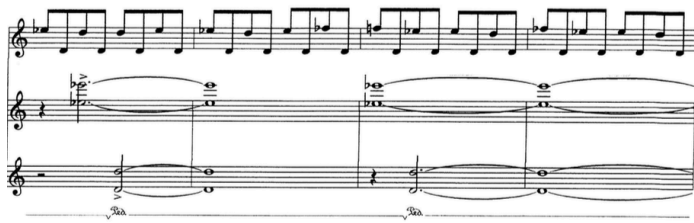
Vibrafono

Piano

Musical score for Picture 3, showing the beginning of the Toccata for vibraphone and piano. The score is in 2/4 time and features a complex, dissonant harmonic language. The vibraphone part is marked 'Allegro vivo (cca 95 - 100) marcato' and 'f', while the piano part is marked 'f'. The music consists of short, repetitive rhythmic cells and melodic fragments that are often displaced from the main meter. The score includes various dynamic markings and articulation symbols, such as accents and slurs.

Picture 3, from bar number 1 to 4.

Many sections use motivic and harmonic material that plays around a tonal focus with intervals of second and seventh. Example of the explained can be seen in pictures 4 and 5.



Picture 4



Picture 5

The second main aspect of the piece is the appearance of open sections with improvisation. Once the motivic material is exposed, the composer introduces the performer to a guided improvisation with defined rhythmic and melodic patterns. Picture 6 describes the above.



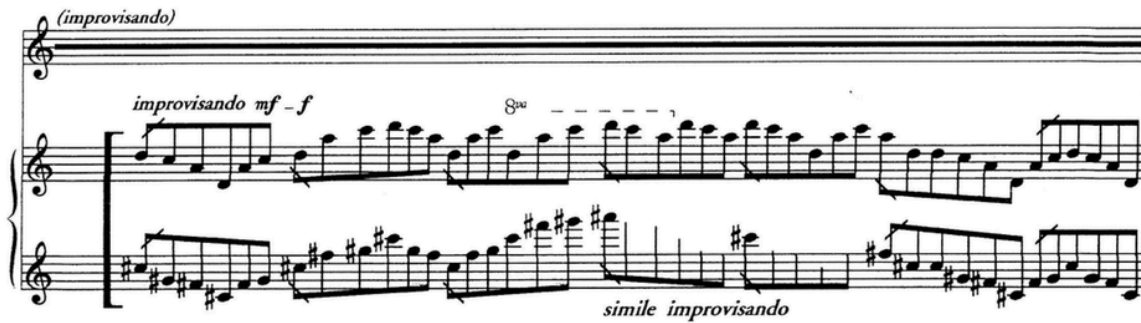
Picture 6

The melodic and harmonic material for the improvisations is often very simple and it invites the performer to bring special attention to articulation and rhythmic stability. In more lyrical parts the composer plays with colors and different uses of attacks, asking the performers to create soundscapes and improvise on a larger perspective. The following example on picture 7 shows that.



Picture 7

Piano is also assigned with open sections of improvisation, with short guidelines suggested by the composer, seen on picture 8:



Picture 8

Toccata is a circular composition. The material used in the beginning of the piece with a *Marcato* sign in the vibraphone part and *f* dynamic (see picture 3) is retaken by the end of the piece with a *Calmo* sign in score and *pp* dynamic. See picture 9, from bar 234 to 243.



Picture 9

5.2 Relation between the vibraphone and the piano part

The relation between the two parts is equally shared throughout the piece. The piano is used in a percussive way that goes along with the nature of the vibraphone. The following picture (10, from bar 17 to 25) shows how Kuljerić decided to blend the two instruments, in this example with *ribattutos* in the right hand on the piano while the vibraphone has an ostinato chordal line in the function of a time keeper.



The image shows a musical score for two instruments: piano and vibraphone. The piano part is written in a grand staff (treble and bass clefs) and features a rhythmic pattern of eighth notes in the right hand, described as *ribattutos*. The vibraphone part is written in a single treble clef and consists of a series of chords that function as a time-keeping ostinato. The key signature has one sharp (F#) and the time signature is 4/4.

Picture 10

Another intervention of piano in a percussive way appears in *Tempo I* (bar 102) this time presenting scattered rhythmical chords in the upper register. Shown on picture 11.



The image shows a musical score for two instruments: piano and vibraphone. The piano part is written in a grand staff and begins with a *Tempo I* marking. It features a melodic line in the right hand and a rhythmic accompaniment in the left hand. The vibraphone part is written in a single treble clef and consists of scattered rhythmical chords in the upper register. The score includes dynamic markings such as *f*, *sa*, *simile*, and *secco*. The key signature has one sharp (F#) and the time signature is 4/4.

Picture 11

A different relation between the two instruments appears in the second half of the piece dominated by *ad libitum* and improvisational parts, exalting the sustained sound of both instruments. See pictures 8 and 12.



Picture 12

5.3 Analysis conclusion

As the composer describes in his own words at the beginning of this chapter, the piece needs to convey the idea of a constant movement and flow through different sound constellations.

Toccata for Vibraphone and Piano is the first percussion piece written by Kuljerić treating the instrument as a solo. However, since the beginning we can see the composer's sensibility towards percussion instruments. The composer used harmonic and melodic material that plays around a tonal focus with intervals of second and seventh and modal features taken from archaic folk music, mixed with jazzy sounding harmonies. The shape of the piece is circular and it ends with fading out *al niente* leaving a state of suspension.

Performing this piece, I can say that *Toccata* gave me a new way to connect with the vibraphone in the chamber context, especially with its permutations of rhythmical cells that develop throughout the piece into free improvisations. The presence of improvisation gives the player a stronger and a more personal connection to the piece by making every performance a different one.

6 *Concerto for Ivana* for marimba and orchestra

“The inspiration for the *Concerto* can be found in the African music and its rhythms and colors, the Gamelan tradition of rhythmical polyphony, with sounds and colors of wood, copper, glass, water [...]

I have always tried to contradict the musicologists' assertions that the traditional musical vocabulary has been fully exploited. I believe that if we put in different relations the so-called "impressionists" chord, polirhythms or rhythmical repetitiveness (that are usually connected with specific composers) they will become a new and fresh material ready for new musical ideas and developments. Since my daughter is a marimbist, writing this concerto was in a way a family debt and I was very enthusiastic about it."¹¹

The quote above can help us understand his approach and inspiration for the creation of *Concerto for Ivana for Marimba and Symphony Orchestra* and his emotional connection to the piece.

Kuljerić composed this *Concerto* in 2001, only five years before he passed away and we see his own style reaching maturity, although in many ways this piece is original and unique in his opus. It was premiered on 22 March the same year in the concert hall Vatroslav Lisinski of Zagreb, by Ivana Kuljerić Bilić and the Symphonic Orchestra of the Croatian Radiotelevision, under the baton of the composer himself.

The concerto represents an important step for marimba for Croatia, taking in consideration that it is one of the first time that anyone composed a solo concerto for this instrument in this country.

The structure of the concerto is conceived in three movements, with *attacca* between them written to create one flow throughout the whole concerto with a "fast, slow, even faster" feeling. "[...] the structure is complex and the transitions between musical situations are fast and driven by musical associations. The basic elements consist of small melodic and harmonic cells."¹²

6.1 Melodic and harmonic material

I could say that one of the generating elements of the melodic material of the piece is the combination of three tones with interval relations of a major second followed by a minor second, for example tones D-E-F. Throughout the concerto many sections are dominated by this motive.

One of those cases is in bar 189 of the first movement where the motive (this case D-Eb-C), first played on piano and then in bar 195 on marimba. Seen on picture 13.

¹¹ Personal archive of the composer

¹² Personal archive of Igor Kuljerić

186 **3** (Piano) *liberamente*

195 **14** Tempo *mp*

Picture 13

Another example is the beginning of the second movement where Kuljerić used this melodic cell in marimba's choral intro and in the later interventions of the orchestra. It is shown in picture 14 and 15.

Lento (come prima)

pp

Picture 14

8 Lento (come prima) (Marimba)

14 Meno mosso Lento

Picture 15

It is repeated in another shape in number 8 of the second movement. Seen on picture 16.

8 Presto $\text{♩} = 60$

Picture 16

The orchestral open section before *cadenza* of the second movement previously discussed is also characterized by this motive. Seen on picture 17.

Percussion

162 Doppio meno TUBULAR BELLS

167 GLOCK. TUBULAR BELLS

Cadenza

Picture 17

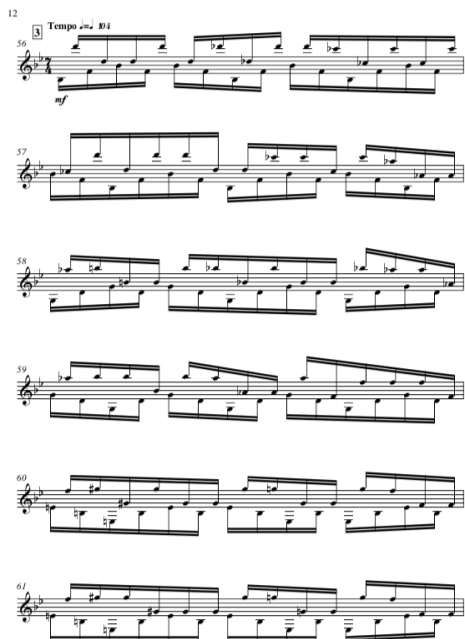
Harmonically speaking we can see that Kuljerić used mainly two types of chords: the diminished and the augmented one, mostly avoiding the perfect fifths. Already since the beginning of the concerto the material presents this harmonic structure. In bar 10 of the first movement he starts with augmented fifths in the marimba part. The previously described can be seen on picture 34.

A few bars after we find the use of the diminished chords with a sequence of a tone up. As seen in the picture 18.



Picture 18

In number 3 of the second movement it's interesting to notice how the composer develops the melody with a harmonic sequence using the symmetry of a diminished chord (Bb-G-E). Moreover, Kuljerić even managed to connect the different phrases of the sequence by using a common note as a bridge. It is shown on picture 19.



Picture 19

We also find examples of combining perfect fifths and diminished fifths. In number 8 of the second movement the marimba part is dominated by diminished fifths, in contrast with the musical material of number 9 where the use of fifths is perfect. Seen on pictures 20 and 21.



Picture 20



Picture 21

The last theme of the third movement, in the style of fugue, is also based on diminished chords, first presented in bar 304 by solo clarinet with the embellishments of marimba *arpeggiando* and later exposed by marimba itself in number 23 (see picture 22).



Picture 22

As the final theme expands to its maximum density of sound, Kuljerić builds the final climax with a harmonic progression, based on a dominant chord on third inversion, moving in thirds and then chromatically. It is shown in picture 23.



Picture 23

6.2 Cadenzas and open sections

The organization of open sections in Kuljerić's opus has had a slow but constant development from very free to organized and written out. Still, the visual effect (the beautiful way these sections are notated in the score) and aural effect of these sections is what shows the freedom and abundance of color. This technique he also uses in metrically organized parts, creating an effect of sound spatialization. Together with the clever introduction of extended instrumental techniques in a more conventional orchestra settings, they have become the trademarks of his instrumentation technique and composing style and a recognizable feature of his orchestra work.

There are some examples of the explained in the following pictures (24, 25, 26):

The image displays two pages of a handwritten musical score. The left page features a marimba part at the top, marked 'lib' (liberamente), and a 'tutti' marking. Below it are staves for Violins I (Vcl I), Violins II (Vcl II), Violas (Vcl), Cellos (Vcl), and Double Basses (Vcl). The right page is marked 'tutti: poco a poco accelerando' and continues the orchestral arrangement with various instrumental parts.

Picture 24

Here we can see how Kuljerić organizes the score. The idea of sound coming from the basses to the violins creates a sound base for the marimba part to fluctuate *liberamente*.

In number 73 of the third movement he composer produces an ethereal soundscape with flageolet glissandos that give a feeling of improvisation.



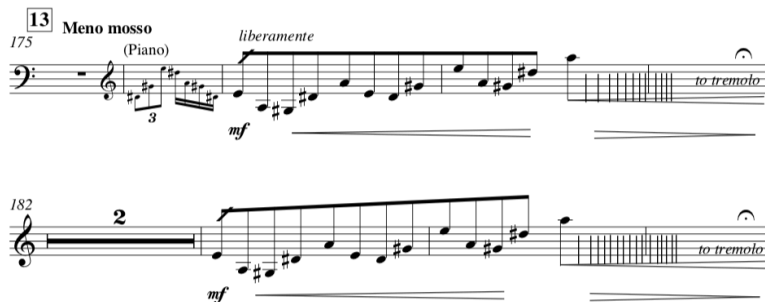
Picture 25

A few numbers later we find another interesting organization of the score, with a rhythmical *ricochet* effect of the strings.



Picture 26

The first appearance of an open phrase for marimba is in the beginning of number 13 *Meno mosso* of the first movement. Seen in picture 27.



Picture 27

There is an extensive use of “carpet sound” textures to connect different sections and create new material. Here there is an example from number 6 of first movement. Presented in picture 28.



Picture 28

The second movement is the one where we find the most open sections and number 27 is one of these examples. Strings have a cascade of sound from first violins to cellos while marimba has a free coloring line. It is shown in picture 29.



Picture 29

We can observe Kuljerić's great care of the connection between the *cadenza* and the rest of the material. In both cases we find musical ideas that are left to the performer with accompaniment, to prepare the atmosphere of solo marimba and to reintroduce the orchestra gradually once the *cadenza* is done.

A few numbers before the *cadenza* in the second movement we find an open section left for the marimbist to improvise, playing with mallets shaft with a lot of freedom. It is presented in picture 30.

The image shows a musical score for a marimba section. It consists of two staves. The top staff is for the marimba and contains a wavy line indicating improvisation, with the instruction "simile (improvvisare)" written above it. The bottom staff is for the piano accompaniment, featuring a complex rhythmic pattern with various note values and rests. The score is marked with a 3/4 time signature and includes a page number "-80-" at the bottom left.

Picture 30

When this rhythmical section finishes, there is another open section of the orchestra. In the score we find the presence of a lot of dramatic coronas with tremolos preparing the solo *cadenza*. It can be seen in picture 31.

The image shows a musical score for an orchestra, divided into two pages. The left page is marked with a circled "31" and the right page with a circled "32". The score features multiple staves for various instruments, including strings, woodwinds, and brass. The notation includes dramatic coronas (crescendos) and tremolos, which are used to prepare the solo *cadenza*. The word "Lademen" is written on the right page. The score is marked with a 2/4 time signature and includes a page number "-84-" at the bottom left.

Picture 31

After the cadenza of the third movement Kuljerić opens with a percussion solo, using timpani, congas and bongos. It is presented in picture 32.



Picture 32

Looking at the manuscript of the concerto we can see that there are some sketches of ideas in the *cadenza* of the third movement written down by Kuljerić, that then Ivana Kuljerić Bilić developed in a deeper and bigger form in her own version of the concerto later. The sketches can be seen in the picture below.



Picture 33

Actually, this is the only suggested material given by the composer for the concerto's *cadenzas*; in the second movement we don't find any marks in the score so in this case the final version of the cadenza is fully composed by Ivana.

6.3 Technical aspects of writing for marimba

Approaching the concerto from the technical point of view, I have noticed that the way it is written for the keyboard reminds of the pianistic technique. Chords and lines are used in an unusual way, since the usual techniques used for marimba are dividing the two hands and avoiding crossings of the mallets. Already in the first ascending *arpeggiated* pattern we can find examples of the crossing previously discussed. It is shown in picture 34.

Con moto $\text{♩} = \text{cca. } 108$

9

14

18

1

The image shows a musical score in treble clef with a key signature of one sharp (F#) and a 2/4 time signature. It consists of three staves of music. The first staff starts at measure 9 and ends at measure 13, marked with a forte (f) dynamic. The second staff starts at measure 14 and ends at measure 17. The third staff starts at measure 18 and ends at measure 21, marked with a first ending bracket (1) above the final measure.

Picture 34

In bar 30 on picture 35 there is another case of complex positions on the keyboard.

30

34

2

The image shows a musical score in treble clef with a key signature of one sharp (F#) and a 2/4 time signature. It consists of two staves of music. The first staff starts at measure 30 and ends at measure 33. The second staff starts at measure 34 and ends at measure 37, marked with a second ending bracket (2) above the final measure.

Picture 35

In number 14 of the first movement, as seen on the picture below, Kuljerić is writing for marimba in a pianistic approach with an ostinato bass line in the left hand and the melodic line crossing over it.

14

Tempo

195

mp

200

205

The image shows a musical score in treble clef with a key signature of one sharp (F#) and a 3/4 time signature. It consists of three staves of music. The first staff starts at measure 195 and ends at measure 199, marked with a mezzo-piano (mp) dynamic. The second staff starts at measure 200 and ends at measure 204. The third staff starts at measure 205 and ends at measure 209.

Picture 36

By the end of the movement, we can see how the composer writes more horizontally for marimba using a wider range of keyboard with a *legato* melody (picture 37).



Picture 37

Prof. Ivana Kuljerić Bilić told me that her father probably got inspired by the pieces she was practicing on during the period he was composing the concerto. One of these examples is melodic imitation played first with normal strokes later played with mallet shafts¹³ In the pictures bellow we can see how Kuljerić transferred Joseph Schwantner's *Velocities* compositional technique onto the concerto.

In picture 38, the example is Schwantner's piece; in picture 39, the one from Kuljerić.



Picture 38



Picture 39

¹³ Marimbist technique that uses the wooden part of the mallet to produce sound.

6.4 Orchestration

In the following analysis I will bring attention to some important orchestral features of the piece. Through this concerto Igor Kuljerić was looking ways of creating an orchestral setting that would support marimba and make it come out more and melt better with the sound of the orchestra.

“If I would to define my relationship towards the marimba, then I would say that I’m very much occupied by its color and the ability of the wood to have a percussive sound and a melody.”¹⁴

Kuljerić developed his instrumentation skills through his composing career bringing them to a high level. He used them to create and develop the music material of the concerto. In order to blend the orchestra with marimba better he used many interesting features.

“I wanted to merge the historic form of the concerto with the non-European traditions that live in the roots of the instrument and experience the marimba as a particular kind of piano with equally distinctive percussive and singing qualities. The orchestration was extremely important and I have used it in order to see the marimba under a new light. [...]”¹⁵

The concerto begins with a solo of timpani and percussion preparing the solo entrance of the marimba, and denoting the dominance of rhythm, that will be driving the concerto until the end.

The string instruments are producing percussive sounds in many parts throughout the concerto and it is a very important trait of the piece. That is also interesting for the fact that there weren’t many examples which Igor Kuljerić could learn from. The real expansion of the repertoire came in the later years, although nowadays there is still much to be explored and created for solo marimba with orchestra. One of the cases of a percussive usage of the string section is number 7 of the first movement, where we find the usage of *ricochet*¹⁶ in the violins, *pizzicato* in the violas and *con arco* in the cellos and double basses. It can be seen in picture 40.

¹⁴ Personal archive of the composer.

¹⁵ Ibid.

¹⁶ A bowing term, using down bow and staccato to create a bouncing sound.



Picture 40

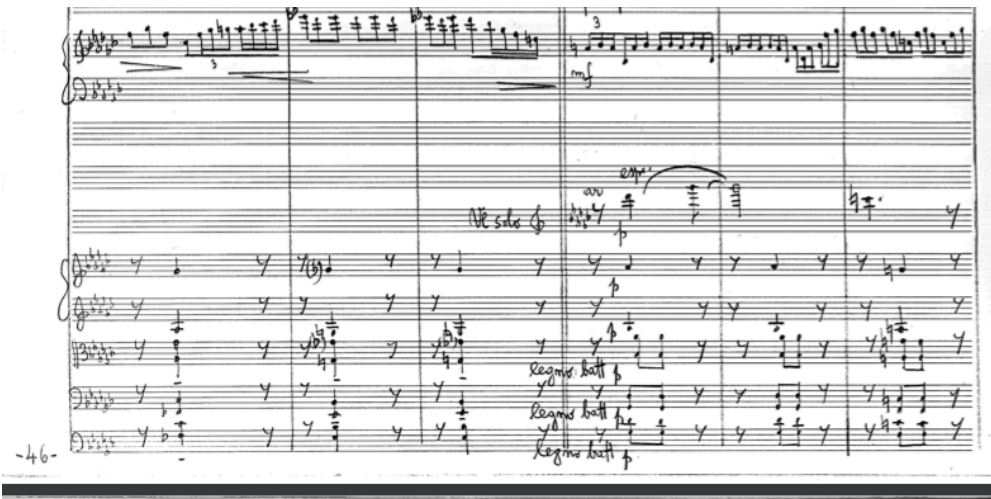
Another interesting use of the strings is in number 19 of the first movement. It is shown in picture 41.



Picture 41

This time the sounds of the strings are an imitation of the sound produced by marimba few bars earlier, using the shaft of the mallets on the edge of the bars creating a wooden percussive sound, imitated by the cellos using the wooden part of the bow.

By the end of the first movement Kuljerić proves us his knowledge of instrumentation of the string instruments one more time sounds using *legno battuto* in the lower register of the strings. It can be seen in the forth bar in the picture 42.



Picture 42

In the chamber version it is arranged by Ivana Kuljerić Bilić for maracas in a way of imitating the airy sound of the strings. The chamber adaptation will further be discussed in the chapter 6.5.

In the following pictures (43, 44, 45) we can see Kuljerić's usage of Bartok pizzicato¹⁷. It is a type of sound that has a similar character with marimba and percussion.



Picture 43



Picture 44

¹⁷ A term which instructs string performers to play a pizzicato note in a way of pulling a string away from the fingerboard so that it snaps back percussively on the fingerboard.



Picture 45

“Pizzicato carpet”¹⁸ can be seen in bar 174 of the third movement - presented in picture 46.



Picture 46

In number 32 the string section becomes a percussion ensemble with a rhythmical wooden dance using *legno battuto*. Seen on picture 47.

¹⁸ I have created this term to try to describe the pizzicato accompaniment of the string section



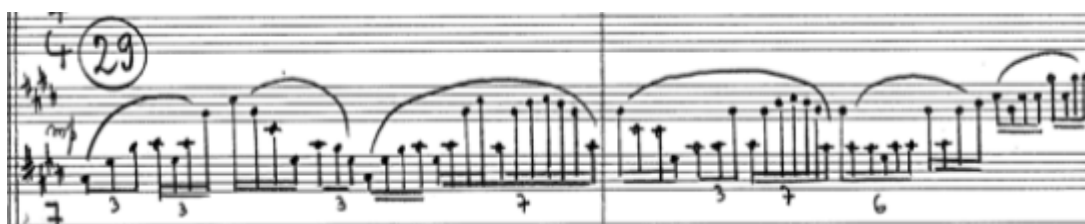
Picture 47

As soon as the introductory marimba choral of the second movement has ended, Kuljerić starts creating new atmosphere with solo flutes in organized *ad libitum* section. It is shown in picture 48.



Picture 48

A few numbers later the marimba imitates the above material with up and down *arpeggios*. It can be seen in picture 49.



Picture 49

The flutes, retake similar material in bar 82, in picture 50.



Picture 50

6.5 Comparison between the original and the chamber adaptation

Ivana Kuljerić Bilić along with her mother Vanja Kuljerić arranged the *Concerto for Ivana* for a chamber group. While in the orchestral version we find the use of two percussionist and one timpanist, in the chamber adaptation we find only two percussionists and a pianist. The first percussionist condenses the timpani part and one of the percussion, the second percussionist mostly takes part of the melodic section of the orchestra with the vibraphone and some of the percussion.

List of instruments:

Piano, guiro

Percussion I 4 timpani, whip, high, medium and low cymbals, sizzle cymbal, 5 temple blocks, 3 bongos, wind chimes, maracas, glockenspiel, tam-tam, 3 tom toms, tubular bells (D, Eb, E, F, F#, G), castanets, bass drum, congas, claves, triangle, darabuka, keys.

Percussion II 2 shaker eggs, vibraphone, sizzle cymbal, crash cymbal, medium cymbal, 2 bongos, glockenspiel, tam-tam, tubular bells, bass drum, castanets, opera gong, wind chimes, vibraslap, whip.

In this chamber adaptation there are some extra percussion used by Ivana imitating particular sounds of the orchestra. Opera gong is one of them, introduced to replace the Bartok pizzicato of the double basses in number 10 of the third movement, as shown on pictures 51 and 52.

The image shows a musical score for measures 120 to 124. The score is divided into four staves: Maracas (Mar.), Piano (Pno.), Percussion I (Perc. I), and Percussion II (Perc. II). The tempo is marked 'Moderato' with a quarter note equal to 102. The time signature is 4/4. The key signature has one flat (B-flat). The Maracas staff has a 'lunga' marking and a box around the number 10. The Piano staff has a 'mp' marking. The Percussion I staff has a 'BASS DRUM' marking and a 'mf' marking. The Percussion II staff has an 'OPERA-GONG' marking and a 'mf' marking. The score shows various rhythmic patterns and dynamics for each instrument.

Picture 51

Picture 52

Another case of Ivana’s creative sound imitations is presented in number 21 of the third movement with the use of bowed vibraphone bringing out the harmonics of the bar. In the original score it is played by the strings with glissando flageolet. Seen on pictures 53 and 54.

Picture 53

Picture 54

In bar number 63 of the first movement Ivana innovatively arranged the orchestral part adding the use of keys on skin of timpani in order to imitate the color of the horns *bouché* - the sound of french horns with a touch of copper/metal in it. It is presented in pictures 55 and 56.

Picture 55 shows a musical score for three parts: Maracas (Mar.), Piano (Pno.), and Percussion I & II (Perc. I, Perc. II). The Maracas part has a treble clef and a 2/4 time signature, starting with a melodic line in bar 63. The Piano part has a grand staff with treble and bass clefs, starting with a chord in bar 63. The Percussion I part has a bass clef and a 2/4 time signature, with a dynamic marking of *p* and a tempo marking of *molto*. It includes instructions: "(put keys on Timp. skin to create a buzzing effect)", "CRASH CYM.", and "VIB.". The Percussion II part has a bass clef and a 2/4 time signature, with a dynamic marking of *f* and a tempo marking of *rit.*. It includes instructions: "CRASH CYM." and "VIB.". The score is for bars 63 to 66.

Picture 55

Picture 56 shows a handwritten musical score for multiple staves, likely for a string ensemble. The score is written in a cursive, handwritten style. It features several staves with musical notation, including notes, rests, and dynamic markings. The notation is dense and includes various musical symbols and markings, such as accents and slurs. The score is for bars 63 to 66.

Picture 56

In number 6 of the second movement Ivana Kuljerić Bilić added switch (rute) in order to reproduce the percussive sound *legno battuto* of the strings. It can be seen on pictures 57 and 58.

6 Moderato ♩=96

SWITCH (RUTE)
p

MEDIUM CYM.
p mf

Picture 57

Moderato (♩=cca 96)

Agno hof. dir

Agno hof. dir

Picture 58

In this version we find some differences from the original score that Ivana Kuljerić Bilić decided to make in the chamber adaptation.

One of these cases is number 11 of the first movement where in the manuscript version the marimba part is signed with *improvisando* in the upper or lower octave. In Ivana's version we find a fixed line written in the score that helps guiding performers less experienced at improvising. It is shown in pictures 59 and 60.

simile improvisando gaza / gaza

sole cant

Picture 59

TEMPLER BLOCKS (with felt sticks)
PPP

VIB. solo sempre espressivo

11

Picture 60

6.6 Conclusion of the analysis

Analyzing this concerto, I can see how Kuljerić changed his way of composing for keyboard percussion from fragmented rhythmical chordal motives into horizontal melodic lines in a pianistic way. The approach to the keyboard is technically more demanding in comparison with his previous pieces, expanding not only the instrument's abilities, but also the marimbist's perspective of the instrument and ways of playing it. It enriches the marimba repertoire with Kuljerić's musical signature. I particularly appreciated how the composer achieved the effect of improvisation and *ad libitum* while having the actual parts written down.

Having the opportunity of playing this concerto three times during my studies at the Music Academy of Zagreb, two times playing the first percussion part and now the solo marimba one, it gave me a deeper and wider knowledge of the piece. Taking in consideration that it's composed by the father of my professor and mentor Ivana Kuljerić Bilić that also arranged it herself alongside with her mother Vanja Kuljerić, I can say that this gave me a better and stronger connection to my professor's musical roots and a deeper understanding of her approach to percussion and marimba. Analyzing the concerto under the mentorship of Ivana Kuljerić Bilić made me understand how Igor Kuljerić's writing for marimba developed under Ivana's supervision and technical help during the production of the piece.

7 Conclusions

After researching on the entire opus and making the catalogue of percussion works, I have realized that Igor Kuljerić gave a lot of importance to percussion in his career. Percussion appears in solo and chamber music, orchestral and choral settings, oratorios, operas, arrangements, adaptations, film and incidental music. In the orchestral setting Kuljerić used percussion already in his first compositions. With years he got to a standard formation of four orchestra percussionists, with a use of a lot of keyboard percussions creating an authentic color for his pieces in the overall sound texture.

In the solo repertoire Kuljerić composed for marimba almost exclusively, denoting his attachment to the instrument with two solo pieces (*Lied one worte* and *Barocchiana*) and three pieces for marimba solo and orchestra (*Barocchiana* for marimba and strings, *Concerto for Ivana* for marimba and symphony orchestra and *Folk Art II* for marimba and strings).

In the chamber context he investigated and combined the sound of different percussion instruments, but very often using some of his favorites like vibraphone, temple blocks, tubular bells and glockenspiel, wind chimes, cymbals and gongs, bongos, tom toms and timpani; and all percussion keyboard in general: in *Chaconne* for percussion quartet; he also composed four versions with different ensemble settings of *Les echos*; *Toccata* for vibraphone and piano; *Valcer (D9-G9)* for vibraphone, marimba, clarinet and piano; *Chopin op 17 No.4* for vibraphone and flute; and his numerous arrangements.

The decision of analyzing *Toccata*, one of the first pieces for keyboard percussion in a chamber context and *Concerto for Ivana*, one of the last ones, gave me a wider perspective on Igor Kuljerić development in the treatment of percussion instruments, such as the fact that for example initially Kuljerić was using the technique of chords organized into scattered rhythms - later he was visualizing the instrument more horizontally, like a piano.

With the help of my professor and mentor Ivana Kuljerić Bilić, I worked on my understanding of the pieces I am playing and of Igor Kuljerić's opus in general, on a deeper level.

The use of percussion is a very important feature of his opus and every future study should take this fact in consideration.

Bibliography

Krpan, E. *Rijec između tonova: Zapisi o hrvatskoj glazbi*. Zagreb, Cantus. 2011.

Krpan, E. (ed.) *Igor Kuljerić: u povodu primanja u redovito članstvo Hrvatske akademije znanosti i umjetnosti*. Zagreb, Cantus. 2005.

Kos, K. Igor Kuljerić (2001), in: *Grove Music Online*.

<http://www.oxfordmusiconline.com/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000049902>

(accessed 20th of January 2019)

Taruskin, R. Chapter 2 Fat Times and Lean: The Toccata. *The Oxford History of Western Music*.

<http://www.oxfordwesternmusic.com/view/Volume2/actrade-9780195384826-div1-02002.xml>

(accessed 20th of January 2019)

Sedak, E. Igor Kuljerić, in: Sedak, E. (ed.) *Spomenica preminulim akademikima: Igor Kuljerić: 1938.-2006*. Hrvatska akademija znanosti i umjetnosti. 2008, pp. 9-20.

Gligo, N. Igor Kuljerić, nekrolog, in: Sedak, E. (ed.) *Spomenica preminulim akademikima: Igor Kuljerić: 1938.-2006*. Hrvatska akademija znanosti i umjetnosti. 2008, pp. 757-760.

Knešaurek, J. Interview: Marimba in the main role. *Vjesnik newspaper*. Published 23rd March 2001.