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CONVERSATIONS

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MUSIC, MYSTICISM, PHILOKALIA: AN INTERVIEW WITH COMPOSER ĐURO ŽIVKOVIĆ

A mid-generation composer, Đuro Živković (b. 1975, Belgrade) has been living and working in Sweden for more than 25 years now and was, until a few years ago, completely unknown to our musical public. This changed in 2014, when he received one of the world's greatest music awards, the American Grawemeyer Award, for his work *On the Guarding of the Heart* for chamber ensemble.

Živković began studying violin in Novi Sad before transferring to Belgrade. At the Faculty of Music, he also enrolled in the composition class of Prof. Vlastimir Trajković, but in

Đuro Živković
Photo: Nadja Sjöström

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2000 he moved to Stockholm, where he completed his training at the Royal Swedish Academy of Music. He had an opportunity to study with Peer Lundgren, Bent Sørensen, and Magnus Lindberg, leading northern Europe's composers and teachers, and also pursued further training in artistic workshops led by Essa-Pekka Salonen, James Dillon, Mario Davidovsky, and Michael Obst. Today, Živković teaches composition at the Royal College of Music in Stockholm and, as a visiting professor, at the Academy of Arts in Novi Sad. Also, he is a member of several chamber ensembles dedicated to performing contemporary music.

Živković has produced a relatively rich and extensive oeuvre, mainly comprising chamber works, most of which are closely linked to the spiritual, that is, mystic-religious sphere. Also, his works have been included in the touring and concert programmes of several prominent international chamber ensembles: Klangforum Wien, the Swedish Sonanza ensemble, Canada's Trio Fibonacci, Tokyo's International Music Ensemble, Chicago's Pre-art ensemble, as well as the New European Ensemble, which is currently based in the Netherlands and led by Christian Karlsen. Works by Živković have been commissioned and premièred by the Royal Concertgebouw Orchestra and New York Philharmonic, and performed by the Chicago Symphony Orchestra, Malmö Symphony Orchestra, and Sydney Symphony Orchestra, as well as the BBC Symphony Orchestra and Zagreb Symphony Orchestra. In addition, pieces by Živković have also been performed by the Eric Ericson Kammarkör, the Netherlands Radio Choir, Swedish Radio Choir, as well as the following renowned ensembles: Avanti! (Finland), Klangforum Wien (Austria), Ensemble Modern (Germany), the Swedish Chamber Orchestra, and the Dutch Asko ensemble. Alongside the Grawemeyer Award mentioned above, Živković also won a Swedish Grammy award in 2010, for *Le Cimetière marin* for soprano and chamber ensemble. Also, he is a laureate of our most prestigious award in the domain of musical creativity, the Stevan Mokranjac Award, which he won in 2012 for *Ascetic Discourse*. In 2015, his Cello Concerto *Unceasing Prayers* was nominated for the Prince de Monaco Prize, while the Royal Swedish Academy of Music has awarded him two of its major prizes: the Carin Malmlöf-Forssling Prize in 2018 and the Lilla Christ Johnson Prize in 2019.

Outstanding among Živković's most frequently performed works are several that have already been cited as prize-winning pieces: *On the Guarding of the Heart* (Grawemeyer Award, 2014), *Le Cimetière Marin* (Grammis, Sweden, 2008), *Ascetic Discourse* (Mokranjac Award, 2012), as well as *Citadel of*

Love (Swedish Music Publishers' Award, 2021). This group of his most popular pieces also comprises *The White Angel* for chamber orchestra (2006), *Fire Taming* for chamber ensemble (2014), *Psalm XIII* for string quartet (2014), as well as *Quintet Byzantine* for wind quintet (2016).

Also, Živković is the author of *Unceasing Prayers*, a violoncello concerto (2013), and *Mystical Sacrifice*, a cantata for baritone, choir, and large orchestra commissioned and premièred in 2017 by the Concertgebouw Orchestra along with the Netherlands Radio Choir. His more recent oeuvre includes *Bogoluchie* (2018), a liturgical drama for a female vocal soloist, men's choir, and chamber orchestra; a version of *Citadel of Love* for a large chamber ensemble (2020); the orchestral works *Agape-Superplasma* (2020–2023) and *Chandangel* (2021–2023), as well as *Concerto terrae* (2024), a concerto for violoncello, piano, and orchestra. His most recent chamber works comprise *Alleluias* for viola and piano (2021), as well as two choral works, *Venite, Lucem Accipite* and *Lyra Laudus*, both from 2021.

Živković's style is vividly coloured by the Byzantine-Orthodox spiritual, mystical, and musical tradition, which means that all his pieces from this thematic and conceptual circle are written in one and the same, clearly defined and recognizable authorial handwriting, combining and blending antiquity and contemporaneity in a unique way. Some 15 years ago, he happened upon *Philokalia*, a spiritual writing by Abba Philemon, and decided to search in it for inspiration for many of his subsequent works. The term *philokalia* might be rendered in English as "love of the beautiful" and it was precisely his careful study of several different translations of this text that lent Živković a vivid sense of inspiration with the term and the meaning of Christian kindness and doing good. Živković has stated himself that he read *Philokalia* whilst composing and that the links between these two intense spiritual activities were deep and manifold. Inspiration with the early Christian spiritual world is present on multiple levels of his music. The relationship between sound and silence, fast and slow sections, mystical meditation and realistic sounds from nature shows an entirely unique, impressive, and effective internal balance of overall musical expression. His music's speech remains contemporary precisely whilst drawing to the surface some ancient or perhaps eternal laws of time, laws that underpin prayer, whether it be musicalized or spoken as though it were a song without singing.

His composition process itself is subjected to strict ascetic control, which lets into the music only the most important and effective particles of sound and works with them with an extraordinary degree of sophistication, apply-

ing a likewise carefully selected level of expert technical detail. Nevertheless, although his compositional procedure and selection of musical materials are so tightly controlled, the sonic product is music that is rich, diverse in content, at once communicating with ancient sources of spirituality from his native country as well as with the most up-to-date techniques of controlled aleatoric music, microtonality, and unusual procedures related to heterophony and imitation, as well as extraordinary, allusive, and colouristic instrumentation. To secure internal cohesion of sound, the author devised a special heptatonic mode.

The basis of your style is its organic connection with your philosophical and religious views. When and how did this strong and passionate symbiosis begin to take shape?

My philosophical formation began already during my studies in Belgrade in the late 1990s, when I was in Prof. Vlastimir Trajković's class. This was my entry into a domain where music was perceived as thought, as a quest for meaning, and not merely as a craft. Already in my first year, I wrote a 37-minute sonata for violin and piano titled *Metaphysical Poem*, because I felt then that music demanded to be more than sound. The title was deliberate; some considered it provocative as well.

The religious aspect came later, perhaps as a continuation of that initial experience. Around 2010, I began searching for true inspiration, the one that is pure in spirit. That search led me to early Christian literature, especially to the Philokalia. I realized then that what I had suspected in music had its higher language, in opposition to the established academic view that music is just "sound". The Philokalia talks about focusing your mind, the silence and pureness of the heart, and it is precisely those states that music, when it is true, seeks to attain. Since then, there's been no clear boundary for me between thought, belief, and creation.

Do you see yourself as an artist in the tradition of Byzantine Orthodox Christianity, mysticism, and music?

I wouldn't say that I see myself as an artist who technically belongs to the tradition of Byzantine music. My music doesn't follow its models, borrow its forms, or attempt to reconstruct its language.

For, if we try to conceive of time not as a series but as a whole, the thing we call "development" in art is no longer necessary. There is no single path

from one thing to another, nor does one epoch necessarily give rise to another. That logic belongs to the history but not necessarily to the truth of creativity as well. In that light, "epoch-making" becomes a timeless category: whatever was once true in music, in a way remains always available.

That is why for me there are no technical moulds that one should fill, or styles to "continue", or "traditions" to restore. But to answer your question: there is an internal call to understand creation not in terms of self-expression (which is constantly imposed upon us) but in terms of serving. In that sense, if there is a connection with Byzantine and Christian Orthodox tradition, its nature is spiritual not technical: it is about viewing art the way we view icons.

An icon does not present the world as it is, but as it is invoked to be; an icon transforms. So does music, if one understands it deeply enough: rather than explaining anything, its purpose is to raise us, to become a sort of testimony that there is a higher reality, even when this world is wounded and tired, to become what the Holy Scripture refers to as "faith, hope, love".

Your view of the world and art is significantly influenced by the teachings of several Church Fathers, confessors, philosophers and mystics. Your works from the last two decades typically deal with Christian love and Orthodox ethics. Hence one of your philosophical postulates – philokalia.

That word, philokalia, "love of the beautiful", became a sort of internal reversal for me. Above all, it removed me from what one might call the closed circle of aestheticism. Philokalia has taught me that beauty is a reflection of something deeper: truth and goodness. And that, if it is separated from them, it becomes an illusion, even a temptation. Therefore, my progress toward the spirit of philokalia meant an essential transition from the aesthetic domain of what I would call "uni-musical", the general, abstract field of music, into the domain of spiritual categories.

For one cannot truly create without transforming themselves. And here we arrive at what is most important, which is that philokalia, in its deepest sense, is always about working on oneself. Not in psychological or intellectual but in ascetic terms: purifying one's mind, calming one's heart, contemplation. Music emerges as the fruit of an internal state. It becomes, if I may say so, a sort of extension of prayer, or an offering.

If one does indeed begin to encounter the philokalian tradition, then they discover that love is not an emotion but a mode of being; that sacrifice is not a loss but a transformation; that an artist is called upon to look for another's image in creativity.

And if I had to put it briefly, I would say this: philokalia taught me that art is not a matter of style but one's state of being.

Your music sounds prayerful in its own right, whether with words or without them. The rhythm in which it combines fast and slow sections, drama and stasis, sound and silence, rhythmic patterns, ostinatos and parlando-rubato... those are the laws of prayer spoken by music. Your music is above all a prayer?

I believe that my music represents an internal flow, as a testimony of the current condition of the soul. And indeed, those states are very dynamic, as you noted as well. For spiritual life, in the Christian experience, is about moving: struggling, rising, and falling. In that sense, it is closer to the liturgical experience than to some kind of abstract silence. Just as the Liturgy itself is exceedingly dramatic as well.

That is also where I see a key difference regarding many eastern teachings, which often pursue an absolute calm, positing silence as their goal. In Christianity, calmness is a virtue, but not the ultimate goal, because the ultimate goal is the knowledge of God. And the path to it almost always involves drama, while that path in this world is endless. That is also what makes me suspicious of all "spiritual, Christian music" that is slow in tempo and soft in dynamics – as a cliché.

How do you accomplish that "fantastic narrativity", that charisma of sound, the power to draw the listener in and maintain their spirit in a mystical experience? That moment of "sonic contemplation"? Is your ascetic control of experience and controlled selection of materials and compositional-technological procedures one of the ways you accomplish that?

What you call "sonic contemplation" is indeed a state that is gradually summoned. One of the key aspects is time control. But not time in physical terms, in terms of seconds, but something I would call musical time. Musical time is elastic. The composer determines the very density of that time's flow. In that sense, I always felt close to Tarkovsky's notion of "sculpting in time". Music, if it is to acquire that internal strength, must become a continuous sonic flux, but one that is focused, concentrated, almost like the mind in prayer. If that concentration is disturbed, if it falls apart and reverts to physical time, then what is lost is precisely that ability to "draw" the listener in.

Another important aspect is what I would call the unity of language, in terms of internal consistency. If you take Bach, for instance, there is an im-

pressive degree of uniformity there. Nothing is random, there is nothing outside of that organism. My impression is that one of the main problems of contemporary music is precisely this: its lack of self-knowledge of pure musical mechanics. There is often a multitude of procedures, techniques, ideas, but without internal cohesion to connect them into a single entity. Whereas contemplation entails wholeness, just as prayer demands concentration.

In that context, too, the ascetics you referred to is inevitable. Controlling time and renouncing everything superfluous as forms of internal discipline, so that music might become a concrete dwelling space. Without the listener "following" it from their time but having the listener enter the music's own time field.

Have you thought about your music in terms of phrases, gestures, effects, and operational models? How do antiquity and contemporaneity so naturally and authentically flow together? Microtonality and melody, aleatoric and diatonic music, solid structures and improvisation?

I have certainly thought about music in those terms, but as visible consequences of something that precedes them, because those parameters are not autonomous, determined as they are by extra-musical values, the ones we've already discussed before.

That is why every procedure, even if it is technically most extreme, remains justified for me only if it is in "spiritual harmony". Again, this is very difficult to describe with words.

In my notes, when I'm composing, I often use expressions such as "Anything", "Anything's possible", or even "Impossible music", which is an attempt at returning music to an ur-image, a metaphysical source where anything might spring forth, if it is in spiritual harmony. And here again we arrive at a perhaps paradoxical truth: that true freedom in music is attained not when "everything is allowed", but when "everything is harmonized". When even the most divergent elements belong to the same internal, spiritual order.

Regarding the question of how "antiquity and contemporaneity" naturally merge, I'd rather say that they already occupy one and the same space. As I mentioned before, if we observe time as a concentrated whole, then what we call "ancient" and "contemporary" cease to be opposites.

In your scores (more often in your early works), the instrumental ensembles they specify are traditional (but they're always used in non-traditional ways!),

while in your later works they are increasingly defamiliarized with non-traditional combinations, and sometimes they feature some "forgotten" instruments: the psalterium, Theremin, piccolo trumpet, piccolo flute, accordion, waterphone… singing bowls… and the performers-instrumentalists and/or singers are often required to sing as well as play, whistle, perform on small percussion instruments or bells… Timbre and virtuosic orchestration are highly important in your music?

Like most composers, I'm often faced with a predetermined medium: a string quartet, *à cappella* choir, an orchestra of a certain size. Those are, so to speak, historically "given boundaries". But what arises in me as sound very often exceeds those boundaries, as though it wouldn't quite acquiesce to them, as if it were searching for space where it might flow out in a metaphysical sense, as an attempt at opening sound to those "worlds of the ineffable".

Because the standard orchestra is actually a product of the Viennese classical era and is works well with precise thematicism and pure forms. That is why I feel the need to expand it, in terms of opening up to other horizons of sound. New music entails new expression in orchestration. Therefore, the orchestration must likewise be new, incredible, impossible.

In order to achieve that unity of material and procedure in your music, you have created, using the "harmony of difference tones", a scale comprising nine notes – your "ancient scale"?

I'd rather say that this unity wasn't formed through the scale itself, as such, but through something I called the "ancient mode".

For a scale is always a sort of surface. Whereas what I was interested in was the "modus operandi", the internal mechanics guiding the movement of the music. In that sense, the ancient mode is indeed a system, but not a cerebral one, like serialism. The word "mode" signifies here the mode of operations. There are four main modes of operations within that system, which guide the formation, motion, and transformation of sound. The ancient mode is a sort of musical ontology, the way in which sound is born and moves.

In that context, the so-called "nine-degree scale" you mentioned is one of the possible outcomes of that way of thinking. On the other hand, the ancient mode may encompass different scalar frameworks and adapt to different composers' languages. I described that in detail in my book "The Ancient Mode". The intent was to restore to the composer the possibility of find-

ing order in sound and to have that order stem from the very flow of the music. The ancient mode is an attempt at transcending the divide between "freedom" and "system"; it represents the "third dimension", beyond the dualism of modality and atonality.

The titles of your pieces are unusual, often poetic or compound, or idiomatic. They form an important part of your philosophy and poetics?

Of course, the title is extremely important for me. I've always found it hard to imagine a work without a title, so much so that I can't compose without first knowing the title of the piece. The title is a window into the interior of the work. Also, I've always felt a certain degree of anxiety regarding "universal" titles. After all, such indifference is unknown in literature, too: no one will title their work simply a "novel". Nevertheless, my titles are not templates for programme music, which doesn't interest me as such. Rather, my titles are a "key" for unlocking everything that is encrypted in the score.

Often, my titles are a reflection of what was spiritually on my mind at the time. Sometimes I feel the need to compress everything in a single word, which is how compounds such as *Chandangel* and *Bogoluchie* come to be. They are attempts at naming something that eludes language and yet demands a name. Lately, my need for poetic titles has even spread to my tempo indications, replacing, for instance, "Allegro" with "The Eternity is Commandment of Love", quoting Alexander Schmemann.

The art of music is, according to your aesthetic, a fundamental philosophical essence that can change the world, a key for setting our destiny in motion toward something better and toward good. Is this Aristotle's ideal of kalokagathia, combined with the Christian Orthodox dogma of love?

I would try to express this in somewhat different words, which stem more from the very experience of creation. I believe that art, and especially music, is not just an expression or form, but the way that truth exists in sound. And if it is true, it has the power to convert people from dark to light. And that conversion is invariably necessary to all. Therefore, it really carries in itself something that is deeply philosophical and, at the same time, active.

Aristotle's ideal of kalokagathia resembles the Christian experience, wherein beauty and good are not only connected, but ultimately find fulfilment in love. That is why for me, music should be like icons. An icon is alive, metaphysical, integral, true. And precisely that view underpins my belief that

we are on the threshold of a new epoch in art. An epoch I've conditionally dubbed "iconism". After all the experiences of modernism, one feels a renewed hunger for sense, grace, and truth.

In that sense, I would say: yes, art is indeed called upon to lead us toward good, not as an ideology and aesthetic, however, but as light.

STUDIES

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THE SPATIO-TEMPORAL ORGANIZATION OF MODERNISM, OR COULD MUSIC AS ART IN THE TWENTIETH CENTURY BE DEFINED AS A MODERNIST EXPERIENCE OF (MUSICAL) SPACE-TIME?

Abstract: In the article, the thesis of a specific spatio-temporal organization of modernism and its relation to the phenomenon of space-time in the arts is being questioned. Following the conclusions of authors from different fields of study (history and theory of literature, sociology, history, cultural studies, philosophy, and urban geography), the aim of the article is to illustrate the key or paradigmatical points in assumed continuity of modernist tendencies in European culture and society in the aforementioned period. Those tendencies can be related to the specific spatio-temporal organization of modernism as phenomenon. The organization of space-time dom-

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inating modernism will be studied in arts from the *fin-de-siècle* to the 1960s. The emphasis of this argument shall be on the elements of remarkable change of artistic perception of the phenomenon of space-time, for which it is assumed that it appears as a result of and thanks to the change in the experience of space-time in modernism.
Keywords: space-time, modernism, modernity, perception of space-time, art

Contemporary literature based on the research of the phenomenon of modernism as a movement that, in an essential way, shapes the identity of Western art and culture emphasizes the tendency to interpret modernism as "multiple, polycentric, and recurrent instances of transformational rupture and rapid change across the full spectrum of political, economic, cultural, technological, demographic, and military areas of interlocking societies and civilizations".[1] According to literary theorist Susan Stanford Friedman, modernism as "planetary phenomenon" projects "hightened, often extreme and accelarating change that spreads through the various domains of society", which results in modernism itself being perceived as a rupture, "a paradigm shift, a geohistorical transformation on a large scale".[2]

The view that modernism is not coherent nor homogeneous in its appearance, therefore in interpretation and understandings as well, is also promoted by musicologist David Metzer. His standpoint is that the frequently shared notion of modernism being equated with the new, as "innovation, leaving the conventional", is only one of the possible roles modernism itself can have.[3] It can therefore appear, as the author concludes, that the history of modernism stands for a history of a single and homogeneous continuity of the notion, which is not the case. The history of modernism, according to Metzer, is "a history marked by both continuity, and disruption", which implies the complexity and multilayered nature of modernism as phenomenon.[4]

The dialectical nature of modernism, as Peter Bürger's study indicates, has far more deeper roots that can only be seen when modernism is taken as a general social and cultural phenomenon. In his analysis of how art came to achieve its autonomy (which is an important event for the arts and modern-

[1] Susan Stanford Friedman, *Planetary Modernism. Provocations on Modernity Across Time*, New York, Columbia University Press, 2015, ix.
[2] Ibid., 4.
[3] David Metzer, *Musical Modernism at the Turn of the Twenty-First Century*, Cambridge, CUP, 2009, 4ff.
[4] Ibid., 8.

ism alike), Bürger claims that is it not a "unilinear process of emancipation […] but a highly contradictory process characterized not only by the acquisition of new potentials but also by the loss of others".[5] The aesthetics of autonomy formed as a result of the process of autonomy of art – that manifests itself through the aesthetics of genius, especially in the nineteenth century – cuts both ways, claims Bürger. Not only does the artist get the chance to rise to an independent position within the newly-formed capitalist market, offering his ideas or works in exchange for value, but he also experiences rejection by the same order and society, forcing him to turn away and alienate himself from society altogether.[6] Therefore, the art that rises in the bourgeois society from the mid-eighteenth century to, roughly, the mid-twentieth century rests upon the "tension between institution and individual work".[7]

Inconsistencies related to the notion of modernism have their repercussions on the interpretation of the phenomenon of modernism in music. In regards to modernism in music and the meanings of the term modernism in this context, composer Vlastimir Trajković notes that the notion of modernism by now has not been defined in a satisfactory manner, especially from an aesthetic standpoint. Instead of establishing solid aesthetic and artistic criteria for defining the term modernism, there has been an unwritten agreement on what is considered modern and what is not. Therefore, the author indicates that "'modern' would be any movement or climate of ideas […] that supports change, the retirement of the old or traditional, and the forward march of the avant-garde".[8] From an aesthetic standpoint, Trajković notes that "the notion of modernism is universally attributed to adherence to the ideas and ideals of the Enlightenment, whereas modernistic art forms and the modernistic ideology reached their full momentum *only from around the 1880s*".[9] One of the symbols of modernism in music is tonality. Therefore Trajković claims that in several works composed in the second half of the nineteenth century (especially the opera *Tristan und Isolde* by Richard Wagner) one can trace not only the crisis of tonality – that, in his view, is being

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[5] Peter Bürger, *The Decline of Modernism*, translated by Nicholas Walker, reprinted edition, Cambridge, UK & Malden, MA, Polity Press, 2005, 6.

[6] Ibid., 11.

[7] Ibid., 18.

[8] Vlastimir Trajković, "Thinking the Rethinking (of the notion) of Modernity (in Music)", in: Dejan Despić & Melita Milin (Eds), *Rethinking Musical Modernism*, Belgrade, Institute of Musicology of SASA, 2008, 27.

[9] Ibid., 28.

historically resolved around the 1900s – but also the ways of transforming modernism as aesthetic paradigm.[10]

Modernism and its Terminology

In order to understand how modernism can be interpreted as a mode of organizing space-time, it is necessary to make a terminological dissection of the very notion of modernism. As the previously mentioned authors outlined, the notion "modernism" still represents an insufficiently clear term. Even though it has a prominent role in discourses of various disciplines and despite the vast literature that, in most diverse perspectives and in many languages, analyze and interpret this complex and multifaceted phenomenon, the lack of a precise interpretation of the notion of modernism in the specific areas where it is used, as well as establishing clear criteria, whether economic, philosophical, linguistic, aesthetic etc., that will serve as a point of reference for defining modernism as a term and notion, is evident. In that regard, it is noticeable as well that a clear distinction between modernism and related terms, such as modern age, modernization, modern, modernity and avant-garde, is also missing, which raises additional uncertainty about interpreting events that can be described as related to modernism. That remark is especially evident in regards to modernism in the twentieth century.

In the context of this article, the term modernism is used to signify the adherence of events, ideas, and values influenced or initiated by the interconnectedness of economic (the rise of capitalism, especially from the mid-nineteenth century), religious (the diminishing of Christian and related world views) and social (the establishment of the bourgeoisie) factors that are operating in Western Europe from the mid-eighteenth to the end of the twentieth century. In a broader sense, the interpretation of modernism aligns more closely with the interpretation put forth by the theoretician Miško Šuvaković.[11]

In the lexicon of modernism, which is referring to the group of terms related to and circulating around the primary term modernism, often used in parallel, the term modern age stands for the chronological and historical period from the beginning of the Renaissance or Columbus' discovery of America in 1492 until the explosion of the first atomic bombs in Hiroshima and Nagasaki in 1945. In its essence, the modern age reflects the transition

[10] Ibid., 29.

[11] Miško Šuvaković, "Modernizam", *Pojmovnik suvremene umjetnosti*, Zagreb – Ghent, Horetzky – Vlees & Beton, 2005, 380.

from "the Christian feudal system by establishing the bourgeois society and class",[12] referring to different ideas and modes of expression of modern tendencies in a rather dynamic view of the aforementioned historical period.

For urban geographer David Harvey the fundamental aspect of the term modernization is modernism's connection to the idea of Enlightenment, specifically the idea of endless progress.[13] The philosopher Jürgen Habermas sees this idea in "efforts [of the Enlightenment, M.B.] to develop objective science, universal moral and law, and autonomous art", based on the idea of rationality as "inner logic" of Enlighthenment.[14] For Habermas, this idea never reaches its completion, therefore he interprets modernism as an unfinished project. However, this interpretation where the notion of modernization equates with the notion of progress or development in terms of meaning is, according to literary critic and professor of comparative literature Matei Calinescu, common for the discourse of social science.

The term modernity is interpreted by David Harvey as "a never-ending process of internal ruptures and fragmentations within itself".[15] This immanent fragmentation has been noted as one of modernism's distinguishing qualities by other authors as well (Stanford Friedman, Metzer). It can be concluded that modernity shapes the notion of modernism as fragmented and unstable, revealing itself as the essence of modernism. Modernism is thus defined as the embodiment of modernity as such. Modernity is also manifested as the aesthetic component of modernism, which leads to interpretations of modernism as "aesthetic paradigm".[16] On the other hand, Calinescu understands modernity as "a temporal/historical concept by which we refer

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[12] Ibid.

[13] David Harvey, *The Condition of Postmodernity*, Cambridge and Oxford, Blackwell, 1989, 99.

[14] Jirgen Habermas, "Modernost – jedan necelovit projekat", prevela Zdenka Petković-Prošić, in: Milan Damnjanović, Emina Kulenović-Grujić (Eds), *Umetnost i progres*, Belgrade, Estetičko društvo Srbije – MRO Književne novine, 1988, 33.

[15] D. Harvey, *The Condition…*, op. cit., 12.

[16] Harvey points out the fact that there is a difference in understanding the modernism of, for example, the period after 1848 and modernism after the end of the First World War. This speaks to the interpretations that the twentieth century is responsible for establishing a new meaning for the term modernism. However, it seems that instead of different perspectives on the meaning of the term that are, according to Harvey, indicated by the position of the interpreter, we can speak of holding focus on a specific aspect of the term modernism in certain interpretations that consequently then produce the impression that the term itself is changing. Cf. ibid., 25.

to our understanding of *the present in its unique historical presentness*". That specific awareness of the present moment and, more importantly, the character of the present moment, the values and ideas that make the present modern, form the relationship between the present, the past, and the future.[17] The author also notes that modernity manifests itself through the constant interplay of the rational and irrational,[18] leading to fragmentation as one of its traits, also noted by Harvey in relation to modernity.

The term modern reflects one of the quintessential aspects of modernism, which is the new. Presenting itself as and through the new, modernism makes a radical break with the past, from the old and tradition, which some authors see as a break with the classical. However, interpreting modernism exclusively as the manifestation of the new is slippery terrain, precisely because of the nature of the new that is achieved only in a short instant, or until the current new is replaced with the other, upcoming new. On the other hand, the new is inherent to artistic creation from its beginnings, so it cannot be interpreted solely or predominantly as a modernist trait. Following that logic, every manifestation of the new would mean the manifestation of the modern, which is not always the case. Therefore, modern is here understood in the way that poet Charles Baudelaire interprets it. Being one of the crucial figures to establish and promote the new phenomenon in the arts and aesthetics, Baudelaire coined the term "*modernité*". According to him, modern is related to the unique perception of reality and, especially, the present moment, capturing a feeling of experiencing something that cannot and will not be repeated, or learned from the past, or simply imitated.[19] In this regard, the modern is predicated on an understanding of modernity, as interpreted by M. Calinescu from the standpoint of Baudelaire's essay.

Finally, one of the central aspects of studies of modernism in music and the arts is the relation between the notions of modern and avant-garde, understood as products of the primary discursive and semantic interplay between the terms modernism and avant-garde. In that regard, musicologist Mirjana Veselinović-Hofman, who bases her interpretation of the term *avant-garde* on Peter Bürger's theory of the avant-garde, views both *avant-garde* and the related term *avant-garde new* as semantically-narrower than

[17] Matei Calinescu, "Modernity, Modernism, Modernization: Variations on Modern Themes", *symplokē*, 1, 1, 1993, 8–9, jstor.org/stable/40550352.

[18] Ibid., 6.

[19] Ibid., 2–3.

new, a concept also central to modernism.[20] According to her standpoint, the terms modernity and modern represent an important issue of the arts of the twentieth century, reflecting the "continuity in development of a certain field", which is not the case with the avant-garde.[21] The avant-garde appears as "the novelty in a very specific socio-economical and aesthetical complex, on a precisely defined level of the artistic practice".[22] Having that in mind, it can be concluded that the avant-garde represents a unique and rather radical mode of expression of novelty, or modernity in a broader sense of the term. Simultaneously, the avant-garde novelty has precisely defined goals which, in accordance with the original meaning of the term avant-garde, it strives to accomplish in an extreme and often destructive way. In that sense, the avant-garde cannot be taken as a synonym for modernism in the arts of the twentieth century, as both Veselinović-Hofman and Šuvaković consider.[23] In this context, the avant-garde is understood closer to the interpretation of David Harvey, who sees the avant-garde as a node of modernism in the twentieth century and its most intriguing (but not only) aspect.[24]

The Notion of Space-Time

The notion of space-time underwent significant changes in the era spanning from the mid-eighteenth to the mid-twentieth century. This period marks the rise of modernism, which became the prevailing philosophical, cultural, aesthetic, and artistic paradigm.[25]

The conception of space-time as a philosophical and scientific category has existed since antiquity.[26] Initially, the notion of space-time was examined

[20] Mirjana Veselinović, *Stvaralačka prisutnost evropske avangarde u nas*, Belgrade, Univerzitet umetnosti, 1983, 7.

[21] Ibid., 8.

[22] Ibid., 7.

[23] M. Šuvaković, "Modernizam", op. cit, 380; Mirjana Veselinović-Hofman, *Fragmenti o muzičkoj postmoderni*, Novi Sad, Matica srpska, 1997, 16.

[24] D. Harvey, *The Condition…*, op. cit., 12.

[25] Daniel Bell, *The Cultural Contradictions of Capitalism*, New York, Basic Book, Inc., 1978, xxi–xxii.

[26] In his book, physicist Max Jammer finds that pre-historical man had a certain idea about space-time that was primarily grounded in the experience, where space-time appeared as an unorganized group of points and directions that drew analogy with man's emotional experience of the world. Max Jammer, *Concepts of Space*, third enlarged edition, New York, Dover, 1993, 7–8.

within metaphysics, a branch of philosophy that focuses on the external world, the complex questions regarding the very existence of man, nature, and the universe as such. Over time, this concept gradually evolved into a subject of discussion in natural sciences, particularly physics and mathematics. Subsequently, it found its application in the social sciences and humanities. Therefore, it can be said that the discourse on space-time developed in a non-linear manner, despite the persistent interest in this notion. As a philosophical concept, the notion of space-time seemed to transition to the domain of metaphysics, cosmology and epistemology first. From there, the discussion about this notion continued in parallel with specialized areas of knowledge including astronomy, mathematics, geometry, and physics. After that, the concept of space-time has been employed within the social sciences and humanities, especially in history, geography, sociology, cognitive linguistics, cultural and art studies, aesthetics, phenomenology, ontology, and the theory of arts.

The fundamental concepts for interpreting the notion of space-time within the discourse of art, particularly in regard to modernism, are Immanuel Kant's understanding of space and time as *a priori* forms of human knowledge and the model of the space-time continuum as a four-dimensional manifold,[27] to which Albert Einstein contributed, among others. In his search for the origin of human knowledge, Kant sought to establish the relationship between thought concepts and human experience. Through this endeavor, he developed the concepts of space and time as *a priori* forms of intuition, which serve as fundamental frameworks for human experience and influence the perception of space and time.[28] Kant's concepts of space and time are "the *precondition* to all knowledge", or – as philosopher Vladimir Tasić points out – these elements serve as the molds that shape our experience and enable the formation of conceptual frameworks by the mind. In return, the concepts of space and time serve to explain our experience of the world.[29] Contrary to this perspective, Einstein's approach assumed that space and time do not inherently condition our experience, at least not in the manner postulated by Kant. As demonstrated by the philosopher Jelena Dimitri-

[27] In mathematics and geometry, manifold represents an abstract topological space, where Euclidean space is recognized in every point. On the global scale manifold appears as complex, closed or curved.

[28] Vladimir Tasić, *Mathematics and Roots of Postmodern Thought*, Oxford, OUP, 2001, 11.

[29] Ibid., 11–12.

jević, Einstein's theory posits that "the image of time [and space, M.B.] is formed through the perception", thereby indicating that alterations in theoretical models affect the comprehension of time. In this regard, space and time are dependent on each other and not isotropic, meaning they do not reflect the same properties in all directions and are not absolute, therefore not immutable.[30]

The notions of space and time in Kant's *Kritik der reiner Vernunft* (1781) are predicated on Euclidean flat space and the conception of linear time as the sole means of apprehending reality.[31] On the other hand, the model of a space-time continuum is predicated on an alternative understanding of the relationship and roles of both space and time within the continuum. According to the philosopher Miloš Arsenijević, Einstein conceptualized time as a one-dimensional infinite *branched* continuum. The temporal dimension does not gather all the events in a uniform way. Instead, they become "locally, or inseparably connected to the *place* of the event happening".[32] This encapsulates the essence of the explanation of the space-time continuum, which in physics is understood as "the set of all places-at-a-time or all actual and possible events".[33]

The fundamental dichotomy between Kant's conception of space and time and the conception of a space-time continuum is in the fact that, for Kant, space and time are completely independent of each other; events in space do not influence the perception of time and *vice versa.* It unveils the inherent homogeneity of space and time, underscoring the notion that, irrespective of external or internal influences, the fundamental traits of the absolute space and absolute time remain constant for all entities. On the contrary, the space-time continuum is predicated on the recognition of non-Euclidean geometrical models of space, which were developed from the nineteenth century onward.[34] These models introduced divergent perceptions of

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[30] Jelena Dimitrijević, "Kantovo i Ajnštajnovo shvatanje vremena", *Theoria 1*, 69, 2026, 123–124.

[31] V. Tasić, *Mathetmatics…*, op. cit.; J. Dimitrijević, "Kantovo…", op. cit., 124.

[32] Miloš Arsenijević, *Vreme i vremena*, Belgrade, Dereta, 2003, 70–71. The author states that by the second half of the nineteenth century the dominant theory of the continuum was Aristotle's, by which time could be infinitely divided, but only into parts that are not considered actual. See: ibid., 23–28.

[33] Michael Friedman, *Foundations of Space-Time Theories*, Princeton, Princeton University Press, 1983, 32.

[34] V. Tasić, *Mathetmatics…*, op. cit., 21ff.

reality and called into question the notion of one-dimensional time as "immutable subjective form of perception".[35] In this theoretical framework space and time are intertwined, such that the speed of objects in special relativity influences time retardation and space contractions. Conversely, the mass of objects in general relativity influences the curvature of space-time, which, in return, exerts a causal influence on the movement of the mass. In summary, "there are no differences between the temporal coordinate and the spatial coordinates", and comprehension of the space-time continuum is contingent upon the vantage point of the observer.[36]

Kant's and Einstein's concepts of space-time both reveal the ontology of space and time to some extent, which is fundamental to the arts. It relates to the question of the reality of the time flow, which belongs to the ontological status of time, i.e. its existence. In that regard, Arsenijević encompasses two types of temporal relations: the relations before-after, or *earlier-later*, and relations past-present-future. According to him, "to understand the flow of time […] we need *different times*", that shall encompass, first, the distinction between past, present, and future, while avoiding the reduction of complexity to the mere difference between earlier, simultaneous, and later. Before that, it is imperative to establish a clear distinction between earlier and later, where "one of the states of the world is *present*, which all other states determine as *past* or *future*, depending if they are earlier or later from the one being the *present*".[37] In this manner, the two types of relationships are interconnected and contingent, rendering them inseparable. The essence of this relationship can be articulated as "the contemporaneity of non-contemporary", a concept that, in the discourse of art, emerges through the examination of the interplay between historical and calendar time. This notion is particularly salient in the context of discussions on style.[38]

However, the comprehension of space-time in the arts does not invariably entail a rigid and meticulous acceptance of geometric or physical attri-

[35] J. Dimitrijević, "Kantovo…", op. cit., 123.

[36] Ibid., 124. The author refers to the remarks of physicist Steven Hawking.

[37] M. Arsenijević, *Vreme…*, op. cit., 151–152.

[38] Reinhart Koselleck, *Futures Past. On Semantics of Historical Time*, translated by Keith Tribe, New York, Columbia University Press, 2004, 95, 238; Nemanja Sovtić, "Da li je stilska epoha *istorijsko vreme* u umetnosti? Misao Dragutina Gostuškog u svetlu jednog odsudnog pojma", in: Katarina Tomašević and Bojana Radovanović (Eds.), *Iskošeni ugao Dragutina Gostuškog: tematski zbornik*, Belgrade, Muzikološki institut SANU, 2024, 65–84.

butes of space-time, nor does it necessitate the acknowledgment of the reciprocal interdependence of spatial and temporal dimensions of the space-time continuum. In the research conducted by visual artists Alistair Burleigh and Robert Pepperell in collaboration with the psychologist Nicole Ruta, it was determined that the artistic understanding of perspective in visual arts is frequently not founded on precise mathematical calculations, due to the fact that the human eye and experience of reality, in conjunction with spatio-temporal relations as perceived through the artistic eye, are not exact in the mathematical sense.[39] Therefore, the phenomenon of space-time in the arts is more akin to the philosophical notion of the ideal, or, better still, imaginary space and the phenomenological notion of lived time.

On the other side, the unfeasibility of a comprehensive transference of the notion of space-time – that is, the space-time continuum or four-dimensional differentiable manifold – to the interpretation of space-time in the arts warrants consideration, both at the level of the analysis of the work of art as object of aesthetic research and at the perceptual and experiential levels of the work of art. In both cases, the human consciousness plays an important role; however, because of its inability to grasp the continuum as it appears in reality, space-time in the arts is "separated" into the phenomenon of space and the phenomenon of time that dominate our perception in peculiar ways.

In this article, space-time is interpreted as Kant's notion of "things-for-us",[40] which is defined as a phenomenon that is inherent to the notion and appearance of the work of art in our perception. The notion of space-time, as a space-time continuum, has been introduced into the discourse on arts, theory of arts, and aesthetics as a cognitive metaphor for analysis, interpretation, and understanding the relations that are formed on the macro- and micro-levels of a single work of art and in the interplay between different artistic-expressive components and their elements on a thematic, compositional, or tonal and structural plane.

A central question in the study of the phenomenon of space-time in the arts is how are, in fact, spatio-temporal components such as dimensions of height, breadth and depth, as well as temporal dimensions of past, present, and future and relations before-after, translated through artistic media and

[39] Alistair Burleigh, Robert Pepperell, and Nicole Ruta, "Art and the Geometry of Visual Space", in: Tamar Flash and Alain Berthoz (Eds), *Space-Time Geometries for Motion and Perception in the Brain and the Arts*, Springer, 2021, 130–133.

[40] J. Dimitrijević, "Kantovo…", op. cit., 122.

artistic language via the reception of the work of art by the observer, viewer, reader, or listener. In their perception and experience of the work of art, they assign diverse meanings to these components. Therefore, the interpretation of space-time in the arts is primarily situated within the domain of phenomenology and/or ontology of art, bearing in mind that the notion itself has significant, profound, and extensive historical roots, which originate from the discourse of philosophy and science.

Modernism and Space-Time: The Coordinates

The research on the phenomena of modernism and space-time reveals the different ways they intersect and, especially, the relations thereby formed. At the hermeneutical level, there is a tendency for certain traits of modernism – such as fragmentation, non/linearity of time flow, the acceleration of the flow of time, contractions or expansions of space, and the like – to be replaced with the physical traits of the notion of space-time in a rather allusive manner. The topics often regard the temporality of modernism, the geographies of modernism, and the spaces of utopia that are connected to the modernist worldview in a more or less metaphorical sense, at the level of the general conceptual framework that serves to interpret specific tendencies within modernism as a movement in European philosophy, culture, and the arts. A commonality observed across the social sciences and humanities is the tendency to approach the concept of space-time through a division of these elements, which often results in the analysis of only one component, while the others are either disregarded or excluded.

At the phenomenological level, modernism is presented as *Zeitgeist*, the cultural climate, or social atmosphere that characterizes modern, civil, bourgeois society and modern life in the city – more specifically, the metropolis. From a cultural perspective, the values of modernism are rooted in the concept of "novelty", which often serves as a synonym for "modern", that, in its broadest sense, signifies the "contemporary" or "of this time". Despite the fact that novelty has to eventually grow old and turn into the classical, modernism exhibits a persistent resistance to this inherent temporal progression. In this sense, it can be interpreted as a rebellion against the established traditions, a challenge to the status quo, as destabilizing identity and growing subjectivity, as the impossibility to define universals in the philosophical sense. The revocation of the tradition signifies an act of non-acceptance of continuity as such, thereby engendering the perception of modernity as a rupture or turning point, as annihilation of the logic of the temporal sequence past-

present-future and relations before-after. It appears that modernism, through its denial of continuity, also challenges the perception of a unified space-time continuum that further reinforces the existing tensions within modernism and leads to more radical manifestations of modernism in the arts.

Sociologist Daniel Bell notes that the culture of modernism undergoes a gradual loss of coherence, leading to the specific polyvalency of cultural tendencies and reinforces the perception of modernism as fragmentary.[41] According to his interpretation, the essential trouble of modernity that acts as a fundamental component of modernism was *a spiritual crisis*. Separating the religious and the cultural, along with the weakening of religion as the structural point thus far, influenced the modernist subject to search for new spiritual foundations. The trial to find "excitement and meaning in literature and arts" led to the foundation of modernism as a cultural model.[42] In modernism, the individual and his worldview became a crucial criterion to determine cultural values. The domination of the imaginary and fantasy from the mid-nineteenth century emerges due to a lack of a stable, objective criterion of value, leading to everyone's perspective being promoted as the absolute perspective.

In such an environment, the individual gets disoriented in time and space. According to the musicologist Tijana Popović Mladjenović, the fantasy principle brings liberation from the geometrical order of space and the strict sequence of time, bringing to the fore the subject's decentredness as the primary quality of its unconscious.[43] Since the boundary between the Self and the world becomes translucent, more so in the period from the *fin-de-siècle* until the first decades of the twentieth century, the inner experience of the world and space-time is transposed into the outside, replacing thereby the objective reality. That is how modernism, according to Bell, "insists on the meaninglessness of appearance and seeks to uncover the substructure of the imagination", which initiates the need to stylistically *eclipse* distance, whether a physical, social or aesthetic one. As a result, the eclipsing of distance engenders the experience of *absolute presentness*, which manifests itself through simultaneity and immediacy of experience, more specifically through the experience of the present as a formative quality of modernist experience of

41 D. Bell, *The Cultural…*, op. cit., 86ff.

42 Ibid., 28–29.

43 Tijana Popović Mladjenović, *Procesi panstilističkog muzičkog mišljenja*, Belgrade, Fakultet muzičke umetnosti, 2009, 347–349.

space-time. In a thematic sense, the focus is now on the individual, or the Self, that appears as a creature capable of suspending the boundaries between itself, in search of what is outside of the Self and the world.[44]

According to David Harvey, until the 1970s there was an ongoing crisis of representation of space-time, initiated due to the acceptance of accelerated modernization, strengthening the relations between money, time and space in the new capitalist order, and technological progress. Harvey mentions that the modernist multiple perspectivism and relativism in the interpretation are, more precisely, the epistemological need to understand the world as "a unified, though complex, underlying reality".[45] Since reality was marked by the overall growth, progress and acceleration in the domain of the economic, political and social life, modernism in Harvey's view represents "a troubled and fluctuating aesthetic response to conditions of modernity produced by a particular process of modernization".[46]

The tension between various social structures reflected in the modernist *unity of disunity* a paradoxical unity based on insecurity, uncertainty and fragmentation, where the continually changing meanings of space and time seemed to "contradict the rational experience of yesterday". Instead of reason, the philosophical, political, as well as aesthetic category *par excellence*, an overwhelming aestheticization was brought to the surface as the unifying principle for all philosophical, social and artistic tendencies, spreading from the arts to everyday and public life, most notably seen in the activity of the avant-garde movements at the beginning of the twentieth century.[47] Therefore, the domain of aesthetics, which emerged in parallel with the advent of modernism in the mid-eighteenth century, appears to be potentially an essential element for understanding modernism and space-time as they are discussed within the framework of the theory of art.

By representing the world, both outer and inner, modernism strives to create a world for itself, a *world in-between* (die Zwischenwelt), a *world near-by* (die Nebenwelt), as the philosopher Jean-François Lyotard writes, referring to the painter Paul Klee.[48] In creating such a world, modernity gives

[44] D. Bell, *The Cultural…*, op. cit., 47.
[45] D. Harvey, *The Condition of…*, op. cit., 30.
[46] Ibid., 99.
[47] Ibid., 11–12, 18.
[48] Jean-François Lyotard, *Inhuman*, translated by Geoffrey Bennington and Rachel Bowlby, Polity Press, 1991, 97.

birth to a new feeling, sublime, for Lyotard "the only mode of artistic sensibility to characterize the modern".[49] In researching the rise of modernity within the arts, the author discovers a specific relation between modernity and space-time. For modernism and modernist aesthetics, space and time are "necessary forms of *aesthetics*".[50] Therefore the author concludes that the question of space and time in arts is crucial for modernism.

In light of the crisis of the scientific understanding of space-time, especially the transition from Newtonian concepts of absolute space and absolute time to relativistic interpretations of space-time in modern physics, the end of the nineteenth century marks the process of a paradigm shift in sciences that are closely related to the interpretation of time (arithmetics), space (geometry), and movement (mechanics).[51] Lyotard names this the *crisis of foundations*,[52] which has far more important implications on understanding the arts and, through them, the phenomenon of space-time. In that context, questioning the status of the arts begins, implicitly highlighting the topic of space and time in the arts.[53]

Even though the question of space and time in the arts is, first and foremost, the question of modes of representation, in the twentieth century a tendency can be traced in which space and time are interpreted and analyzed through artistic mediums, the language of art, technique and means of expression. In other words, the question of the medium of art, the language of art, and – as Lyotard himself emphasizes – the status of art is deeply intertwined with the question of the nature of space-time. Despite the fact that Lyotard does not expand upon these insights, it appears that the question of the representation of space-time through the arts is merely one in a series of inquiries that emerge when modernism, as the prevailing paradigm, is considered in conjunction with space-time and the arts. The implications of this discussion underscore the limitations inherent in the direct transposition of space-time as reality, or "world-as-it-is", into the interpretation of artistic experience. This experience is predominantly influenced by either time or space. This creates the impression of irreconcilability between the two entities of the space-time continuum. It is likely the reason for establishing the

[49] Ibid., 93.
[50] Ibid., 110.
[51] Ibid., 116.
[52] Ibid., 173.
[53] Ibid., 113.

classifications of spatial or temporal arts that inevitably shape the discourse on the phenomenon of space-time in the arts.

The modernist experience of time is founded on the ongoing tension between the subjective, inner experience of time and the metaphysical or historical conception of time. Therefore, the existence of multiple temporal modes or temporal layers (Zeitschichten), as described by the historian Reinhart Koselleck, indicates the simultaneity of linear and continual, cyclical and/or discontinual and fragmented time, but in an unique temporal asynchrony.

The modernist experience of space can be understood as a heterotopia, as defined by the philosopher Michel Foucault. In writing *of other spaces* (des espaces autres), more specifically about those spaces that are formed outside of the subject, and in a broader social context, the author finds that heterotopias consist of real places that are usually rooted in the culture, so their places can be simultaneously represented and even inverted. Despite being "outside of all places", Foucault states that heterotopias, unlike utopias, are strongly based in reality.[54]

If the modernist experience of time and space were to be combined into a modernist experience of space-time, it would encompass the perception of multilayered time within imaginary or idealized space. The idealization of space, whether through Foucault's heterotopia or pure utopia, is based on the idea of a better future, in other words on the tendency that the present (and past) moment has to be completely overcome, given its inevitable obsolescence. While in the present, the modernist subject finds itself conflicted between the yearning for what is coming and the sense of disillusionment, even hostility, towards the past. As such, the modernist experience of space-time is characterized by its extreme subjectivity, shaped by individual consciousness. Despite efforts to establish a uniform meaning, the variability, openness, and polycentricity inherent in the modernist experience of space-time cannot be disregarded, resulting in an allusive interpretation of the underlying concept of space-time in artistic discourse.

[54] Mišel Fuko, "Druga mesta", transl. by Pavle Milenković, in: Pavle Milenković and Dušan Marinković (Eds), *Mišel Fuko 1926–1984–2004 hrestomatija*, Novi Sad, Vojvođanska sociološka asocijacija, 2005, 31ff. It is interesting to note the translator's choice when it comes to the French word "l'espace". Even though the French word clearly signifies "space", the translator's choice of the word "place" seems rather unusual, considering the fact that "place" and "space" are not synonyms, neither in the philosophical or scientific sense.

Spatio-Temporal Organization of Modernism and the Phenomenon of Space-Time in the Arts of the Twentieth Century

Without a doubt, there are several unique properties that can be marked off in the context of a discussion about the connection between modernism and space-time as phenomena and, indirectly, the interpretation of the modernist experience of the world through the phenomenon of space-time in the arts. Those properties include the acceleration of space-time, the compression of time-space,[55] fragmentation, discontinuity, non-linearity, spatialization of time, etc. Even though they do not always occur simultaneously, their flows often overlap. Having their own unique beginnings and different flows, it is interesting to notice that the intensity of these properties significantly increased from the mid-nineteenth century. In the context of this article, the relationship between modernism and space-time, through the lens of the modernist experience of space-time in the arts, is demonstrated through the acceleration of stylistic periods.

At first glance, in the continuous flow of art history from the Renaissance to the mid-twentieth century, there is a clear mismatch between music and other arts. The composer and musicologist Dragutin Gostuški sees music falling behind as a theoretical issue, arguing that the chronological point of the beginning of the Renaissance is, at the same time, the chronological point of the beginning of modernism in the arts overall.[56] According to his theory of style, the return to classical, therefore antique, norms represent "the simplest and safest criterion for defining the Renaissance", which lack in the case of music.[57]

On the other hand, Gostuški interprets the rhythm of "arrival or departure in relation to the ancient model" in European culture as a law that determines the directions of the historical flow of the arts. This rhythm appears as a regularity, where "departures progress gradually and last long – whereas the arrivals are relatively sudden".[58] However, since the mid-eighteenth cen-

[55] The term time-space or timespace can be found in the discourse of social sciences, particularly geography. Cf. Jon May and Nigel Thrift, "Introduction", in: Jon May and Nigel Thrift (Eds), *Timespace: geographies of temporality*, London – New York, Routledge, 2001, 1–47. In musicological discourse, the term "time-space" is used by musicologist Eric Christensen. Cf. Erik Christensen, *The Musical Timespace. A Theory of Music Listening*, Aalborg, Aalborg University Press, 1996.

[56] D. Gostuški, *Vreme…*, op. cit., 62.

[57] Ibid., 64.

[58] Ibid., 132.

tury (or, since the French Revolution), the acceleration of time flow is manifested through arts in the rhythmic sequence of different styles. Gostuški writes that "regular shifts of specific styles are not followed by regular duration", which "manifests itself in the form of the regular acceleration, or as a progressive shortening of relatively homogenous historical intervals".[59]

This contraction of stylistic periods led to the point in the second half of the nineteenth century where all the arts "meet", and then continue on their mutual path together. Besides the transformation of spatio-temporal relations in the context of the presumed linear flow of art history, which is manifested in the acceleration and contraction of styles, changes in regards to space-time in the arts can be noted in the perception of the work of art as well. In that sense, Gostuški sees space and time in the arts acting as forms of the same morphological base, rooted in reality. Furthermore, spatial traits can be used interchangeably with temporal ones and *vice versa* in this analysis, where the results remain the same, because "there is no antinomy between space and time".[60]

According to Gostuški, "Space and Time are two symmetrically placed forms in which the world can be seen completely independently", which opposes the understanding of the space-time continuum. The author's interpretation is closer to Kant's conception of notions of space and time, but unlike Kant, Gostuški sees space and time as "elastic forms" in the psychological sense.[61] This means that, through consciousness, the reality of space-time is adjusted to the nature of human consciousness, which corresponds to the artistic manner of treating the phenomenon of space-time. In that regard, space-time is elastic in such a way that "my *now* and my *here* can […] be extended from border time of the nervous mechanism to the entirety of life".[62] After all, neither time nor space are thinkable without matter, whether as a form or duration, more specifically movement, that is a "successive *change of form* of a given space" perceived in time, but never simultaneously, as in the space-time continuum.[63]

If the arts can be interpreted as a unity, with singular artistic tendencies from symbolism-impressionism of the 1860s, through the avant-gardes of

[59] Ibid., 134–135.
[60] Ibid., 158.
[61] Ibid., 158–159.
[62] Ibid., 159.
[63] Ibid., 166.

the early twentieth century, to the high modernism of the 1960s as manifestations of specific modernist ideas, can we assume that, in terms of a singular art, we can identify similar tendencies, expressed through the language specific for that art? In other words, how do the specific aspects of the modernist perception of space-time as imaginary or ideal space and multilayered time manifest through, or at least initiate, the specific experience of space-time in the arts?

Painting and Sculpture

The interest in the new meaning of time and space is a signature of Futurism. Artists like Umberto Boccioni, Carlo Carrà, and Giacomo Balla implemented various techniques of representing modern man in the modern environment, the city, then representing different dynamic scenes from everyday life, as well as representing the new vehicle, the plane. The manifest of Futurism, authored by Filippo Tommaso Marinetti, explicitly reveals that the artists became aware of the new age – the age of speed, progress, and constant innovation, the age of modernity that must rule the entire Italian culture and arts. Technology and machines are artists' friends, which lead Futurists to seek out the way to implement them in their artistic practice.

It can be noted that the Futurists started investigating aspects of space-time (especially speed and movement) in a deeper sense around 1912 and 1913. The quintessential works of particular artists are created, representing key works in their oeuvres and paradigmatic for the entire Futurist movement, confirming the Futurist aesthetics and theory of art. Those works include the sculpture *Unique forms of continuity in space* (Forme uniche della continuità nello spazio, 1913) by Umberto Boccioni[64] and the painting *Abstract speed + sound* (Velocità astratta + rumore, 1913–4) by Giacomo Balla. In these works, the tendency to express movement and gesture is evident, whether in the medium of sculpture, as in Boccioni, or whether in painting, as in Balla. Futurist works rarely depict the past, but almost exclusively the present, or, more so, the future. However, it is interesting that this perspective is still based on geometry and in favor of the observer.

Maintaining the traditional perspective is not the case in Cubism. Instead, the geometry becomes an essential part of the Cubist technique (faceting), allowing to show one object from multiple perspectives simultaneously.

[64] Boccioni is the author of the *The technical manifest of the futurist sculpture* (Manifesto tecnico della scultura futurista), published in 1912.

This procedure represents a radical break with the traditional ways of representation, because it allows the one thing that, in fact, was not even obtainable by then – representing the totality and its parts at the same time and on the same spot. In that sense, Cubist aesthetics bring fragmentation into focus as the central question of the experience of space-time, while it implicitly delves into the issue of the totality and the part. The possibility to experience totality through parts in the philosophical discourse of the same period appeared as a question of the experience of the phenomenon of space-time as a flow, where the totality is only implied, and only the singular moment, here-now, is being perceived.

The fluidity and pliancy of space-time is a central topic of research and among the accomplishments of the Surrealists. Bringing the subconscious, imaginary, fantasy and various other extremely individualized perceptions of reality into focus, Surrealism made it possible to experience the phenomenon of space-time in an unusual way. The most illuminating examples are removing the focus of the painting in Giorgio de Chirico's *The Red Tower* (Le tour rouge, 1913), or, ultimately, a relativistic distorsion of time and space in Salvador Dalí's painting *The Persistence of Memory* (*La persistència de la memòria,* 1931).

During the 1950s and the 1960s, geometry itself becomes a subject of intense interest, along with calculations and measurements that are then used in painting or sculpture or, more so, become the works of art *per se.* This tendency is not only evident in the center of European modernism, but also at the peripheries. In that sense, an interesting example is the Romanian art scene of the 1950s and the 1960s, dominated by two art groups, *Group 111* (1965–68) and *Sigma* (1969–1980). The founders of these groups were the visual artists Ştefan Bertalan and Constantin Flondor, whose works implement a geometrical image of space and time in a crucial manner.[65]

Architecture

Writing on the capitalist logic of postmodernism, literary critic and Marxist theorist Fredric Jameson concludes that, concerning architecture, "the modernist space offers itself as the *novum,* as the breakthrough onto new forms

[65] Exibition *Utopia and research. Timisoara experimental groups 111 and Sigma (1966–1981)*, curator Ileana Pintilie, The Nationa Art Museum of Timisoara, mnart.museum/en/project/utopia-and-research-timisoara-experimental-groups-111-and-sigma-1966-1981/. The exibition is on site since December 27th, 2024.

of life itself", as the first sign of the new age.[66] Being the movement that obsessively captured and emanated the new, modernism showed passion in studying the emergence of the new and of what comes of it. That modernist trait, according to Jameson, led to "the great modernist myth of producing a radically new Utopian space capable of transforming the world itself".[67]

It is precisely architecture that manifests the changes in the aesthetics of modernism in the most remarkable way.[68] Jameson names this aesthetic *cognitive mapping*, claiming it enables a representation of the individual subject to a broader, "unrepresentable totality which is the ensemble of society's structures as a whole".[69] Therefore, architecture represents aspects of urban modernity, one that strives for the (still unimaginable) future, and that will move the modern man out of the past and enable a slightly unreal present for him.

On the other hand, historian Carl Schorske sees modernist architecture as "cultural criticism", naming Vienna's Ringstraße as one its prime examples. This enormous, almost homogenous space was filled with monumental historical buildings in classical style (museums, theaters, community buildings, etc.), which directly contradicted with the anti-historical attitude of modernists at the time. On another level, this architectural space raised the question of whether architecture is solely a craft (emphasizing functionality as its main quality) or an art like painting or sculpture.[70]

Interpreting the rise of modernism in the arts, along with its iterations as postmodernism and the second modernism, the historian of architecture Heinrich Klotz argues that "the request for the self-establishment of the modernism led […] to the radicalization of the innovation that rejected every historical paradigm".[71] As one example, Klotz sees the works of architect Mies van der Rohe as something that "reveals the true essence of the construction and uses the quality of the new materials, with the complete novelty of its skyscrapers made of steel frames and concrete skeletons, to simultaneously

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66 Fredric Jameson, *Postmodernism, or, the Cultural Logic of Late Capitalism,* Durham, Duke University Press, 1991, 163.

67 Ibid., 104.

68 Ibid., 2.

69 Ibid., 51.

70 Carl Schorske, *Thinking with History*, Princeton, Princeton University Press, 1998, 157–171.

71 Hajnrih Kloc, *Umetnost XX veka. Moderna – postmoderna – druga moderna*, preveo Zlatko Krasni, Novi Sad, Svetovi, 1995, 17.

free itself from the historical stylistic models".[72] The modernist urge to create *ab ovo,* which Klotz names the aspect of unity of "all the styles and genres of modern and architecture",[73] directed the poetics of artists like Le Corbussier, Walter Gropius, and Jacobus Pieter Oud towards "simple and rational geometry", as the final confirmation of the modernity in their works.[74]

Literature

The narrative is the manifestation of the temporal order in the medium of literature, because it uses the succession of words in time as the primary way of temporal organization. However, this is only one aspect of the manifestations of the phenomenon of space-time in literature. According to literary critic Joseph Frank, "time and space were the two extremes defining the limits of literature and the plastic arts in their relation to sensuous perception", and the question of the organization of space-time in the arts is the question of the prevalence of one or the other extreme in a specific historical context.[75]

In regards to the literature of the twentieth century, the author notes that the significant part of then-leading writers in English – T. S. Eliot, Ezra Pound, James Joyce – and French literature (Marcel Proust) intentionally created a spatial form in their literary works, with the goal to frame the narrative for the reader not as a sequence of events (as a naturally temporal order), but as a moment of time, emphasizing thereby a spatial component of literature.[76] This tendency created "inner conflict" between the temporal logic of language and the spatial logic of form, implicit in literary and poetry. In connection to poetry, Frank writes that organizing verse form and poetic structure on spatial, rather than temporal logic, forces the reader to rethink his attitude towards language itself, which is explored by the poet Stéphane Mallarmé in a prominent way.[77]

Despite the efforts to establish the spatial form of the literary or poetic work – as in, for example, Mallarmé's *Un coup de dés jamais n'abolira le hasard*

[72] Ibid., 18–19.
[73] Ibid., 17.
[74] Ibid., 19–22.
[75] Joseph Frank, *The Idea of Spatial Form*, New Brunswick and London, Rutgers University Press, 1991, 7–10. Here the author refers to Lessing's classification of arts on spatial and temporal parameters, more precisely on the argument that it is possible to trace the development of artistic forms "by their oscillations between these two poles".
[76] Ibid., 10.
[77] Ibid., 14–15.

(1897), Joyce's *Ulysses* (1922) or *Finnegans Wake* (1924–39), Proust's seven-part saga *À la recherche du temps perdu* (1913–1927), etc. – Frank claims that it is almost impossible to perceive language as a non-temporal phenomenon, without permanent damage to the temporal sequence and logic of narrative. Therefore the gestures in breaking the temporality of literary and poetic work are revealed through the fragmentation of the narrative, structuring the narrative through several different characters, referencing and cross-referencing, even the discontinuity in representing characters.[78] In that regard, Joyce's method in creating *Ulysses* shows a remarkable gesture, where the relativization of time and, particularly, the dimension past-present-future expands into one extended now, simultaneously evoking intense contours of cyclical or mythological time, therefore communicating with the original myth of Odysseus, from Homer's *Odyssey*.

Cinema

The twentieth century welcomed a new art form: cinema. This peculiar medium represents various aspects of the phenomenon of space-time in a paradigmatic sense. The very idea of the moving image, supported by sound, was revolutionary at the time when it emerged, not only in the sense of the form, but also by the fact that, for the first time, movement was represented in an artistic medium.

In that sense, the phenomenon of space-time is essential for cinema, not only in terms of representation but also in relation to the cinematic medium, the cinema as an artistic medium, and the phenomenon of space-time. In contrast to other arts, the philosopher Gilles Deleuze recognizes the potential of cinema to transcend mere representation and manipulation of space-time, which is achieved through the artistic integration of cinematic techniques. In this interpretation, the cinema *thinks* space-time, continuously balancing between the real and the virtual, the truth and the illusion. In his two books on cinema, Deleuze differentiates the cinematic art until the Second World War, which was grounded in creating "movement-images", from the art of the cinema after the war, with its focus on "time-images". The distinction lies not solely in the composition of cinematic images and frames through montage, but particularly in the representation of space-time in the medium of cinema.

Prior to the Second World War, cinema operated with images that were immediate and "a succession, of a time which is mechanical, homogeneous,

[78] Ibid., 17, 26–27.

universal and copied from space, identical for all movements". The cinema acknowledges the presence of time and its role in the motion of images, but it is experienced indirectly, manifested in cinematic movement as "false movement" or the illusion of the movement.[79] Cinema's capacity to create a multifaceted experience, wherein multiple layers of narrative and visual elements are perceived simultaneously, and the manner in which the cinematic medium uses space and time creates the illusion of continuity.[80]

The cinematic image is comprised of two sides; according to Deleuze, one is actual, aligning with the objective reality, and the other is virtual, which reflects the artistic interpretation of the reality depicted. Prior to the war, space and time were intrinsically linked through action on film, prompting our awareness through the perception of movement based on the logic of perception-action-reaction. On the other hand, after the Second World War, this rationale was forsaken, resulting in the notion of time manifesting independently from action. Cinematic images, which are ostensibly moving, are situated within a completely new, cinematic world, wherein "recollection-images", "dream-images", and "world-images" are intrinsically interwoven, resulting in a genuinly novel approach to the recreation of the phenomenon of space-time continuum.[81]

The director Sergei Eisenstein (Сергей Михайлович Эйзенштейн) develops the idea of the fourth dimension of the cinema – time – that "emerges" in the process of montage, which Eisenstein understands as the dialectical confrontation of film frames. However, the temporal component of cinema is more than a linear sequence of time flow or duration. For Eisenstein, cinematic time manifests, similar to music, through rhythm and tempo, building an emotional intensity and enabling the viewer to have a peculiar experience of dynamism.[82]

It seems that the potential of montage was recognized and used by the Surrealists, who produced works such as René Clair's *Entr'acte* (1924, silent), with music composed by Erik Satie, and Louis Buñuel's *Un chien Andalou*

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79 Gilles Deleuze, *Cinema 1: The Movement-Image*, transl. by Hugh Tomlinson and Barbara Habberjam, Minneapolis, University of Minnesota Press, 1986, 1.

80 Ibid., 5.

81 Gilles Deleuze, *Cinema 2: The Time-Image*, transl. by Hugh Tomlinson and Robet Galeta, Minneapolis, University of Minnesota Press, 1989, 68–69.

82 Sergei Eisenstein, "The Fourth Dimension in Cinema (1929)", transl. by Richard Taylor and William Powell, *The Eisenstein Reader*, Richard Taylor (Ed.), London, Palgrave Macmillan, 1998, 111–123.

(1929, silent) and *L'age d'or* (1930, sound), with scripts written by Buñuel and Salvador Dalí. The directors of these works use overlapping (cutting in) of frames, fast-moving sequences, and shifts between long-shots and close-ups to narrate a sequence of events to the viewer. Without a doubt, these gestures enable the viewer to experience space-time in its totality, even in contradictions that are not possible to experience in reality.

Could Music as Art in the Twentieth Century be Defined as a Modernist Experience of (Musical) Space-Time?

Since, according to Calinescu, the essence of the idea of modernism is *unrepeatable time*, which means that modernity cannot emerge in societies where causal logic of events, based on the temporal relations before-after, or where the mythological and cyclical organization of time are prevailing,[83] it can be said that the experience of space-time in arts during modernism is influenced by the experience of the unrepeatable, unique and new, more precisely, what appears and lasts only now. That is the position of being aware of the present moment and its strength to (re)shape its past, as well as its future, that are not contained by the Newtonian concept of space-time. When it comes to the arts, scientific models become subjected to the elements of flexibility, which arts inherently contain. It leads to the transformations of the models of space-time unknown to science, because the artistic treatment of this phenomenon is strongly rooted in the fantasy principle, that significantly transforms geometrical relations, relations between bodies and objects in and of space, directions, as well as the temporal relation before-after.

From its beginnings, the atmosphere of the twentieth century was one of uncertainty, questioning, growing anxiety, and insecurity. Despite the significant improvement in the domain of technology and industrialization, modern man responded dramatically to the shifting focus from, until then Newtonian and absolute, categories of space and time. This separation from the cosmos, according to Joseph Frank and Daniel Bell, had its effects on the arts as well, in the sense that art forms turn to linear-geometrical and non-organical (fragmentary, discontinual, non-linear) representation.[84]

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[83] Matei Calinescu, *Five Faces of Modernity*, Durham, Duke University Press, 1987, 13. See: Karol Berger, "Time's Arrow and the Advent of Musical Modernity", in: Karol Berger & Anthony Newcomb (Eds), *Music and the Aesthetics of Modernity: Essays*, Cambridge, MA – London, Harvard University Press, 2005, 16. The author finds similar conclusions in *Myth of the Eternal Return* by philosopher Mircea Eliade.

[84] J. Frank, *The Idea…*, op. cit., 57; D. Bell, *The Cultural…*, op. cit., 86.

The tendencies of discontinuity, non-linearity, and fragmentation that dominate the arts in the period of the *fin-de-siècle* until the 1960s, influence not only the perception of the work of art as totality, but also the experience of the artist himself and his image of reality. If the meaning of the work of art rested on organic unity, on a unique, central idea that, despite inherent contrast, brings together all its parts into a meaningful sum, what does it mean when the work of art appears as fragmentary, without the possibility to be captured in one gaze, one reading, or one hearing? Is that a way to hide the real meaning under the broken surface, that would, seemingly, reflect the experience of the outer world (the world outside of the arts), or is it the insurgence of the artist himself, onto the world surrounding him, in which he feels increasingly alienated, excommunicated and, with the exception of the decade of heroic modernism of the 1930s – defeated?

A growing subjectivism penetrated the, until then, absolute, independent, and immutable categories of space and time, which made possible multiple interpretations and analyses of this phenomenon in the arts. In that regard, the phenomenon of space-time opens the window to imagination, fantasy, and, inevitably, Utopia, some other, better worlds, where the strict boundaries of geometrical order and proportion get erased, and time exists only as the present moment leaning into eternity. Therefore the observer has the crucial role in the new, relativistic conception of space-time, because his experience of space-time is dependent on his position.

In other arts, these changes are noticeable in a visually clear way, whereas the uniqueness of the medium of music or music as medium, with its predominantly temporal nature, seems more adequate for basing conclusions on the remarkable modernist transformation of the experience of space-time. It is precisely the fact that, at first glance, the nature of music as art and the traits of spatio-temporal phenomenon as continuum obscure the ways in which the phenomenon of space would be possible to experience in music. The changes that penetrated this art in the twentieth century speak to the complexity and intensity of the "modernist experience of space-time".

Besides the space in which music is performed, the existence of the imaginary or immanent musical space of the work, that includes the boundaries of the musical form, as well as the intrinsic thematic-tonal-structural organization of the form in meaningful totality, until the collapse of tonal musical thinking, was almost impossible to conceive. The narrative quality of tonality and temporality of the musical form emerging thereby obscured the spatiality of the piece of music, so the fact that the musical space reveals itself

only in the works in that tonality does not have a dominant role in regulating the musical flow seems only logical. Perhaps the most striking example is the oeuvre of Anton von Webern, especially from his dodecaphonic phase, which – following the interpretation of Mirjana Veselinović-Hofman – is understood as *pointilism*.[85]

The nature of the 12-tone technique, in Webern's compositional procedure, means higher consciousness on the pitch locations within the musical flow, while at the same time reducing the musical material to the minimum, especially in Webern's late works (such as, *Variations for piano op. 27* [1936] or *Variations for orchestra op. 30* [1940]). Focusing on the single pitch ostensibly puts the emphasis on the linear succession of the musical material, which is noticeable in exposing the row. However, the spatial aspect of Webern's compositional procedure is evident precisely in the moment of crossing the row with its different forms (primary, inversion, retrograde, and retrograde inversion) on the vertical axis of the musical writing, where some enable the reversibility of the temporal component of musical space-time.

The lack of functional harmonic relations, as a result of the abandonment of tonal musical thinking and relying on harmony as one of the primary elements in structuring the musical flow, allows the spatial dimension of the phenomenon of musical space-time to emerge. Alongside that, Webern more prominently than his predecessors, uses breaks as a means to structure the musical flow, additionally emphasizing the perception of spatiality in his works, like in *Fünf Orchesterstücke* op. 10 (1913). Webern's use of rhythm in shaping the musical flow of his works is also connected to the new understanding of temporality in music, which now enables a clearer perception of spatiality.

The liberation of spatiality in the perception and experience of the phenomenon of musical space-time is fully realized in the works composed in the 1950s and 1960s. As in other arts as well, the explicit interest of composers for mathematical and geometric organization of the musical flow, as in Xenakis, Stockhausen, and Boulez, is prominent; moreover, the explicit experimentation with various spatial layouts, whether in the form of physical space (the space of performance) or in the form of producing spatial shapes and forms in the score (leading to graphic notation). In that sense, the aleatory scores of several of Stockhausen's (*Klavrierstück XI* [1956] or *Zyklus* [1959]) and Boulez's works (*Third piano sonata* [1957]) are peculiar, since they reveal the totality of the phenomenon of musical space-time in one, until then, unusual way.

[85] M. Veselinović, *Stvaralačka prisutnost…*, op. cit., 156ff.

Besides these aspects of manifestation of the phenomenon of musical space-time in the music of the twentieth century, more intriguing are the works and tendencies where this phenomenon remains hidden behind a conventional score, revealing only in the compositional procedure and the manipulation of the musical components and their elements. In that sense, the totality of the piece of music as such represents a unique spatio-temporal organization. In the twentieth century, the rise of non-linearity not only fragments the thematic layer of the piece of music, but makes a significant influence on its temporal dimension. The result is a moment of vertical time, as explained by the composer Jonathan Kramer.[86]

Postponing the resolution in thematic units, as well as shifting boundaries of the musical flow, especially closures, significantly affects the perception of the beginning, the middle, and the end of the musical work and the perception of the phenomenon of musical space-time as a whole. On the other hand, the experience of a moment of vertical time, that Kramer marks as radical ways of manifesting musical time, can be achieved by the gesture used by Arnold Schoenberg, in the third piece "Colors (Summer morning on the lake)" (Farben [Sommermorgen am See]) from *Five Orchestral Pieces* (Fünf Orchesterstücke op. 16, 1909). The illusion of movement is achieved by using the same motifs (chords) in different instrumental parts, with minimal changes of pitch or the structure of the chords. In that way, the flow of time is suspended in the perception, leading to an extended now, which is one of the traits emanating through the perception of space-time in the arts of the twentieth century.

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Summary

The central claim of the paper relates to the question of whether the artistic experience of space-time in the period from the *fin-de-siècle* to the 1960s can be interpreted in regards to the experience of space-time inherent to modernism.

Starting with the interpretations of modernism as a phenomenon in contemporary literature, the inconsistency and unclear separation in the meaning of the term

modernism is noticeable. Therefore, the terminology of modernism and related terms, that altogether form a lexicon of modernism, according to art theoretician Miško Šuvaković, is conducted (modern age, modernity, modern, modernization, and avant-garde). For discourses of the arts, the terms modernity, as the understanding of the present moment, and modern, based on that understanding, are recognized as relevant. From the awareness of belonging to the present and the character of that moment, the values and ideas that the present make modern emerge from the relation to the past and the future, which can be best understood through the manifestation of modernism in the arts.

The notion of space-time is discussed through two essential concepts for the studies of art: Kant's understanding of space and time as *a priori* forms of intuition, and the model of the space-time continuum, established in Einstein's theories of relativity. Whereas for Kant it is impossible to think and perceive the world without the categories of space and time, which are mutually independent, in Einstein's theory of relativity space and time appear as mutually dependent, where one category is not thinkable without the presence of the other. However, in the domain of the arts the use of the notion of space-time is not applied in an exact manner, as in physics and mathematics. Moreover, its meaning is modified, which is conditioned by the fact that space-time in the arts, in the perception of the work of art, is understood separately.

Based on the insights on the connections between modernism and space-time coming from sociology, urban geography, philosophy, and history, these two notions are taken as phenomena that influence one another, where modernist traits like fragmentation, discontinuity, heterogeneity and others, are connected to the traits of space-time in an allusive manner. In other words, the changes that are noted in the period from the mid-eighteenth to the mid-twentieth century are interpreted in relation to the transformations in the experience of space-time. Furthermore, this provides the foundation to explain the modernist experience of space-time, which is defined as the perception of multilayered time in correlation to imaginary or ideal space.

Due to the specific nature of its medium, music as art is unique in relation to the other arts in the way the phenomenon of space-time is perceived. In that regard, the phenomenon of space-time is analyzed in relation to aspects of fragmentation, non-linearity, and discontinuity, which in the experience of listening to a piece of music emerge as immediate, even shocking for the listener, leaving him no room to intellectualize the change in the perception of space-time, as is possible in other arts.

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RETHINKING THE STRUCTURAL FRAMEWORK OF CATALOGUES OF COMPOSERS' WORKS: A SYSTEMATIC CLASSIFICATION MODEL**

Abstract: This paper reviews the typology of thematic and non-thematic catalogues of composers' works, focusing on the model established by Ludwig von Köchel and its subsequent methodological reception. While early Greek catalogues followed international standards, challenges emerged in the description and grouping of the fields that works belonged to, and above all in the classification of works within systematic catalogues. With regard to the latter, the relevant literature offers no consistent model. Drawing on archival research and academic instruction, this study rethinks the structural framework of catalogues of works and proposes a flexible systematic classification model.

Keywords: catalogues of works, structural framework, systematic classification model, archival research, academic instruction

Introduction: The Evolution of Catalogues of Composers' Works in Musicology

The evolution of catalogues of works in musicology has mirrored the maturation of the discipline itself, evolving from basic bibliographic tools into

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sophisticated, research-oriented resources. The tradition of cataloguing musical compositions is deeply rooted in European art music and begins in 1862 with Ludwig von Köchel's publication of the catalogue of Mozart's works.[1] This landmark thematic catalogue introduced a scientific approach to numbering and describing a composer's oeuvre, establishing a model for subsequent catalogues. Scholarship on catalogues of works continues to flourish, with Margit McCorkle recognized as a leading authority in the field. She has produced two exemplary thematic-bibliographic catalogues: one for Johannes Brahms[2] and another for Robert Schumann,[3] each employing a detailed analytical typology to document and contextualize individual works.

A significant early contribution to specialized literature regarding the analytical approach to cataloguing a composer's œuvre came from Alexander Hyatt King.[4] In his article "The Past, Present, and Future of the Thematic Catalogue", King underscored the ongoing relevance of thematic catalogues not only for identification and archival purposes, but also as vital tools for performance and scholarship. He championed descriptive consistency, scholarly precision, and the need for adaptation in response to the increasing complexity of musicological research. His work – particularly during his tenure at the British Museum (later the British Library) – was instrumental in professionalising music librarianship and in bridging historical cataloguing practices with modern bibliographic standards. Building on this foundation, Barry S. Brook and Richard Viano published *Thematic Catalogues in Music: An Annotated Bibliography*.[5] The introduction to the volume[6] offers both a critical overview and a comprehensive survey of thematic cataloguing practices. Brook and Viano[7] highlight the evolving function of the thematic catalogue, from a merely descriptive record to an analytical instrument essential for attribution, dating, and contextualization of musical works.

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1 Ludwig von Köchel, *Chronologisch-thematisches Verzeichniss sämmtlicher Tonwerke Wolfgang Amadé Mozarts*, Leipzig, Breitkopf and Härtel, 1862.

2 Margit L. McCorkle, *Johannes Brahms: Thematisch-bibliographisches Werkverzeichnis*, Munich, G. Henle, 1984.

3 Margit L. McCorkle, *Robert Schumann: Thematisch-bibliographisches Werkverzeichnis*, Mainz, Schott, 2003.

4 Alexander Hyatt King, "The Past, Present, and Future of the Thematic Catalogue", *Musical Merchandise Review*, 84, 1954, 10–13, 39–46.

5 Barry S. Brook, Richard Viano, *Thematic Catalogues in Music: An Annotated Bibliography*, Stuyvesant, NY, Pendragon Press, 1997.

6 Barry S. Brook, Richard Viano, op. cit., xv–xlii.

7 Ibid.

Although the description of fields and grouping in catalogues of works – thematic or otherwise – have been discussed in literature, the question of a work's internal systematisation in a catalogue has not received similar theoretical attention; the principles governing the structural classification of works within catalogues remain an issue manipulated by each catalogue compiler and not by scholars on cataloguing methodology. This study addresses that gap by investigating existing models of systematization and proposing a flexible and adaptable framework capable of accommodating diverse compositional oeuvres.

More specifically, the present study surveys selected bibliography on catalogues of works in both international literature and the Greek context, focusing on two structural levels: (a) the description and grouping of fields within each individual work's entry, and (b) the broader systematic classification of works within the catalogue as a whole. The proposed flexible structural framework emerged through archival research as well as its practical application in academic teaching contexts.

Description of Fields and Groupings in Catalogues of Works

As already mentioned, Brook and Viano[8] build upon King's[9] analytical typology for the description of musical works, further developing it while incorporating bibliographic considerations. The tradition of cataloguing musical works in Greek art music follows the broader European practice. The first such catalogue was compiled by Anoyanakis[10] for the works of Manolis Kalomiris. This catalogue is notably concise and does not include analytical fields for each composition. In contrast, the catalogue by Kostios[11] for Dimitri Mitropoulos incorporates many of the descriptive fields proposed by both King[12] and Brook and Viano,[13] although these are not grouped systematically.

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8 Ibid.

9 Alexander Hyatt King, op. cit.

10 Foivos Anoyanakis, *Κατάλογος έργων Μανώλη Καλομοίρη 1883–1962* [*Katalogos ergon Manoli Kalomiri (1883–1962)* / Catalogue of the Works of Manolis Kalomiris (1883–1962)], Athens, Ikaros, 1964.

11 Apostolos Kostios, *Δημήτρης Μητρόπουλος: Κατάλογος Έργων* [*Dimitris Mitropoulos: Katalogos Ergon* / Dimitri Mitropoulos: Catalogue of Works], Athens, Orchestra of Colours, 1996.

12 Alexander Hyatt King, op. cit.

13 Barry S. Brook, Richard Viano, op. cit.

Following this route in Greek literature, in my doctoral dissertation[14] and later in my published *Systimatikos kai Vio-vivliografikos Katalogos Ergon Dimitri Dragataki* [Systematic and Bio-bibliographic Catalogue of Works of Dimitris Dragatakis of Dimitris Dragatakis],[15] I adopt the full set of descriptive fields found in both King and Brook and Viano's typologies, with the exception of those relating to musical incipits, as my catalogue is not thematic. I also introduced a few additional fields inspired by McCorkle's extended analytical approach,[16] particularly those concerning the provenance and physical condition of autographs and manuscripts. Furthermore, I reorganized the descriptive fields into three broader categories,[17] rather than the seven groups proposed by King or the six identified by Brook and Viano. This approach differs from that of McCorkle, who does not group fields into broader categories. My tripartite structure is organized as follows:

A. General Information about the Work
B. Description of the Work's Written Forms
C. Specific Information about the Work

Table 1 presents all typologies mentioned, showing the necessary descriptive fields for each catalogue's entry organized in groups; in the first column according to King's model, in the second as updated by Brook and Viano, and in the third as I applied in my work. This three-column evolution of catalogue field typologies contains both consistently retained fields across researchers – displayed in regular type – as well as modified or newly-introduced fields that are underlined.

Classification of Works in Systematic Catalogues: A Proposed Model

In contrast to the descriptive fields assigned to individual works within a catalogue – which have received considerable scholarly attention, as noted above – the internal classification of the works themselves within catalogues of

[14] Magdalini Kalopana, *Δημήτρης Δραγατάκης: Κατάλογος Έργων* [*Dimitris Dragatakis: Katalogos Ergon* / Dimitris Dragatakis: Catalogue of Works], PhD diss., Athens, National and Kapodistrian University of Athens, School of Philosophy, Department of Music Studies, 2009.

[15] Magdalini Kalopana, *Συστηματικός και Βιο-βιβλιογραφικός Κατάλογος Έργων Δημήτρη Δραγατάκη* [*Systimatikos kai Vio-vivliografikos Katalogos Ergon Dimitri Dragataki* / Systematic and Bio-bibliographic Catalogue of Works of Dimitris Dragatakis], Athens, F. Nakas, 2019.

[16] Margit L. McCorkle, 1984, op. cit; Margit L. McCorkle, 2003, op. cit.

[17] Magdalini Kalopana, 2009, op. cit.; Magdalini Kalopana, 2019, op. cit.

works, whether thematic or otherwise, has attracted little attention in specialized literature. Within catalogues, chronological classification, first introduced by Köchel,[18] has gradually been supplanted over time by systematic classification.[19]

More specifically, the first Greek catalogue of works, compiled by Anoyanakis for Kalomiris in 1964, organizes entries into systematic categories based on musical genre, although these are not grouped into broader structural units. This approach shows a clear correspondence with the internal organisation of Schmieder's *Thematisch-systematisches Verzeichnis der musikalischen Werke von Johann Sebastian Bach*,[20] while McCorkle adopts also a similar systematization in both of her catalogues.[21] A significant advancement in Greek catalogue practice came with *Dimitris Mitropoulos: Katalogos Ergon* [Dimitri Mitropoulos: Catalogue of Works], compiled by Professor Apostolos Kostios in 1996, as the first thematic catalogue published in Greek and dedicated to a Greek composer. Notably, it introduced a clearly-defined systematization structure: multiple systematic subcategories, based on orchestration and genre, further grouped into larger categories, resulting in a coherent, structured classification. A comparable bibliographic precedent exists in Kinsky's systematically-organized catalogue *Das Werk Beethovens*.[22]

Building on this framework, my catalogue for Dimitris Dragatakis[23] expanded the internal classification of a systematic catalogue of works. The primary systematic categories, already established in the literature – Instrumental Music, Vocal Music, Miscellaneous Works – were extended to include two additional categories: Stage Music and Electroacoustic Music. Furthermore, the Instrumental Music category was subdivided into two main divisions: (a) Orchestral Music and (b) Chamber Music. In summary, the five (5) main and general categories are divided into a total of twenty-three (23) specialized subcategories.

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18 Ludwig von Köchel, 1862, op. cit.

19 Foivos Anoyanakis, op. cit.; Georg Kinsky, Hans Halm, *Das Werk Beethovens: thematisch-bibliographisches Verzeichnis seiner sämtlichen vollendeten Kompositionen*, Munich, G. Henle Verlag, 1955; Apostolos Kostios, op. cit.; Margit L. McCorkle, 1984, op. cit.; Margit L. McCorkle, 2003, op. cit.; Wolfgang Schmieder, *Thematisch-systematisches Verzeichnis der musikalischen Werke von Johann Sebastian Bach*, Leipzig, Breitkopf and Härtel, 1950.

20 Wolfgang Schmieder, op. cit.

21 Margit L. McCorkle, 1984, op. cit.; Margit L. McCorkle, 2003, op. cit.

22 Georg Kinsky, Hans Halm, op. cit.

23 Magdalini Kalopana, 2019, op. cit.

This systematic classification model, originally developed to accommodate Dragatakis' oeuvre,[24] was later applied in the catalogues of Maria Kalogridou[25] (1922–2001) (Kalopana 2024; 2025) and Marco Sofianopulo[26] (1952–2014) (my forthcoming work) evolving with each implementation. Table 2 presents these developments: the second column displays the subcategories inherited from the Dragatakis systematization, while the third and fourth columns show new or renamed subcategories introduced in the catalogues of Kalogridou and Sofianopulo, respectively.

The need for further refinement of the systematization structure became especially apparent through its application in scholarly training. During the course "The Catalogue in Art Music" and the seminar "Documentation of Greek Musical Life" at the Department of Music Studies, National and Kapodistrian University of Athens (academic years 2022–2023, 2023–2024, 2024–2025, 2025–2026), students encountered cases where a composer's oeuvre could not be seamlessly integrated into any pre-existing structure. These discussions in the academic classroom led to a critical reappraisal of the model, as has already been demonstrated in collaborative publications.[27]

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[24] Ibid.

[25] Magdalini Kalopana, "The Life and Work of Maria Kalogridou (1922–2001) as Revealed by the Study of Her Archive: Emphasis on Her London Years (1954–1967)," *Matica Srpska Journal of Stage Arts and Music*, 71, 2024, 179–96; Magdalini Kalopana, "Μαρία Καλογρίδου (1922–2001): βιογράφηση και εργογραφία με έμφαση στην επιστροφή της από το Λονδίνο (1967–2001) [Maria Kalogridou (1922–2001): viografisi kai ergografia, me emfasi stin epistrofi tis apo to Londino (1967–2001) / Maria Kalogridou (1922–2001): biography and ergography, with emphasis on her return from London (1967–2001)," in: Ionnis Foulias, Stamatia Gerothanasi, Theodora Iordanidou, Evanthia Patsiaoura, Chrysa Skarlatou and Evangelia Spyrakou (Eds), *16th Interdepartmental Musicological Conference: "Anniversary musical reflections, analytical considerations and critical reflections"* (Proceedings of the interdepartmental conference under the auspices of the Hellenic Musicological Society, Thessaloniki, 8–10 November 2024), Thessaloniki, Hellenic Musicological Society, 2025, 427–445.

[26] Magdalini Kalopana, "Cultural Interconnections between Greece and Italy: Composers of Greek Diasporas in Trieste (19th–21st Century)", *IMS-RASMB – Series Musicologica Balcanica,* 7, forthcoming.

[27] Magdalini Kalopana, Vasiliki Apostolou, Dimitrios Lampouris, "The biography and the concise systematic catalogue of the works of Dionysios Visvardis", *Kyiv Musicology,* 4, 2025, 185–6; Elena Fiedeldey, Magdalini Kalopana, "Marika Proiou-Gounaropoulou (1904–1965): a recently discovered Greek woman composer. Cataloguing part of her works for voice and piano", *Kyiv musicology*, 5, 2026, 140–159.

The outcome of both teaching practice and research was the creation of a revised, more inclusive systematization structure (Table 2, fifth column). For example, the subcategory 9, "Works for Piano", was eventually renamed "Works for Keyboard Instruments", thereby expanding its scope to encompass all keyboards, with provision for further specification as needed. The subcategory 20, "Works for Instrumental Ensemble, Voices and Tapes", has been redefined as 22, "Works for Tape and / or Various Means", broadening its coverage to include works involving pre-recorded material as well as live sound production using either acoustic or electroacoustic means. However, the most significant internal revisions concern the category of "Stage Music". Here, specific genres such as "Opera" and "Oratorio" have become independent subcategories, while other forms – including operetta, musical, and musical revue – are now grouped under the broader subcategory "Musical Theatre". Minor adjustments have also been made to other subcategories with the aim of formulating their titles inclusively – combining breadth and precision – so that each work can be seamlessly integrated into the classification.

Another characteristic of the proposed model is its adaptability: categories have been provided for every possible work on the basis of genre, instrumentation, or function; however, the addition of further subcategories is strongly recommended wherever deemed necessary (for example, the possibility of further subdividing the keyboard category and that of musical theatre has already been mentioned). It goes without saying that, in the final form of a systematic catalogue of works, categories and subcategories that contain no works are omitted.

The proposed model therefore seeks to integrate musicological practice with broader theoretical considerations of systematic classification. The overall structure is intended to be both adaptable and user-friendly across different ergographies. The proposed Systematic Classification Model of entries in Catalogues of Works is presented in Table 3. Thus, the model aims to serve as both a training tool and a research instrument; a flexible framework for systematically organising catalogues of works, appropriate for academic and scholarly use alike.

Conclusion

This study has highlighted the evolving methodologies underlying the systematisation of catalogues of musical works. While the descriptive fields of individual entries have been extensively theorized, considerably less atten-

tion has been paid to the internal grouping of those fields within each entry. Furthermore, although catalogues themselves reveal a historical shift from early chronological models to systematic classifications, the principles governing the internal classification of works within systematic catalogues remain largely unaddressed in the specialized bibliography.

In the Greek context in particular, the catalogues of Anoyanakis,[28] Kostios[29] and my own[30] reflect a gradual movement towards a more articulated structural framework, both in terms of the internal organisation of descriptive fields and – more significantly – the systematic classification of works as a whole.

The proposed structural framework addresses both the structured grouping of descriptive fields within individual entries and the broader organisational logic governing the placement of works within a systematic catalogue. In particular, the proposed Systematic Classification Model for Catalogues of Composers' Works establishes explicit principles for the internal classification of works – that is, the coherent arrangement of entries into hierarchically-organized categories and subcategories based on genre, instrumentation, or function – thereby ensuring structural consistency across the catalogue as a whole. Developed through archival research and its application in academic teaching, it is designed to function as both a research instrument and a didactic tool, supporting the training of young musicologists in catalogue compilation and bridging practical documentation with musicological inquiry, while reaffirming the catalogue's dual role as a research tool and an essential bibliographic resource.

[28] Foivos Anoyanakis, op. cit.

[29] Apostolos Kostios, op. cit.

[30] Magdalini Kalopana, 2009, op. cit.; Magdalini Kalopana, 2019, op. cit.; Magdalini Kalopana, 2024, op. cit.; Magdalini Kalopana, 2025, op. cit.; Magdalini Kalopana, forthcoming, op. cit.

Table 1: Evolution of Description of Fields and Grouping in Thematic and Non-Thematic Catalogues

Hyatt King (op.cit.)	**Brook & Viano (op. cit.)**	**Kalopana (2009, op. cit.; 2019, op. cit.)**
A. TITLE, AUTHOR DATE	**A. WORK**	**A. GENERAL INFORMATION ABOUT THE WORK**
Conventional title, opus/ identification number	Conventional title, popular/ alternative title, opus/ identifying number	Conventional title, catalogue number
Standard / complete edition		
		Key signature
	Performing forces	Performing forces / variations
Author / other source of text for vocal works	Author/source of verbal text	Author/source of verbal text
Date and place of composition		Date and place of composition
	Duration of each movement	Tempo and bars of each movement
		Commission
		Prize
	B. COMPOSITION AND FIRST PERFORMANCE	
	First performance (place, date, performers, reviews and advertisements)	First performance (place, date, performers, reviews and advertisements)
	Dedication(s)	Dedication(s)
		Duration of the work (autograph, edition, recording)
[no mention]	Discography	Discography (type, title, contributors, label/number, year, liner notes)
B. INCIPITS	**C. INCIPITS**	–
1. For each movement, with number of bars.	For each movement	–
	More than one incipit per movement	
	Total number of measures in each movement	–
	Multi-stave incipits than a single line	–

	Original clefs, tempo and expression markings	–
	Transcription of the original notation, if appropriate.	–
	Citation of titles and sources together with incipits	–
	Vocal disposition / instrumentation if short score is used	–
2. Differences between autograph / primary MS source and standard printed editions.	Differences between autograph / other MS sources and standard printed texts.	–
C. AUTOGRAPHS	–	**B. DESCRIPTION OF THE WORK'S WRITTEN FORMS**
1. Location (shelf or class mark if in a public, permanent collection).	–	–
2. Number and measurement of folios with – in the case of fragments – the number of bars on each leaf.	–	Prototype/photocopy, vertical/ horizontal, page numbers, writing medium, lacing, condition. Type of material (score/part/spartito/ condensed score/transcription/ sketch etc.).
3. Transmission; owners and dates; successive prices.	–	–
D. COPIES	–	
1. Contemporary with the autograph, if containing variants or composer's own markings.	–	Manuscripts by others
2. Later ones, according to importance, especially if autograph is lost.	–	Digital scores
E. EDITIONS	–	
Editions 1. The first edition, with conventional title, wording of title-page number, date of any, imprint and price.	–	Conventional title, wording of title-page number, date, place, page numbers, publisher.

2. Later editions, only if published in the composer's lifetime, and containing changes made by him/her.	–	–
3. Arrangements made by the composer, or others in his lifetime, if containing changes sanctioned by him/her.	–	–
4. Posthumous editions, only if containing changes sanctioned by the composer.	–	–
F. NOTES	**D. NOTES**	**C. SPECIFIC INFORMATION ABOUT THE WORK**
Confined to bibliographic matters, affecting the interaction of any or all of B [Incipits] to E [Editions].	Confine notes to bibliographic issues of textual accuracy.	Verbal text of the work (full) Composer's/others' notes Excerpts from interviews/tributes/ transmissions Press releases Catalogue editor's notes
G. REFERENCES	**E. REFERENCES**	
1. Confined to important passages in the standard biography, in all editions and translations.	Limit references to key passages in standard bibliography and cite only works of genuine merit and originality in any language.	Direct bibliographic references to the works.
2. Books and articles in all languages, confined to those of real merit and originality.	Consider recent scholarly discoveries.	–
	[3. References to contemporary catalogues, both thematic and non-thematic.]	–

Table 2: Comparative presentation of Systematic Classification Models for Catalogues of Composers' Works

CATEGORIES	SUBCATEGORIES	SUB-CATEGORIES	SUB-CATEGORIES	SUB-CATEGORIES
	DRAGATAKIS CATALOGUE	KALOGRIDOU CATALOGUE	MARCO SOFIANOPULO	PROPOSED SYSTEMATIC CLASSIFICATION MODEL
I. INSTRUMENTAL MUSIC **A) Orchestral Music**	**1. Works for symphony orchestra**	☐ Ibid.	☐ Ibid.	**1. Works for symphony orchestra**
	2. Works for string orchestra	☐ Ibid.	☐ Ibid.	**2. Works for string orchestra**
	3. Works for solo instrument(s) and accompaniment (symphony orchestra, string orchestra, instrumental ensemble or a single instrument)	☐ Ibid.	☐ Ibid.	**3. Works for solo instrument(s) and accompaniment**
B) Chamber Music	**4. Works for strings** (any combination of string instruments except subcategories 1 & 2)	☐ Ibid.	☐ Ibid.	**4. Works for strings** (apart from subcategories 1 & 2)
	5. Works for string(s) and piano (Ibid., in combination with piano)	☐ Ibid.	☐ Ibid.	**5. Works for string(s) and keyboard**
	6. Works for wind instruments (any combination of wind instruments)	[no use]	☐ Ibid.	**6. Works for wind instruments**
	7. Works for wind instrument(s) and piano (Ibid., in combination with piano)	☐ Ibid.	☐ Ibid.	**7. Works for wind instrument(s) and keyboard**
	8. Works for mixed ensemble (any combination of instruments – strings, winds, percussion and piano – with a maximum of 9 instruments)	[no use]	☐ Ibid.	**8. Works for mixed ensemble (except subcategories 1 to 7)**
	9. Works for solo piano	☐ Ibid.	Works for solo organ	**9. Works for keyboard instrument(s) (1 or more performers)**
	10. Works for two pianos (2 pianos with 2 or 4 performers)	Works for 1 or 2 pianos and 2 performers	[no use]	[no use]
	11. Works for solo wind or string instruments	☐ Ibid.	Works for polyphonic instruments duets	**10. Works for solo wind, string or percussion instruments**

II. VOCAL MUSIC	**12. Work for solo voice**	[no use]	❐ Ibid.	**11. Works for solo voice**
	13. Works for one voice and piano	❐ Ibid.	Works for one voice and keyboard (piano, organo)	**12. Works for voice(s) with accompaniment by a single instrument**
	14. Works for voice(s) and instrumental ensemble or symphonic orchestra	❐ Ibid.	**Works for voice(s) and accompaniment (instrumental ensemble, symphonic/ chamber/string orchestra, polyphonic instrument)**	**13. Works for voice(s) with instrumental ensemble accompaniment**
	15. Works for a cappella choir	[no use]	**Works for choir (a cappella or accompanied)**	**14. Works for choir (a cappella or with accompaniment)**
III. STAGE MUSIC	**16. Music for theatre**	Opera	❐ Ibid.	**15. Operas**
				16. Oratorios
		Oratorio	Dramma liturgico	**17. Musical theatre works**
				18. Music for spoken drama
	17. Music for dancing	Ballet, Suite	[no use]	**19. Music for dance**
	18. Incidental music	[no use]	❐ Ibid.	**20. Incidental music**
IV. ELECTROACOUSTIC MUSIC	**19. Works for [magnetic] tape**	[no use]	[no use]	**21. Tape (magnetic or digital) works**
	20. Work for instrumental ensemble, voices and tapes	[no use]	Digital tape and various means	**22. Works for tape and/or various means**
V. MISCELLANEOUS:	**21. Early works**	❐ Ibid.	[no use]	**23. Early works**
	22. Various (Transcriptions / harmonisations / arrangements of works by D. Dragatakis by others, works from the composer's music education, mature undated work, theoretical work, lost work, theme written as a gift)	Arrangements, unidentifiable sections of works	Orchestrations, revisions, transcriptions, etc.	**24. Varia** (arrangements, orchestrations, revisions, transcriptions, editing: excluded from other Catalogue's Subcategories)
			Collections of Works – Anthologies	
			Publications' Editing	
	23. Unfinished / sketches	❐ Ibid.	[no use]	**25. Fragments / sketches**

Table 3: Systematic Classification Model for Catalogues of Composers' Works

CATEGORIES	SUBCATEGORIES
I. INSTRUMENTAL MUSIC A) Orchestral Music	1. Works for Symphony Orchestra
	2. Works for Wind Orchestra
	3. Works for String Orchestra
	4. Works for Solo Instrument(s) and Accompaniment
B) Chamber Music	5. Works for Strings (apart from subcategories 1 & 3)
	6. Works for String(s)
	7. Works for Wind Instruments
	8. Works for Wind Instrument(s)
	9. Works for Mixed Ensemble (except subcategories 1 to 7)
	10. Works for Solo Wind, String Instruments
II. VOCAL MUSIC	11. Works for Solo Voice
	12. Works for Voice(s)
	13. Works for Voice(s)
	14. Works for a cappella Choir
	15. Music for Dance
	16. Incidental Music
III. ELECTROACOUSTIC MUSIC	17. Tape (magnetic) Works
IV. MISCELLANEOUS	18. Early Works
	19. Varia (arrangements, orchestrations, revisions, transcriptions, editing: excluded from other Catalogue's Subcategories)
	20. Sketches

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Summary

This paper reviews the typology and structural principles of thematic and non-thematic catalogues of composers' works, tracing their historical evolution from the model established by Ludwig von Köchel to their methodological reconsideration in twentieth-century bibliographic scholarship. While early catalogues of Greek composers largely adhered to established international practices, the attempt to document a composer's entire oeuvre in analytical depth revealed significant methodological tensions. These concern two interrelated levels of classification: the definition and grouping of descriptive fields within individual entries, and the broader classification of works within systematic catalogues, i.e. those that do not rely on chronological order or opus-number sequencing. Despite the centrality of these issues, specialized cataloguing literature regards almost exclusively the definition and grouping of descriptive fields within individual entries, a methodological issue further discussed in this paper.

On the other hand, specialized literature offers no theoretical reflection on the principles governing structural classification of the works themselves within a catalogue. In practice, existing solutions on systematic classification tend to emerge case by case, shaped by the compiler's methodological assumptions and the particularities of each composer's output. The preparation of a systematic analytical catalogue of the works of Dimitris Dragatakis, together with concise catalogues of Maria Kalogridou and Marco Sofianopulo, brought these structural questions into sharper focus. Their recurrence in academic teaching contexts further underscored the need for a coherent and adaptable framework. The study therefore proposes a systematic classification model in catalogues of works grounded in comparative analysis and academic practice, conceived as both a research instrument and a methodological tool for the training of young musicologists in catalogue compilation.

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AN ANALYSIS OF PHONETIC SONORITIES AND VOCAL-PIANISTIC INTERSECTIONS IN RIMSKY-KORSAKOV'S OP. 2 ROMANCES

Abstract: This study examines Rimsky-Korsakov's Op. 2 romances through a corpus-based phonetic-musicological analysis of stressed vowels and sonorities, also how the composer approaches Russian- and German-authored Russian-translated poetry. The study adopts stochastic musicology to: (1) allocate compositional differences in Rimsky-Korsakov's tactics to musically depict the text; and (2) define the composer's choices as either (a) compositional nonconformity used to interpret the poetic meaning, or (b) stylistic deviations within the holistic view of the four works within Op. 2. Based on systematic detection of patterns in text-music relationships and the concurrent links between the musical settings and phonetic-structural features of each verse, the research ties the results to an explicitly Russian musical identity while addressing distinct analytical gaps that traditional theoretical and musicological approaches leave unresolved.

Keywords: music, phonetic-musicological study, poetry, Rimsky-Korsakov, romance, stochastic musicology

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1. Introduction

Nikolai Rimsky-Korsakov (1844–1908) is a central artistic figure in Russian Romantic music, with innovative approaches to setting musical text and novel compositional tactics that paved the way for innovative paths of orchestration.[1] Rimsky-Korsakov's continual efforts to shape the Russian national identity and character in music contributed to his work and influence within the Mighty Five, leading to a broad repertoire and a cemented legacy in performative and academic circles.[2] Rimsky-Korsakov's attempts to develop an inventive style began early in his career, seen in his early compositional period between 1865 and 1870. One of the first published works in Rimsky-Korsakov's oeuvre includes the four vocal romances from Op. 2.

Russian vocal romances were a new genre of music, with myriads of composers choosing to try their hand in these small-scale settings of text. The romances did not appear unexpectedly, as Russian composers were still influenced by Romantic music from the West, with "lieder" being the genre most reminiscent of the images of the vocal romances.[3] With that, the genres of lieder and vocal romances share a commonality – the sheer number of these compositions throughout history generated a large range of works that can now be compared and analyzed within their own genre. Lieder and vocal romances continue to appear among the performative circles across concert halls and are key to a singer's solo repertoire. However, vocal romances did not enter mainstream analysis for Rimsky-Korsakov, as analyses on his operas, teaching methods, and orchestration techniques continue to be considered as conventional research within scholarly literature.[4]

The following research is an empirical look based on previous dissections of harmony and the relation among Rimsky-Korsakov's intersection of poetry, vocalism, and his compositional language in his early-period romances.[5] The research seeks to extend the understanding of Rimsky-Korsa-

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[1] Nikolai Rimsky-Korsakov, *Principles of Orchestration*, Garden City, New York, Dover Publications, 1964.

[2] Richard Taruskin, "Catching Up with Rimsky-Korsakov", *Music Theory Spectrum*, 33(2), 2011, 170.

[3] Tim Parker-Langston, "The Lied at the Crossroads of Performance and Musicology", *Music and Letters*, 107(2), 2026, 354–358. https://doi.org/10.1093/ml/gcaf083

[4] Marina Frolova-Walker, *Rimsky-Korsakov and His World*, Princeton, New Jersey, Princeton University Press, 2018.

[5] Nikita Mamedov, "The Premonitory Point and the Real Apex in Rimsky Korsakov's Op. 4 No. 1 Romance", *Musicology and Cultural Science*, 2(20), 2019, 62.

kov's early-style compositional language by combining the interactions among music and text with a series of empirical examinations.[6] The study offers a corpus-based, stochastic, phonetic-musicological analysis of Rimsky-Korsakov's four romances from the Op. 2 cycle. Rooted in Russian and German Romanticism, the four songs represent the composer's first foray into vocal music, calling for a detailed documentary into his creative development and early experimentation with settings of poetic text to music. In the cycle, Op. 2 Nos. 1 and 4 are titled *Lean Thy Cheek to Mine* and *From My Tears*, both authored by Heinrich Heine (1797–1856) and translated by Mikhail Mikhailov (1829–1867). The Op. 2 No. 2 is titled *The Nightingale Enslaved by the Rose*, authored by Aleksey Koltsov (1809-1842). The Op. 2 No. 3 is titled *Lullaby*, set to the poetry of Lev Mey (1822–1862). While the Op. 2 romances are traditionally viewed through literary symbolism and the poetic meaning within Rimsky-Korsakov's compositional style, the following research proposes a computational approach to understand how musical prosody varies among original Russian poetry and the translations of Heine's German verses, and to what extent Rimsky-Korsakov aligns his compositional style based on the poetic sonorities. Therefore, the study aims to test whether Rimsky-Korsakov treats the phonetic architecture of a translation differently than when compared to the original Russian text.

The following research applies empirical analyses to examine the text based on words, their respective stressed syllables, and sonority levels, focusing on Rimsky-Korsakov's compositional approach within harmonic pathways that musically characterize the poetry. More specifically, the study – through the analysis of sonority levels and their respective patterns in each poem using statistical tools such as contingency tables, Markov's transition matrices, and Analysis of Variance – aims to show the substantial distinctions in Rimsky-Korsakov's approaches to the integration of piano and voice based on poetic thematics and the poet's nationality. Rimsky-Korsakov's musical examples from Op. 2 integrate a mixture of Schenkerian techniques. The Muzgiz edition [Rus: Музгиз] was used for musical examples employed for the purposes of various analyses.[7]

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[6] Nikita Mamedov, "Foreign Literature in Russian Music: Thematics and Symbolisms of Rimsky-Korsakov's Op. 4 No. 2 Romance", *Musicology and Cultural Science*, 1(21), 2020, 5.

[7] Nikolai Rimsky-Korsakov, *Complete Collected Works* [Rus: *Полное собрание сочинений*], Moscow, Muzgiz, 1946.

2. Research literature

2.1. Summary

Three main themes enfold the research literature in this study. The first theme is Rimsky-Korsakov's compositional style and previous scholarly output that help define the theories behind the composer's artistic language. The second theme is the scholarly output on the Russian vocal romances and what distinguishes the genres within academia. Specifically, a focus on music, literature, and composers' interpretations plays a role in how romances developed in the Russian oeuvre over time. The third theme is an empirical approach to understanding phonetics and linguistics in the arts. A context within which a framework can outline a methodology offers an objective way to compare the linguistic capacities in the text and understand compositional strategies used to set such text to music.

2.2. Rimsky-Korsakov's Compositional Style

Maria Skuratovskaya's study traced the stylistic evolution of Rimsky-Korsakov that reflects the composer's pedagogical approach.[8] Rimsky-Korsakov's early pedagogical philosophies start becoming visible in the small-scale Op. 2 vocal romance composition as the composer establishes his compositional language. Furthermore, the composer's educational philosophies reflected his artistic approach to harmony and the way his music transformed over the course of his career. Focusing on Rimsky-Korsakov's operas, Skuratovskaya outlined influences within the composer's pedagogical output on his compositional practices and how his artistic and stylistic innovations defined a unique style of transformative Russian music. Considering what Rimsky-Korsakov found prominent in his pedagogical material helps understand his compositional mindset and the way the composer's educational philosophies aligned with how he composed music. Understanding the parallels between Rimsky-Korsakov's pedagogy and composition likewise helps in comprehending the composer's artistic apparatus that helped shape the development of large-scale genres such as opera.

One innovative component of Rimsky-Korsakov's compositional output is the use of hexatonicism, particularly in his operas. The use of hexatonic progressions helped Rimsky-Korsakov outline the boundaries of his tonality,

[8] Maria Skuratovskaya, "Rimsky-Korsakov: Principles of Orchestration and Three Operas on Historical Subjects", *Contemporary Musicology*, 2, 2022, 128.

allowing the composer to expand his harmonic innovation while remaining within a clear and coherent compositional system. In his study, Philip Ewell defines the composer's utilization of hexatonicism and what compositional advantages such an approach brings to the structural harmony within Rimsky-Korsakov's music.[9] Ewell likewise identifies three different meanings and dramatic levels in each of the three hexatonic structures that help define Rimsky-Korsakov's compositional language. While the hexatonic approach is not the mere approach that Rimsky-Korsakov utilizes to systematize his compositional language, the use of such a technique in his harmonies allowed for transformative ways to move among different key areas while sustaining tonal coherence.

Larisa Jackson utilized Rimsky-Korsakov's harmonic theory to understand his compositional language and its development over time.[10] The study outlines harmonic functionalism in Rimsky-Korsakov's works and helps outline the specifics of stylistic innovations that the composer utilized in his works. By defining the harmonic functionalism present in Rimsky-Korsakov's music, one is able to identify the specifics of stylistic innovations and apply these to various repertoire over the course of Rimsky-Korsakov's career. The study likewise leverages Rimsky-Korsakov's individual pedagogical systems that are defined as theories, allowing for a broader comparison of how the composer's own systems were used in his music. The traditional harmonies and Rimsky-Korsakov's approaches to tonal music across various genres of his compositional oeuvre can be explained by his harmonic theories, developed as part of his teaching.

2.3. Russian Vocal Romances

One way to characterize Russian romance in the early nineteenth century is as a hybrid genre that synthesizes Western European classical music with Russian folklore artistic elements. This study argues that the genre of Russian romance enabled composers to experiment with earlier Western vocal models and to integrate melodic and rhythmic contours by incorporating Russian

[9] Philip Ewell, "On Rimsky-Korsakov's False (Hexatonic) Progressions Outside the Limits of a Tonality", *Music Theory Spectrum*, 42(1), 2020, 125.

[10] Larisa Jackson, *Rimsky-Korsakov's Harmonic Theory: Practical Manual of Harmony, Its Sources, History, and Traditions*, Denton, Texas, The University of North Texas Press, 2022.

folk structures into a novel musical framework.[11] Through such synthesis, Russian composers had the opportunity to restructure previous vocal genres and provide the Russian vocal romance with a sense of national identity and Russian consciousness. Rimsky-Korsakov's Op. 2 romances, based on Russian and German poetry, reflect such an idea. The bifurcation between two poetic traditions allows the composer to establish an architectural foundation for his compositional style within half of the Op. 2 cycle while evoking foreign German poetic symbolism within the other half of the Op. 2 cycle.

While academic studies of Russian vocal romances are limited in Western scholarly literature, the genre's evolution and the artistic approaches of numerous composers deserve emphasis, given the stylistic developments composers have pursued across history. Rimsky-Korsakov was one of the composers to become prolific in this genre, yet he was not the first Russian composer to create works in this genre. Elena Klimenko looks into early nineteenth-century Russian romances and vocal repertoire that serves as a precursor to Glinka's romances and succeeding composers, including Rimsky-Korsakov.[12] The study's purpose is threefold. First is Glinka's integration of musicality and aesthetics within the Russian artistic traditions to formulate a genre of romances, while setting distinct qualities and elements that inspired generations of future composers to undertake vocal romances. Second is the notion of romance being the genre where musicology and vocal performance intersect, leading to the understanding that the musicological and interpretative nature of poetry is relevant and foremost to understanding the compositional approach taken in the creative process. Third is the role of folklore in Russian romances, and how such a role's importance to Glinka and his Russianized musicianship allowed Glinka to view and interpret romances as unique genres that necessitated a particular compositional approach.

Although romances are short-scale works for voice and piano accompaniment, the intersection of lyricism, expressiveness, and musical understanding of harmony and poetic text demands a novel level of emotional sincerity

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[11] Olga Guseynova, Omer Turkmenoglu, "Russian Romance: Synthesis of Classical and Folk Music at the Beginning of the 19th Century", *Journal for Interdisciplinary Art and Education*, 3(3), 2022, 112.

[12] Elena Klimenko, "The 18th – Early 19th Century Russian Romance Song as a Precursor of M. Glinka's Works", *Proceedings of the 2nd International Conference on Education, Language, Art and Intercultural Communications*, 2015, 509.

on the part of the composer, as Eryong Li found.[13] There are multiple prominent components that composers take into consideration when composing in the genre of romance. For Rachmaninoff's twentieth-century romances, having composed romances in the latter part of Romanticism, the notion of melodic expansiveness and linguistic precision in romances was of the foremost priority. In theory, artistic layers can be extracted within a romance; an example can be instrumental, as seen in the vocalist's melodic line and pianist's accompaniment. At the same time, music and text are likewise inseparable, as music defines poetic characteristics reflected by the text's author. Therefore, a framework can be established where music analysis within the vocal romance should justify the composer's stylistic approach based on the poetic actions taken by the text's author.

2.4. Phonetics, Language, and Interpretation

The intersection of Russian phonological structure and vocal performance provides a framework for understanding how composers integrate music and text.[14] The choice of an original language text or a translation in the vocal oeuvre defines and influences the composer's treatment of text. The linguistic profile of the poetry outlines the composer's interpretation and stylistic approach. Such an influence translates into both phonetic accuracy and artistic expression. A significant emphasis exists on vowels and their functional roles, specifically their phonetic-acoustic resonance – which influences melodic contour – and their metric-prosodic functions, which dictate the rhythmic alignment of the vocal line. The research examined the evolution of language systems and defined the ways composers can navigate the articulatory base of the language grounded within the natural flow of speech and the presence of specific articulatory patterns. Regarding vocalism, singers have unique interpretations of how they perceive phonetic structures and identify the phonological methods for performing words in the Russian language – similar to how composers may integrate a particular compositional methodology into their phonological frameworks.

Acoustic metrics and language capacity are likewise ways that can demonstrate phonetic measurements. In recent academic literature, Bjorndahl

[13] Eryong Li, "On Dramaturgy of Russian Romance of S. V. Rachmaninov", *Rupkatha Journal of Interdisciplinary Studies in Humanities*, 13(1), 2021, 4.

[14] Veronika Bondareva, "Using the Phonological Approach to Describe the Vocal System of the Russian Language in the Context of Russian-Spanish Language Contact", *RUDN Journal of Language Studies, Semiotics and Semantics*, 12(4), 2021, 1270.

examined duration and harmonicity as means of distinguishing language capacities within vocalism.[15] The various acoustic sonorants can help understand the phonetic identity within each word and its artistic realization, which offers a performer a series of interpretative performance practices. Additionally, acoustic metrics can have a deeper connotation within a composer's artistic language, as certain composers can incorporate a particular stylistic approach based on the textual use of phonetics. By understanding the way phonetic measurements can be applied within the text, one can better analyze why certain composers prioritize certain vowels, particular lengths, and a certain level of consonance within the vowels to achieve desired artistic effects while controlling for musical tension.

3. Methodology

3.1. Summary

The corpus-based phonetic-musicological analysis was used to analyze four poems in Rimsky-Korsakov's Op. 2 cycle, comparing Russian-authored and German-authored works in the cycle based on sonority levels and thematics. The text of each poem was extracted using R and coded using Jamovi. Each poem's stanza was analyzed, distinguishing between the opening poetic stanza, the poetic development, and the concluding stanzas. Each stanza was divided into separate words. Each word was divided into syllables, with the stressed syllable being extracted for further analysis. A stressed vowel was then extracted from every stressed syllable in every poem. The 10 possible stressed vowels in the Russian language were divided into 3 sonority levels, with letters: (1) "у", "ю", "и", and "ы" belonging to the L_1 sonority; "о", "ё", "э", and "е" belonging to the L_2 sonority; (3) "а" and "я" belonging to the L_3 sonority. Combinations of sonorities were likewise examined based on patterns of two sequential sonority levels.

3.2. Visualizing the Distribution of Sonority Levels

Two types of tables were used to visualize sonority levels across the four poems: a frequency table and a contingency table. The combined table is shown in Appendix 1.

[15] Christina Bjorndahl, "Voicing and Frication at the Phonetics-Phonology Interface: An Acoustic Study of Greek, Serbian, Russian, and English," *Journal of Phonetics*, 92, 2022, Article 101136.

First, the frequency table was used to analyze the occurrence of every sonority level in Op. 2 Nos. 1-4. Specifically, the study examined the number of occurrences of $L_{1\text{-}3}$ within each word of the text. The frequency tables helped determine the phonetic color of each text. Within each poem, a summation of each occurrence of a sonority level was treated as a single data point. For instance, if a poem contained a total of 3 L_2 stressed vowels, the raw frequency for that stanza of L_2 sonority was "3".

Second, the contingency table was used to evaluate the two-patterned combinations of sonorities, analyzing the preceding sonority of every stressed vowel. While frequency tables showed the overall vowel palette, the contingency tables helped with cross-tabulation and were used to examine the relation between sonority levels and the formal structure of each poem. Such an approach allowed one to examine whether Rimsky-Korsakov's phonetic choices varied across the four songs. Each stressed syllable was mapped onto a sonority level and the preceding sonority level. Such an approach provides a theoretical framework for illustrating specific phonetic profiles in each of the four compositions. Simultaneously, it is important to recognize that baseline linguistic structures – such as vowel reduction, unstressed syllables, and consonants – can influence the broader phonetic strategy in the text.

3.3. Neighboring Sonority Patterns

Markov's transition matrix was then used to map the probability levels of every two patterns within each song. Appendix 2 shows Markov's transition matrix itself. This allows one to generate a phonetic map of musical expectations, illustrating how acoustic profiles align with poetic structure in the four songs. An examination of sequential sonority patterns helps identify vowel-leading combinations that Rimsky-Korsakov emphasized within his early-period compositional language, particularly in relation to the Op. 2 works. The study used a Markov transition matrix to map the horizontal movement between stressed vowels. While each stressed vowel is treated as a state, the study examined the text as a chronological chain of such states within a sequence. The study then tracked every instance within each song of where a specific sonority was followed by another sonority, creating a series of two components (current sonority level and previous sonority level) within each series. The study calculated every time the following occurred in every song: (1) an L_1 stayed at L_1, an L_1 moved to L_2, an L_1 moved to L_3; (2) an L_2 moved to L_1, an L_2 stayed at L_2, an L_2 moved to L_3; (3) an L_3 moved to L_1, an L_3 moved to L_2, an L_3 stayed at L_3. The probability ratio was calculated by divid-

ing the count of specific transitions by the total number of sonority sequence movements. These probabilities were plotted on a 3x3 matrix, creating a stochastic map of the poetry. From a musicological perspective, this helped reveal whether Rimsky-Korsakov emphasized the smooth phonetic contours within the integration of his compositional language within harmony and the vocalist's line.

The generalized linear model moves from descriptive findings to musical predictions and broader structural dependencies in Op. 2 songs. The generalized linear model was built to see if a particular song in Op. 2 could predict any specifics of Rimsky-Korsakov's compositional style and whether any sonority pattern was attributed to Rimsky-Korsakov's attempt to visualize a scenery or a meaning within a poem, as shown in Appendix 3. A generalized linear model examined whether Rimsky-Korsakov's choice of a specific song in the cycle emphasized a particular sonority profile of the text. The sonority level was the dependent variable, which was the variable that the study sought to explain. In the data, nationality, poet, stanza, stressed vowel, and previous sonority were predictors (also known as independent variables) that could have accounted for variation in the dependent variable. The factor in the generalized linear model is the song, meaning that the model calculates if shifting between any two songs in Op. 2 will result in statistically significant shifts in the vowels that Rimsky-Korsakov chose to emphasize in his music.

To compare sonority levels across songs and nationalities, the study first used a One-Way ANOVA (Analysis of Variance), with sonority level as the dependent variable and nationality as the independent variable. However, upon checking the statistical assumptions ($W = 0.894$, $p < .001$), the data proved unsuitable for this specific test. Therefore, the non-parametric Kruskal-Wallis test was used to show the analysis of variances, showing the pairwise comparisons between different sonority levels within each of the four songs, also seen in Appendix 3.

4. Analysis and results

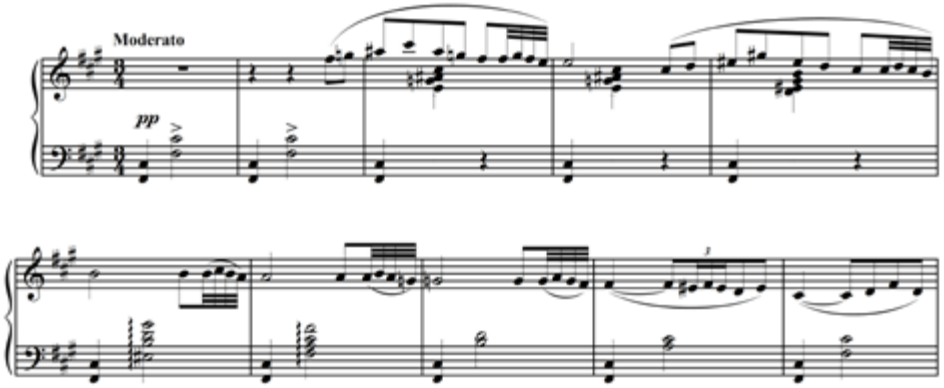
4.1. Frequencies

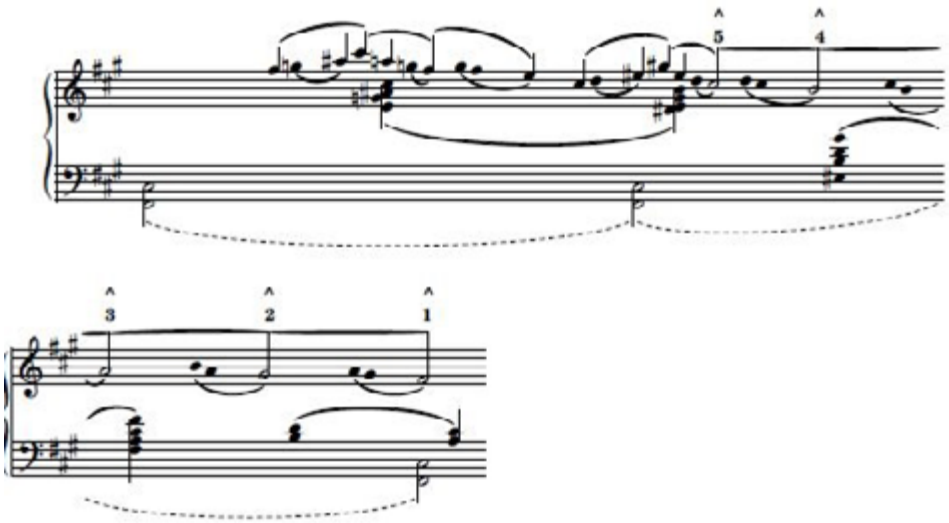
The frequency table shows the sonority level of Op. 2 Nos. 1-4, specifically focusing on the number of occurrences in each of the three sonority levels in each word within stressed syllables, showing multiple hidden patterns.

First, separately, each song has a varied range of sonorities, with Op. 2 Nos. 1 and 4 ranges being more balanced (as seen in Op. 2 No. 1 with a range

of 7 to 12 and Op. 2 No. 4 with a range of 5 to 11), and Op. 2 Nos. 2 and 3 sonority levels being more varied (as seen in Op. 2 No. 2 with a range of 5 to 23 and Op. 2 No. 3 with a range of 3 to 17). The German-authored and Russian-translated songs have more balanced frequencies of sonorities, especially among L_1 and L_2 levels (12 to 12 in Op. 2 No. 1 and 9 to 11 in Op. 2 No. 4). On the other hand, the German-authored and Russian-translated songs have a higher value of L_1 sonority (12 in Op. 2 No. 1 and 9 in Op. 2 No. 4), compared to Russian-authored texts (with 5 in Op. 2 No. 2 and 3 in Op. 2 No. 3). Phonetic constraints of translated Russian verse, based on original German meter and sentence structure, result in a more homogenous vowel color when compared to Russian poetry, showing a difference in how Rimsky-Korsakov approaches the melodic and harmonic construction of German and Russian poetry.

Op. 2 No. 2 heavily relies on L_2 sonority (19.5% of the entire total within the Op. 2). Op. 2 No. 2 is the song that is most associated with orientalism. Rimsky-Korsakov associates L_2 sonority levels with mid-bright timbral quality, which characterizes exoticism within orientalism while focusing on the melodic ornamentation. An example can be seen with the arabesque ornamented melodies that are used in the piano accompaniment to support the vocalist's line. The pianist's introduction prior to the vocalist's entrance shows such moments occurring in mm. 3, 5, 6, 7, and 8, using the thirty-second notes, as shown in Example 1.

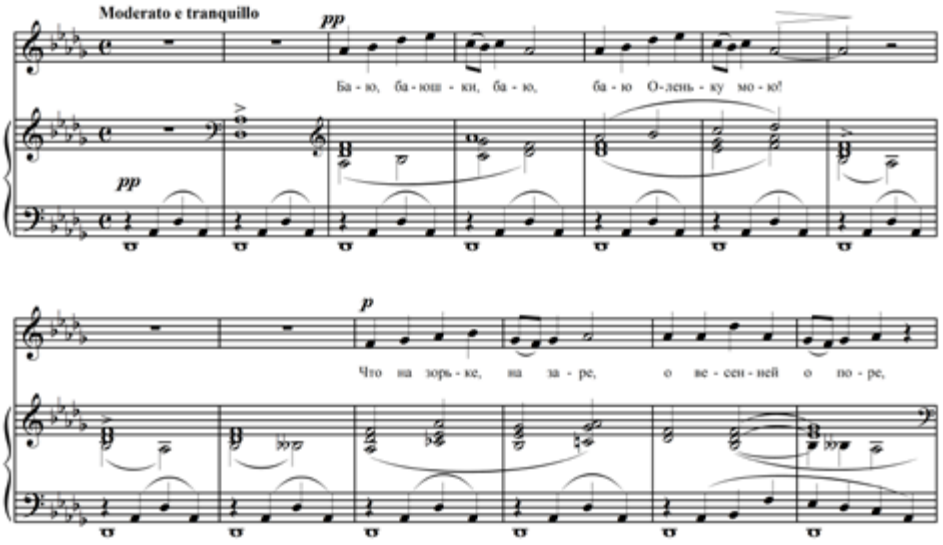
Example 1: Rimsky-Korsakov's Op. 2 No. 2, mm. 1–10

The pianistic descent using the arabesque structures prepares the eventual entrance of the vocalist's line. Additionally, the Schenkerian representation of the pianist's introduction shows the descending V-I *Urlinie* with subordinary arabesque elements, initiated after the opening primary tone ^5 and continuing prior to each of the *Stufen* on the way to the tonic, as shown in Example 2.

Example 2: Rimsky-Korsakov's Op. 2 No. 2, mm. 1–9, Schenkerian graph

Rimsky-Korsakov freezes the harmonic movement through the expanded pedal point consisting of an F-sharp and C-sharp dyad in the pianist's left hand, creating a sense of timbral and echo-centered hovering. From a listener's perspective, such a structure allows one to focus on the arabesque ornamentations in the right hand while waiting for the initialization of the vocalist's melody.

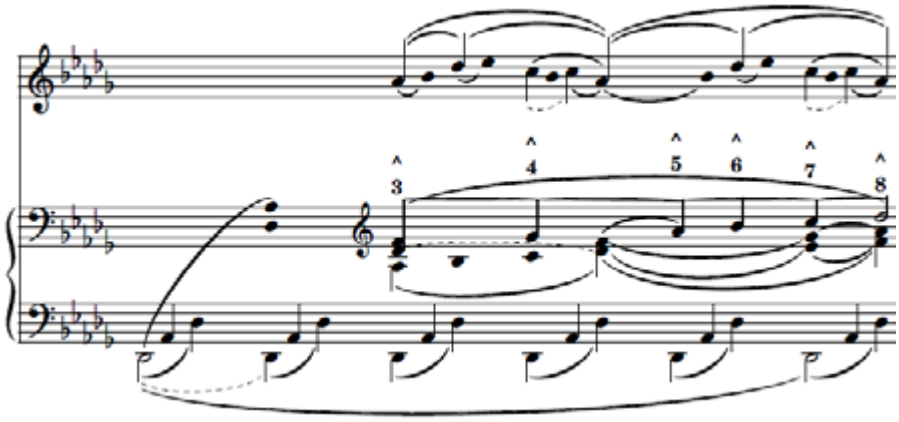
By keeping the linear trajectory of the *Urlinie*, Rimsky-Korsakov affirms that the musical resonance contains depth, which lowers dissonance levels and prepares the support for the vocalist. This linear predictability in the piano accompaniment is two-fold: (1) to support the goal-oriented progression, and (2) to strengthen the general stability for the singer's solo part starting on the third beat of m. 13. The vocalist enters with a highly balanced phonetic profile. The text establishes eight distinct sonorities in the first phrase, initialized with an L_1. The opening sonority then resolves into a con-

secutive line of five L_2 sonorities. In total, the phrase contains a total of six L_2 sonorities in the opening vocalist's line, with a final cadence creating an L_2-L_3-L_2 pattern. The following phonetic trajectory – with its structural rise and resolution – reflects the resolving Urlinie in the pianist's accompaniment to start the romance.

Op. 2 No. 3 contains the highest ratio of L_3 (total of 8) to L_1 (total of 3) sonorities. This is an unexpected finding given that Op. 2 Op. 3 is a lullaby, and should contain more closed vowels. Rimsky-Korsakov uses resonance and depth to create a sense of peaceful atmosphere and tranquility in his lullaby despite the drastic change in sonority combinations. An example can be seen in mm. 1–13, a pianistic introduction, as shown in Example 3.

Example 3: Rimsky-Korsakov's Op. 2 No. 3, mm. 1–13

The continual outline of the D-flat major chord in the pianist's left hand produces the necessary peacefulness and tranquility characteristics of the lullaby.

Concomitantly, a scalar hidden stepwise ascending line in the piano accompaniment can be traced through the use of Schenkerian theory, starting on the F in m. 3 (III in D-flat major) while moving towards the I, the D-flat in m. 6. The Schenkerian representation of the passage can be seen in Example 4.

Example 4: Rimsky-Korsakov's Op. 2 No. 3, mm. 1–6, Schenkerian graph

An ascending line in the pianist's accompaniment from ^3 to ^8 in mm. 3–7 is unanticipated for a lullaby, yet it is paralleled by the vocalist's sonority patterns, as the passage starts with a consecutive set of four L_3 sonorities. On the contrary, the resolution reveals an L_3-L_2-L_1 passage when cadencing in mm. 6–7 on the extended A-flat.

4.2. Contingencies

The contingency table shows the two-pattern interactions between every set of two neighboring sonorities. The findings show a lack of a significant relationship or pattern between two neighboring sonority levels (based on p = 0.224). This shows that the poetry that was chosen for the songs by Rimsky-Korsakov does not follow any specific pattern of phonetic progression. However, patterns exist in each separate song of Op. 2, as Rimsky-Korsakov emphasizes the semantic meaning rather than the thematic meaning of word combinations throughout the cycle. This means that Rimsky-Korsakov focuses on word-specific prosody rather than a cycle-wide overall phonetic structure.

For example, a resolution into L_2 is clearly the most common in Op. 2 (with 61 in total) out of 114, with an L_2 going to L_2 having the most occurrences (34 in total). Rimsky-Korsakov chose to focus his compositional technique on the most common mid-range sonority level (L_2) with occasional apogees (L_1) or descents (L_3) that are represented throughout different techniques between the integration of music and text. Also, a resolution into L_3 is

the least common (with a total of only 25 out of 114) while an L_1-to-L_1 pattern and an L_1-to-L_3 pattern are the rarest in the Op. 2 cycle (with 5 of each, respectively). More particularly, a resolution into L_3 and the development and extension of the L_3 vowels require increased durations for melodies.

4.3. Markov's Matrix

Markov's matrix shows the probability statistics based on sonorities found in the four songs. Given the current sonority level within each work, Markov's matrix showed probabilities that Rimsky-Korsakov would choose a particular sonority at L_1, L_2, or L_3. Three key observations can be made based on Markov's transition matrix.

First, there is an emphasis by Rimsky-Korsakov on L_2 sonority, while the L_1 and L_3 have a general pull towards L_2 across the entire Op. 2 cycle. For the most part, the poetry is balanced, and poets avoid extreme sonority movements, such as L_1 to L_3 (the probability at 25%) and L_3 to L_1 (the probability at 20%). Within that, Rimsky-Korsakov's music focuses on steady-state sonorities throughout Op. 2, with the composer not altering the musical climate and compositional style throughout the four songs, using a conservative vocal range within Op. 2. This can also be seen within the musical range of each song within the vocalist's line.

Second, in the poem's text, between transitions among identical sonorities, it is more likely to observe an L_3 to L_3 as seen based on 36% (the most dramatic and bright mood between sonorities) as opposed to L_1 to L_1, based on 17.86% (generating the gloomy and dark mood within the harmony). This is a significant finding that represents a greater chance of artistic brightness than gloominess, depending on the integration of music and text.

Third, for overall sonority, L_1 (occurring at 22.46%) and L_3 (occurring at 25.25%) are balanced, opening more opportunities for Rimsky-Korsakov to focus on L_2 sonorities (52.29%). This creates a well-adjusted phonetic architecture, which is backed up by the integration of vocalism and pianistic accompaniment within Rimsky-Korsakov's compositional style.

4.4. Generalized Linear Model

Based on the p-value of .174, the generalized linear model showed that there is only 4% of the variation in sonority that can be explained by the specific song number. This means that no particular sonority signature exists that was used by Rimsky-Korsakov in any separate songs. One other key observa-

tion exists based on the generalized linear model. Based on the p-value of .058, there is a statistical significance and difference in the sonority levels between Op. 2 No. 1 and Op. 2 No. 3. More specifically, the third song (the lullaby) has a higher average sonority (and more open Lv3 vowels) compared to Op. 2 No. 1, based on a calculated estimate of 0.33986. Also, based on $exp(B) = 1.40$, it is evident that a word in Op. 2 No. 3 is 1.4 times more likely to have a higher sonority level than a word in Op. 2 No. 1. With "0" being the baseline, and $exp(B) = 1.00$ representing a negative relationship, a positive estimate shows higher (brighter) average sonorities on a scale of 1 to 3. Therefore, two interpretations can be made here. First, there is no global difference in vowel brightness across the four songs. Second, while other data showed individual shifts in how music and text are treated by Rimsky-Korsakov, the generalized linear model showed that there was no major stylistic shift within Op. 2. The exception happened in the stylistic features of Op. 2 Nos. 1 and 3. While stylistic shifts exist in both songs, such shifts are too small and likely occur due to how Rimsky-Korsakov approached the meaning of poetry and what kind of harmony and melody he used within his compositional techniques.

4.5. Analysis of Variance

A statistical significance within the sonority levels based on the nationality variable exists ($p = .039$). However, the effect of this statistical significance is minimal (.036). The results indicate that the sonority mean of 1.84 for German-authored and Russian-translated songs within the 56 sonorities is significantly lower than the mean of 2.10 for Russian-authored songs within the 62 sonorities. A significant difference in sonority levels exists between the Russian-authored and German-authored and Russian-translated texts across the four songs.

These results suggest that there is a measurable phonetic shift in the reverberation of the text when Rimsky-Korsakov moves between local Russian poetry and German-translated works in the Op. 2 cycle. Poetically speaking, the German-authored texts (even when translated to Russian) are not approached the same way as the native Russian poems are. Musically speaking, Russian-authored texts, with a mean of 2.10, represent a brighter, more open phonetic profile, suggesting Rimsky-Korsakov's approach to a more resonant and exclamatory musical depiction of the textual foundation. On the contrary, German-authored Russian-translated poems, with a mean of 1.84, showcase a darker, more closed contour, favoring emphasis on L_1 and L_2 so-

norities, meaning that Rimsky-Korsakov was working with vocalism suitable for lower sonority levels.

5. Conclusion

The contrast between sonority levels in the Heine text and Mikhailov's translations is evident compared to Russian-authored poetry, creating an imbalance in the usage of vowels in the text. Translations change the phonetic peaks of the original language in Op. 2 romances, and Rimsky-Korsakov responds to this by using more standardized and predictable harmonic structures for the songs by Heine. For Russian poetry, Rimsky-Korsakov utilized a higher level of chromaticism and orientalism, as more focus is shown on L_2.

Furthermore, L_2 can be thought of as a phonetic tonic within the text, tantamount to having the tonic in Rimsky-Korsakov's harmonic analysis. In terms of phonetic hierarchy, L_1 (higher discord) and L_3 (lower discord) can be thought of as dissonances that eventually require stable resolution to L_2. Poetically speaking, there is a high probability of return to L_2, regardless of the starting point – similar to how there exists a continual pull towards the tonic in Rimsky-Korsakov's compositional language in the Op. 2 romances. The use of L_3 in a lullaby (Op. 2 No. 3) is unexpected and shows Rimsky-Korsakov's approach to compositional nonconformity – an interesting point worthy of further analysis in his early-style compositional writing. Within Op. 2 No. 3, Rimsky-Korsakov chooses to utilize deep resonances of L_3 vowels to outline the stability. The transition probabilities are defined by the semantic meaning of the word, and Rimsky-Korsakov's compositional goal is to characterize such words through the four romances and align harmonies to support the vocalist in their interpretation of every work within the song cycle.

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Appendix 1

Frequencies of songs			
Song	**L_1 count: % of total**	**L_2 count: % of total**	**L_3 count: % of total**
Op. 2 No. 1	L_1(12): 10.2%	L_2(12): 10.2%	L_3(7): 5.9%
Op. 2 No. 2	L_1(5): 4.2%	L_2(23): 19.5%	L_3(6): 5.1%
Op. 2 No. 3	L_1(3): 2.5%	L_2(17): 14.4%	L_3(8): 6.8%
Op. 2 No. 4	L_1(9): 7.6%	L_2(11): 9.3%	L_3(5): 4.2%

Contingency table				
Previous Sonority	**L_1**	**L_2**	**L_3**	**Total**
1	5	16	7	28
2	18	34	9	61
3	5	11	9	25
Total	28	61	25	114

Appendix 2

Markov's transition probability matrix			
	1	**2**	**3**
L_1	0.1786	0.5714	0.25
L_2	0.2951	0.5574	0.1475
L_3	0.20	0.4400	0.36

Overall sonority distribution: $L_1 = 0.2246$; $L_2 = 0.5229$; $L_3 = 0.2525$.

Appendix 3

Effect	Estimate	*SE*	*exp*(*B*)	*p*		Kruskal-Wallis				
Intercept	1.97167	0.0630	7.18	< .001			χ^2	*df*	*p*	ε^2
2 - 1	0.19070	0.1687	1.21	0.261		Sonority Level	4.28	1	0.039	0.036
3 - 1	0.33986	0.1771	1.40	0.058						
4 - 1	0.00129	0.1826	1.00	0.994						

Summary

Nikolai Rimsky-Korsakov's Op. 2 (1866) is a set of four romances based on Russian and foreign poetry. Defining his early style and revealing compositional approaches, the four works clarify the composer's construal of music and text. While the poetry by Aleksey Koltsov, Lev Mey, and Heinrich Heine (with Mikhail Mikhaylov's translations) offer an interesting performative intersection with Rimsky-Korsakov's use of pianistic accompaniment and vocalist's melody, the Op. 2 romances are relatively unexplored within theoretical frameworks of musicological scholarly literature. The following corpus-based phonetic-musicological study examines the emphasis on stressed vowels and sonorities in poetic words to understand Rimsky-Korsakov's compositional style, based on selected words from the romances' lyrics. The mixed-method design – employing quantitative, qualitative, and theory-centered techniques – helps disclose the composer's musical alignment with poets' creative narratives and intentions.

The use of contingency tables and Markov Transition Matrices yields empirical results and musical interpretations. Concomitantly, Schenkerian analysis supports and justifies Rimsky-Korsakov's compositional choices based on select examples. The study finds an integral phonetic and sonority-centered imbalance in poetry depending on whether the music is set to original Russian poetry or original German poetry translated to Russian. A significant finding within the research is the identification of the L_2 sonorities in words that utilize Russian letters "o", "ë", "э", and "e". Based on the findings, the study shows that a high probability of return to L_2 sonority occurs in the Op. 2 cycle, which mirrors the continual pull towards the harmonic tonic. Finally, the research highlights a compositional nonconformity in Op. 2 No. 3, where Rimsky-Korsakov's unexpected use of L3 sonority shows the composer's willingness to utilize deep resonances to outline artistic stability. Schenkerian analysis is used to reinforce the phonetic instances outlined in the music by showing harmonic interactions between the pianist's accompaniment and the vocalist's melody. The neighboring sonority sequences help characterize the phonetic-structural features of each poem, which are often left unexamined in traditional musicological and theoretical analyses.

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BETWEEN SPECTRAL DISPERSION AND GRAVITATION: *STRINGS 0.4* BY VLADIMIR KORAĆ

Abstract: Vladimir Korać's composition *Strings 0.4* (*Žice 0.4*) explores the spectral and multiphonic possibilities of the double bass through a systematic examination of the fundamental, overtone and inharmonic series, microtonal shifts, and bowing positions. Extended musical time and a reduced "harmonic" palette allow the transformation of the tones G, G#, and E, while multiphonics generate a complex acoustic polyphony. The result is a controlled, internally dynamic structure in which instrumental sound and timbre become the primary carriers of dramaturgy.
Keywords: *Strings 0.4* (*Žice 0.4*), Vladimir Korać, spectral music, double bass, multiphonics, timbre, time

The composition *Strings 0.4* (*Žice 0.4*, 2025) for double bass quartet by Vladimir Korać is founded upon a systematic investigation of the sonic possibilities of multiphonics and the spectral behavior of the double bass, wherein

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sound itself becomes the primary carrier of formal and perceptual development.[1] Rather than deriving from an extramusical narrative, the work emerges from an analytical and practical examination of the relationships between the fundamental tone, its harmonic and inharmonic projections, and the manner in which these relationships evolve within extended musical time – a duration that becomes "the very object of form".[2] The central technical and aesthetic foundation of the composition lies in the deployment of multiphonics as a type of non-harmonic spectrum;[3] these are not treated as extended techniques of a decorative nature, but rather as complex acoustic phenomena. Particular attention is devoted to the distinction between multiphonics produced on open strings – where partials radiate relatively freely above the fundamental – and those aimed at precisely defined sonorities (semitonic, quartertonic, and artificial multiphonics).[4] The latter necessitate a patient exploration of the individual instrument, precise control of bow positioning that transcends the *ordinario – sul ponticello* dichotomy, and a continuous balancing act between stability and the loss of control over the sound. Consequently, performance practice becomes inseparable from the very structure of the composition.

The treatment of time as an elastic category constitutes a distinctive compositional undertaking within the composer's serial output.[5] Musical

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[1] I owe special thanks to the composer Vladimir Korać for his generous assistance, for providing materials, and for his consultations during the preparation of this study.

[2] Gérard Grisey, "Did You Say Spectral?", *Contemporary Music Review*, 19(3), 2000, 2. The author says: "For me, spectral music has a temporal origin. It was necessary at a particular moment in our history to give form to the exploration of an extremely dilated time and to allow the finest degree of control for the transition from one sound to the next […] Strengthened by an ecology of sounds, spectral music no longer integrates time as an external element imposed upon a sonic material considered as being 'outside-time', but instead treats it as a constituent element of sound itself." Ibid., 1–2.

[3] Cf. Joshua Fineberg, "Appendix I. Guide to the Basic Concepts and Techniques of Spectral Music", *Contemporary Music Review*, 19(2), 2000, 91.

[4] Cf. Håkon Thelin, *Multiphonics on the double bass. An investigation on the development and use of multiphonics on the double bass in contemporary music*, Oslo, Norwegian Academy of Music, 2011. https://www.haakonthelin.com/multiphonics/multiphonics-on-the-double-bass/

[5] Vladimir Korać, email to the author, on 7 January 2026. The reference is to the cycle *Strings*: *No. 1* (for two violins and electronics), *No. 2* (for violin, viola, and electronics), *No. 3* (for violin, viola, cello, and electronics), and *No. 4* (for string quartet and electronics, on which the composer is currently working). The composition *Strings 0.4* does not

processes are radically decelerated; the prolonged dwelling within a singular frequency domain enables the listener to register subtle modulations in the spectrum and dynamics of partials, as well as microtonal pitch displacements. This temporal strategy may be characterized as a form of "zooming"[6] into the internal architecture of sound, probing the limits of musical time's prolongation by prioritizing immanent processes over external formal events. Such extended musical time pertains not only to the work's pitch-related trajectory but also to the melodic component, which is effectively annulled. The preponderance of sonic transformation occurs upon a single tone within individual parts, wherein said tone is transmuted through microtonal inflections (extending to quarter tones), modulations in vibrato extent, continuous bow-position transitions from *sul tasto* to *molto sul ponticello* (MSP), and the emergence of unisons on adjacent strings. Consequently, the listener's perceptual focus is redirected from melodic succession to the internal dynamics of sound itself.

The work's pitch material is radically reduced, organized around three primary anchor points – G, G#, and E – distributed across an approximate fourteen-minute duration. This progression eschews traditional harmonic functionality in favor of an extremely gradual process of transformation and perceptual refocusing. While E serves as the fundamental frequency and gravitational center of the work, its natural harmonic status is perpetually problematized. Moreover, its natural harmonic series constitutes merely one stratum within the composition's spectral architecture. The composer engages in the construction of inharmonic overtone series,[7] derived not from integer multiples of the fundamental frequency but through the application of a "distortion coefficient"[8] – for instance, 0.3 – thereby generating a distorted, unstable variant of the harmonic spectrum, or its "compressed version".[9] It is precisely this inharmonicity that furnishes an ideal substrate for prolonged musical time: the absence of a clear point of resolution permits

include electronics, hence its title, by the composer's own admission. It is part of the cycle, but with the character of a kind of "appendix".

6 Cf. Gérard Grisey, "*Tempus ex Machina*: A composer's reflections on musical time", *Contemporary Music Review*, 2, 1987, 259; Gérard Grisey, *Écrits: ou l'invention de la musique spectrale*, Paris, MF Editions, 2008, 31–32.

7 Cf. François Rose, "Introduction to the Pitch Organization of French Spectral Music", *Perspectives of New Music*, 34(2), 1996, 9.

8 Joshua Fineberg, op. cit., 94.

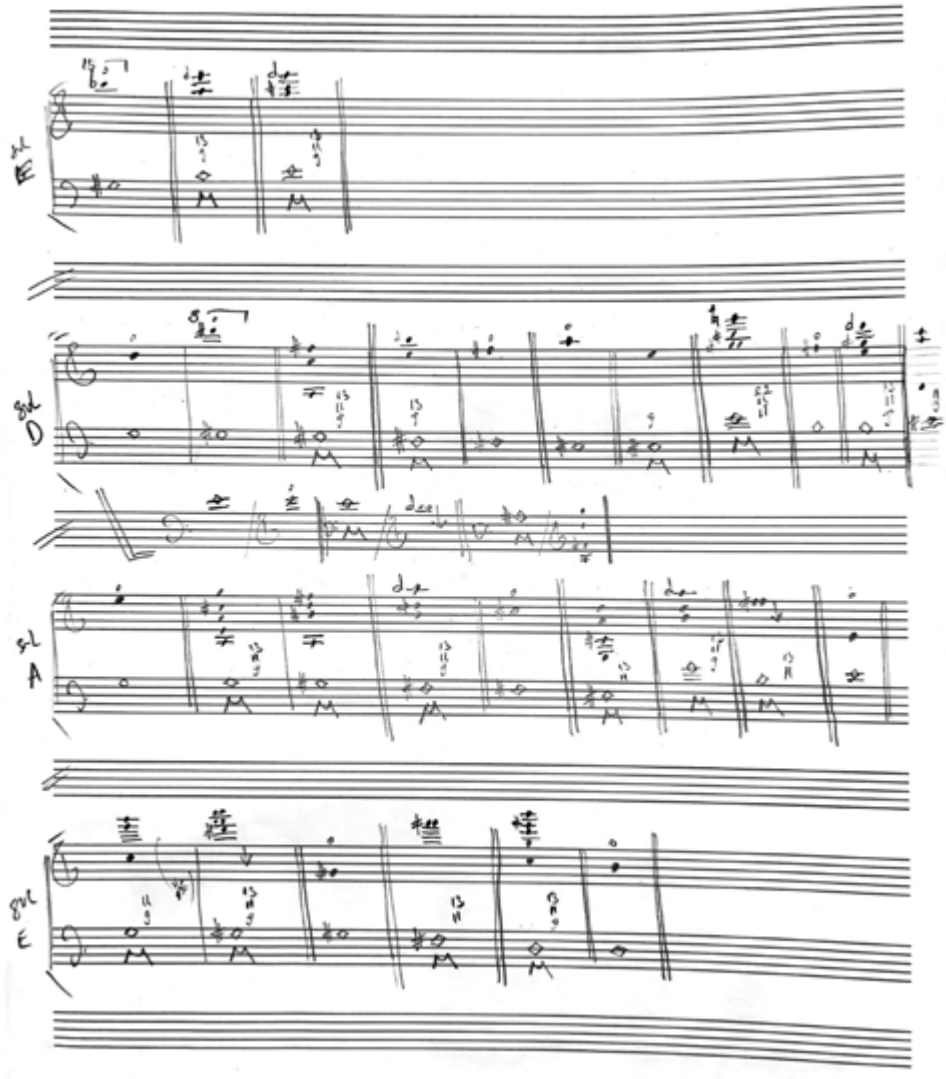
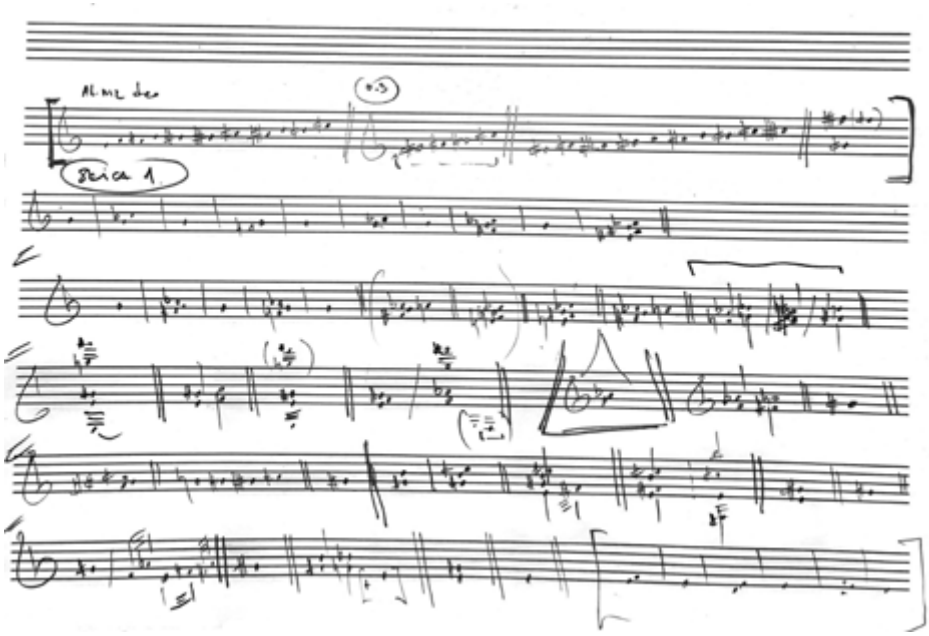
9 Ibid., 94.

sound to persist without stasis, undergoing continuous internal transformation. Such inharmonicity opens a sonic spectrum wherein non-integer ratios relative to the fundamental destabilize the pitch identity, creating space for spectral metamorphoses. The inharmonic vertical spectrum finds its horizontal temporal projections in glissandi, *ampio* vibrati,[10] and quarter-tones, wherein pitch is conceived as a continuum rather than a discrete entity.

The analysis of partials derived from a single sample of the E_1 (41.20 Hz) produced on the double bass served the composer as an additional source of material. He isolated the loudest, quietest, shortest, and longest partials, subsequently employing them as the foundation for so-called "minute notes" within the composition. However, even this system was treated with considerable flexibility. Although clearly present as an underlying structural framework, the composer does not apply it dogmatically; rather, he consciously negotiates a balance between adherence to and the free deconstruction of said system. The composer establishes a distinct intermedial connection with electroacoustic practice – albeit not consciously, as he himself acknowledges – by transposing its technological models into an instrumental context. Procedures inspired by echo effects, delays, and tape loops manifest through the successive transmission of identical musical material among the double bass parts, thereby generating forms of spectral polyphony. Such organization of material does not constitute a mere imitation of electronic procedures, but rather their conceptual mediation within an acoustic medium. Furthermore, the deployment of multiphonics and inharmonic spectral structures implies an experimentation with modes of thought inherent to the electroacoustic paradigm, wherein instrumental sound is treated as a complex spectral phenomenon rather than a traditionally pitch-defined entity. It is particularly indicative that the composition, despite the absence of electronics, functions as a structural and aesthetic "supplement" to the cycle containing an electronic component, thereby achieving continuity at the level of sonic conception and compositional thinking.

The analysis of the work is grounded primarily in the score as the principal source, as well as in conversations and correspondence with the composer, and in the composer's tables and sketches, which constitute relevant documentary material (Examples 1 and 2). Accordingly, it is not based on any known or available model of computer-assisted spectral analysis.

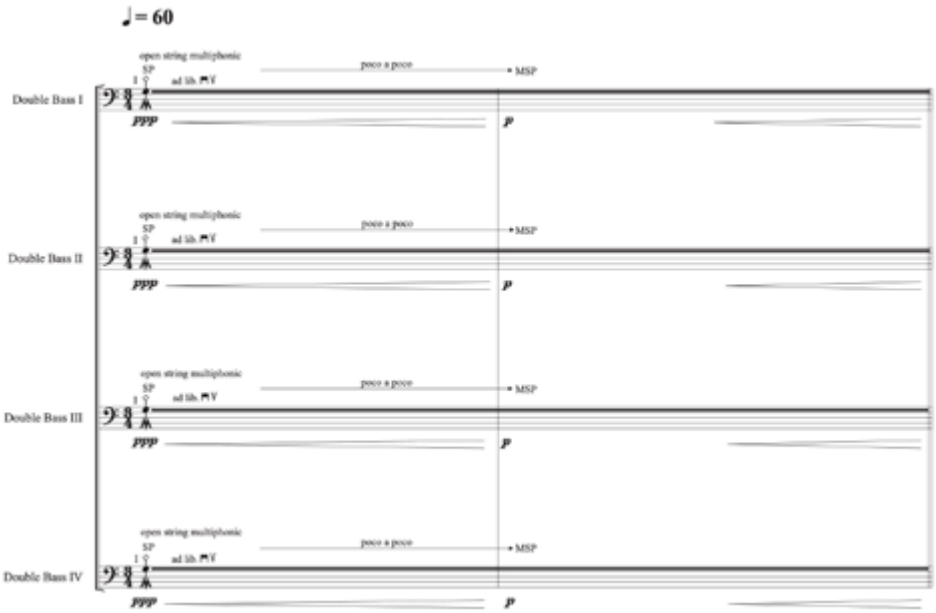
[10] Ampio – a wide vibrato whose intonational fluctuation approaches trilling (score, p. 2).

Example 1: V. Korać, *Strings 0.4*, table of multiphonics used in the composition

Example 2: V. Korać, *Strings 0.4*, sketch of the continuous spectral transformation and formal construction of the work

The composition can be understood as a process organized through several clearly delineated sections (the initial section mm. 1–29, followed by developmental units mm. 30–64, mm. 65–74, mm. 75–100, an extended zone of suspension in mm. 101–159, a phase of consolidation in mm. 160–176, and a final multi-phase process spanning mm. 177–236), in which the musical flow is not shaped through thematic development, but as a continuous transformation of spectral mass and relations between frequency layers. At the outset, G dominates as a provisional gravitational center, although already destabilized by microvariations, noise, and processes of spectral stratification. In the subsequent sections, G gradually loses its role as a stable anchor through the emergence of new pitches (F#, F, G#), which initially act as destabilizing elements but are later integrated into a broader sonic field. The decisive turning point occurs with the introduction of pitch E (m. 75), which redefines the entire system. Former centers become layers within its spectrum, while the gravitational focus is gradually shifted toward E as a deeper, fundamental frequency basis. However, this center is not established as stable immediately – the fifth section (mm. 101–159) functions as a zone of near-total suspension in which the sustainability of the system without a clearly

articulated axis is tested. Only in the final sections does gradual stabilization occur: through material reduction, temporal deceleration, and spectral "harmonization", E is affirmed as a stable, yet non-imposing center, capable of absorbing and integrating all preceding tensions. The final trajectory thus does not result in a dramatic resolution, but in a state of duration and equilibrium, in which E functions simultaneously as a physical fundamental, a spectral nucleus, and a perceptual gravitational axis of the entire work.

The introductory segment (mm. 1–5) of the first section (mm. 1–29) is founded upon reduced yet spectrally rich material: multiphonics produced on the open G string across all four instruments (Example 3).

Example 3: V. Korać, *Strings 0.4*, multiphonics on the open G string in four double basses, mm. 1–2



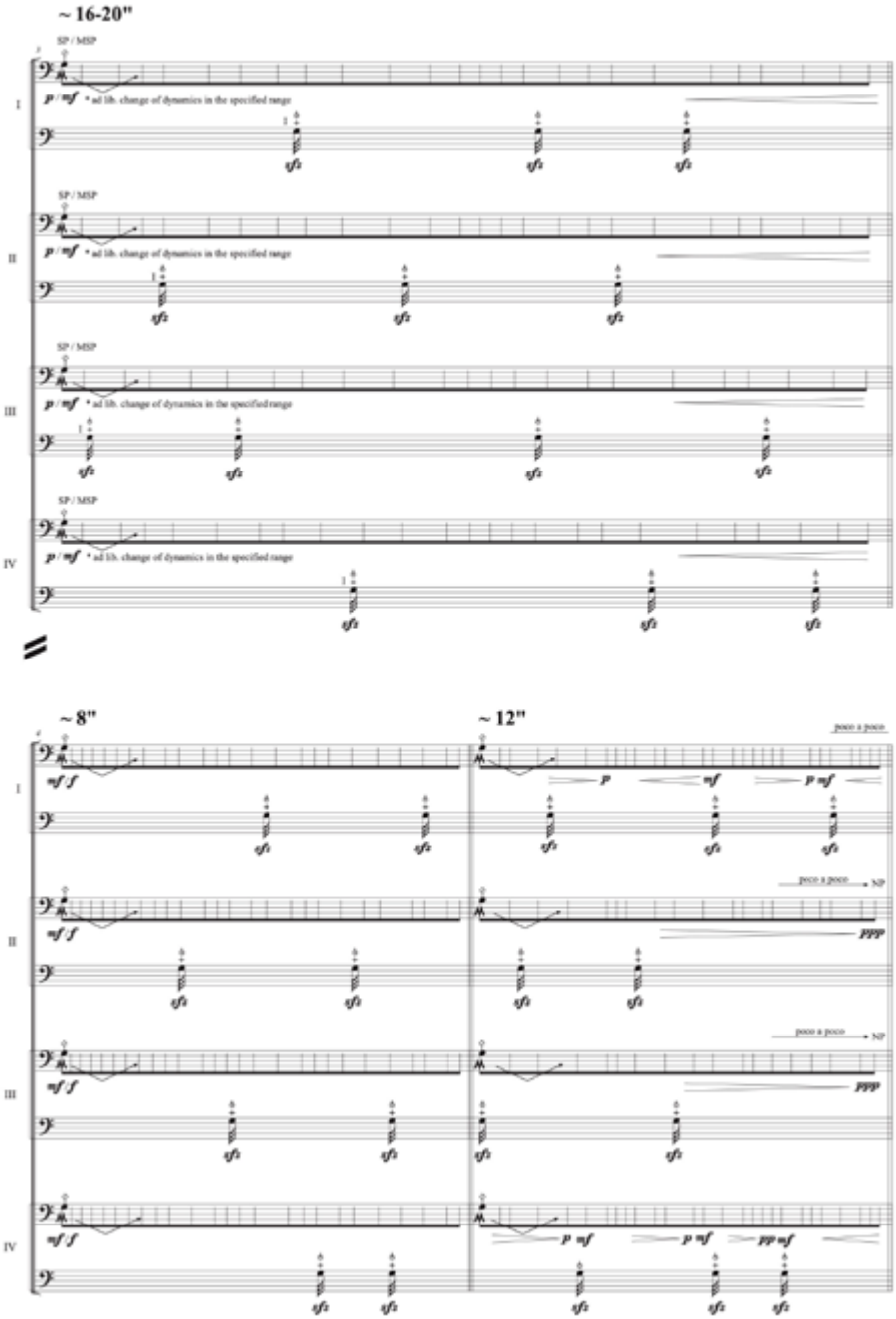
Parallel realizations of the same multiphonic preclude sonic identity; rather, disparities in instrument construction and material quality generate microvariations (*beats*[11]), further amplified by individual bow strokes executed within the indicated *sul ponticello* (SP) position. In lieu of unison, a microheterogeneous sound mass emerges, wherein a single gesture stratifies into a

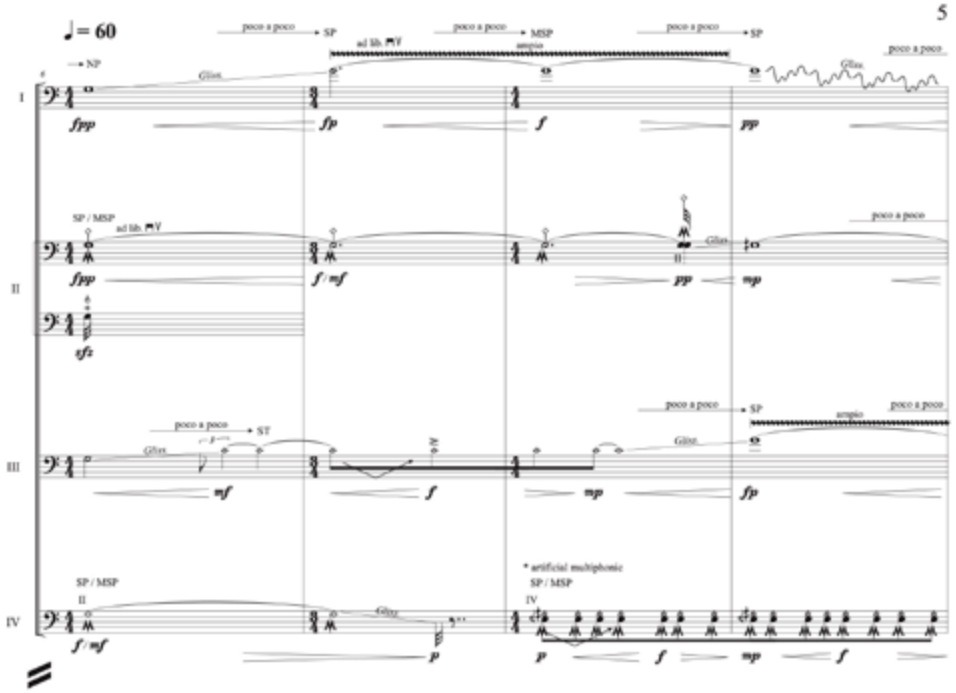
[11] Hermann von Helmholtz, *Sensations of Tone as a physiological basis for the Theory of Music*, London and New York, Aberdeen University Press, 1895, 160.

network of related yet non-identical spectral events. The initial *ppp* dynamic imbues the sound with fragility, while the multiphonic operates at the threshold between tone and noise – a liminal zone wherein the fundamental of the open string is barely perceptible, dominated instead by high-frequency harmonics. The SP bowing position critically shapes the spectrum by diminishing the fundamental's contribution and amplifying upper partials, thereby decomposing the G tone into its own spectral content. The transition to *molto sul ponticello* (MSP) in measure 2 shifts energy toward higher partials. Dynamic intensification renders the spectrum denser and more present, while the alternating deceleration and acceleration of bow strokes expand and compress the sonic mass. The alternation between SP and MSP modulates the relationship between fundamental and harmonics, generating a dissonant network possessing an internal "polyphony". This translucent mass is enriched by left-hand Bartók pizzicati, enhancing the voluminosity of the already sustained tone (Example 4). Within the *mf-f* dynamic range, a veritable "wall of sound" coalesces around an implicit center. Although the fundamental remains obscured, shared partials create the illusion of a collective sound, while inter-instrumental disparities enrich the sonority, producing an organic heterophony approaching orchestral effect. Thus, the opening measures establish the concept of process rather than stasis: from a minimal gesture emerges a complex sonic field wherein spectral, dynamic, and rhythmic transformations are inseparable, devoid of thematic articulation yet characterized by a clearly formed, transforming sound mass that lays the foundation for the work's trajectory.

In the subsequent passage (mm. 6–13), a subtle yet pivotal transformation occurs. Although G remains the spectral gravitational center, the sound ceases to function primarily as a vertically saturated mass and begins to coalesce as a temporal process. The focus shifts from collective texture to the internal instability of individual voices, thereby endowing the music with a more pronounced horizontal dimension – characterized by motion and oscillation. In the first double bass, a glissando toward the higher octave gradually transitions into *ampio vibrato*, generating microtonal oscillations that evade stable identification. This transition to horizontal oscillations produces the impression of the tone disintegrating from within; rather than progressing toward a goal, it loses coherence and metamorphoses into a micro-shifting field. The second and fourth double basses do not develop explicit motion but instead establish a stable spectral aura – a resonant field that sustains and reflects the transformations of the first voice, creating a vertical backdrop against which horizontal transformations become more salient (Example 5).

Example 4: V. Korać, *Strings 0.4*, multiphonics on the open G string with uneven slowing down and speeding up of the bow stroke, Bartók pizzicato, mm. 3–5



Example 5: V. Korać, *Strings 0.4*, building internal instability within individual parts, mm. 6–9

The third double bass glides from G_2 (97.99 Hz) toward a harmonic, whereby the sound loses mass and becomes nearly incorporeal, constructing a spectral arc from a solid fundamental to an ethereal high tone. The texture remains dense yet translucent, all voices remain connected to the G center, while their partials in the lower and middle registers occasionally converge, amplifying specific frequencies, only to diverge again, generating distinctive frictional effects wherein sound is increasingly perceived as color and resonant field rather than as a determinate pitch. The multiphonic in the fourth double bass (m. 8) further intensifies tension through micro-slides and intonational fluctuations, particularly during the alternation between SP and MSP. Acceleration of bow strokes renders the texture nervous and aggressive, whereas deceleration decomposes it into slower collisions of partials, evoking a sense of stagnation and dissolution. Sound thus alternately "opens" and "closes", transitioning from a translucent to a tense state. The segment unfolds without sharp boundaries, through the continuous development of sonic space. Horizontally, it is defined by perpetual motion and oscillation; vertically, by G_2, which remains the physical and spectral anchor. The overall

impression is that of a cold, fragile, and tense space situated at the threshold between tone and noise. As these motions transform the preceding trajectory, transitioning from a compact spectral mass to a field of internal tensions, the sensation of unstable equilibrium and constant sonic metamorphosis is deepened.

In the continuation of the same section (mm. 14–29), the first double bass introduces rapid, non-tempered pitch alterations through an alternation of harmonics. The tense timbre pulsates akin to the shimmering of a single hue refracted through different prisms, while tremolos intensify this effect, leading toward a denser, more potent multiphonic. From measure 23 onward, the oscillations between G and G# gradually decelerate. Nervous pulsations give way to a fine, organic vibration; harmonics recede, and spectral tension becomes controlled. The tone no longer destabilizes the space but rather sustains its vitality through *ampio vibrato* and discrete quarter-tone slides. The second, third, and fourth double basses initially maintain friction around G, employing slow pulsations[12] to prevent rapid spectral dissipation, thereby creating an impression of spatial and timbral motion. Following this destabilization, the three lower double basses progressively assume a stabilizing role, establishing a relatively calm G_2 as an acoustic anchor. Dynamics subside, and the tone becomes a referential field wherein preceding dissonances are deconstructed. Particularly notable is the relationship between the two G_2 in the second and fourth double basses (mm. 26–29). Although nominally identical, their timbral disparity generates a subtle internal pulse. In conjunction with multiphonics on the first strings, this forms a rich and balanced stratum that, combined with the micro-slides of the first double bass, constructs a homogeneous, calming sonic space. These doublings do not generate conflict but rather deepen the sensation of spectral "breathing", while dissonances and microtonal traces remain integrated as a memory of prior tension imprinted upon the partials of the G_2. The sonic wave initiated by the emergence of the G# here comes to a temporary halt: time decelerates, space expands, and the sound acquires a contemplative, almost meditative character. Following the profound disturbance provoked by the $G\#_2$ (103.82 Hz), the material coalesces around the fundamental, which is re-established as the gravitational center – now more stable, yet enriched by the experience of preceding spectral instability.

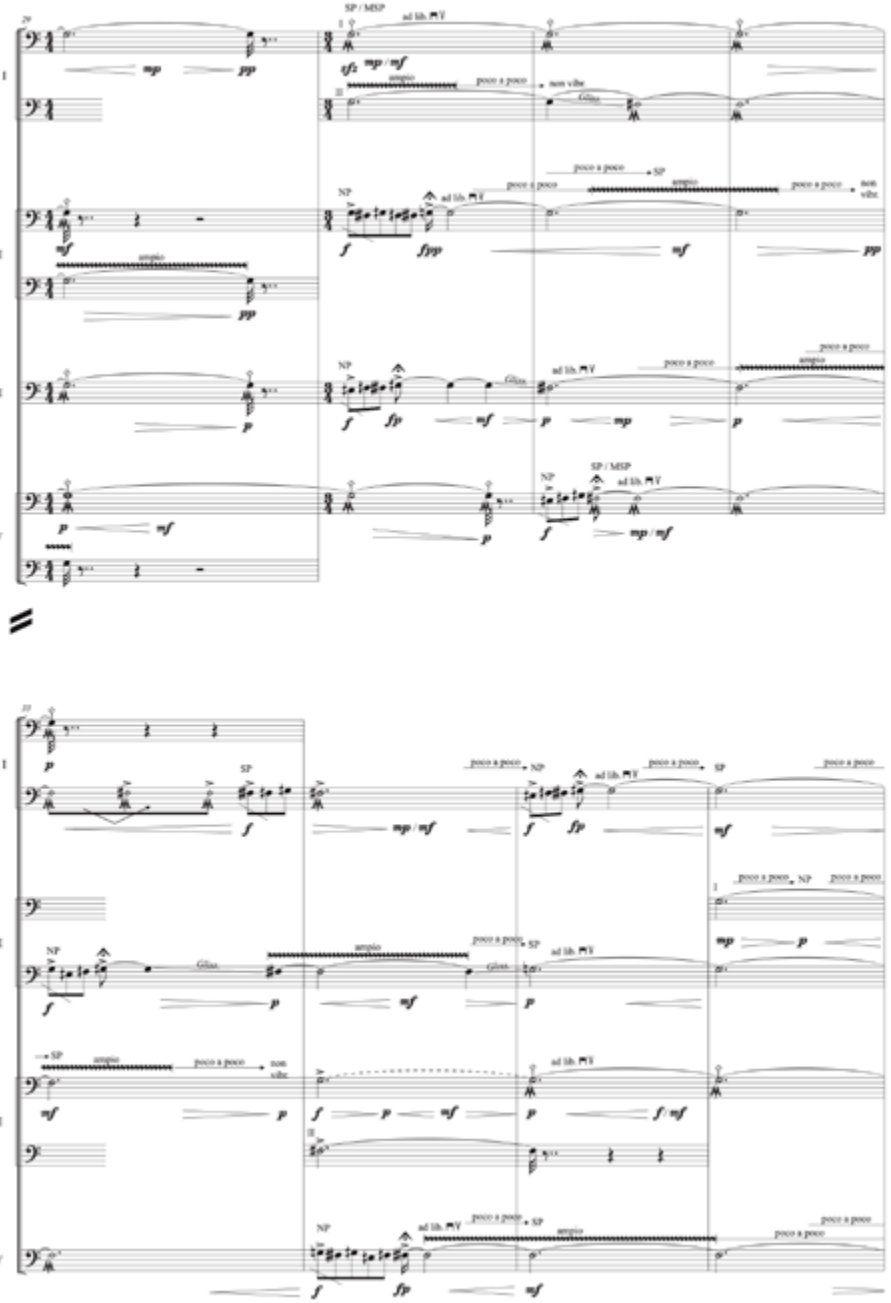
Following the introductory section (mm. 1–29), in which G_2 is established as the spectral center, the second section (mm. 30–64) unfolds as a

[12] Cf. Hermann von Helmholtz, op. cit., 160.

continuation of the process, deepening it without disrupting continuity. The sound continues to orbit around G_2, yet its status becomes unstable: it ceases to function as a solid anchor, transforming instead into a radiating center from which spectral events emanate, while itself remaining diffuse and perceptually elusive. In the first double bass, particularly within the MSP position, the G_2 fundamental nearly vanishes, dominated by upper partials. Dynamic fluctuations (*mp-mf*) modulate the spectral density, generating a sonic cloud lacking a clearly defined pitch. Simultaneously, G_2 on the second string of the same instrument establishes a latent unison relationship with the spectral trace of G from the first string. Two spectrally distinct G tones coexist, sustaining internal tension and continuity with the preceding process. A multiphonic emerges on the second string of the first double bass, radiating E_5 and a quarter-tone below B_5, constructing a spectrally stretched vertical structure. This is doubled in the fourth double bass, accompanied by an alternation between SP and MSP, thereby further destabilizing the sound. In the remaining double basses the reference point remains G, yet never as a "pure" tone, but rather as an idea of frequency. For the first time, quarter-tone arabesque figurations appear, creating a dense frequency mist (Example 6). These flow into G_2, into microintervals surrounding it, or into the multiphonic, with none of these outcomes yielding stabilization. Vibrato and spectral fluctuations erase the tone's fixed identity, undermining the authority of the fundamental. The spectrum expands downward for the first time with the introduction of $F\#_2$ (92.49 Hz, m. 34), followed by F_2 (87.30 Hz, m. 44); these new pitches emerge as realizations of potential inherent within the G spectrum. F#, too close to G to achieve autonomy yet too distant to merge completely, acts as a fissure in the spectrum: initially destabilizing, then temporarily stabilized (m. 40), but perpetually subverted by tremolo and vibrato. The process leads toward assimilation: F# merges into G (mm. 42–43), losing its independence yet leaving a trace in micro-oscillations. The doubling of G in the fourth double bass confirms its structural role, while the migration of F# to the third double bass part indicates that the conflict is systemic, now absorbed by the system itself. Tremolos and *ampio* oscillations[13] in the first two double bass parts prevent this conclusion from sounding serene, as constant micro-shifting keeps the spectrum open. The emergence of F_2 in measure 44 establishes a different relationship. Whereas F# initiated internal destabilization, resulting in an immanent conflict, F creates a permanent, static friction with G.

[13] Ampio oscillations – a wide vibrato (ampio) with continuous change of vibrato amplitude (score, p. 2).

Example 6: V. Korać, *Strings 0.4*, arabesque-like figurations, a semitonic multiphonic in the first double bass, and the appearance of F# in m. 34, mm. 30–36



Their relationship leads to coexistence: G remains the axis, now capable of bearing the weight of F. F_2 subsequently glides toward $F\#_2$ (m. 47), lingering in the zone between F# and G, where pitch transforms into spectral width, while harmonics maintain the connection to G_2 but without returning to a stable center. The pitch identity becomes increasingly dependent on its position within the sonic field, a fact corroborated by the exchange of material among parts in mm. 53–56/57. In the final phase (mm. 57–64), an apparent consolidation occurs: G is once again collectively focused, yet across multiple registers and with constant micro-pulsation. The multiphonic now surrounds G like an aura of preceding conflicts, while the center is reconstructed through timbral differentiation rather than pitch. The segment concludes with the compression of sound into a nucleus (mm. 63–64), wherein G_2 functions simultaneously as a resonant spectrum and as a pitch destabilized microintervallically. Thus, the conflict undergoes no resolution but is instead permanently embedded within the structure. G_2 becomes a spectral zone, a relationship, and the result of a process, thereby creating a multi-layered, perceptually and acoustically rich sonic space that integrates all preceding transformations.

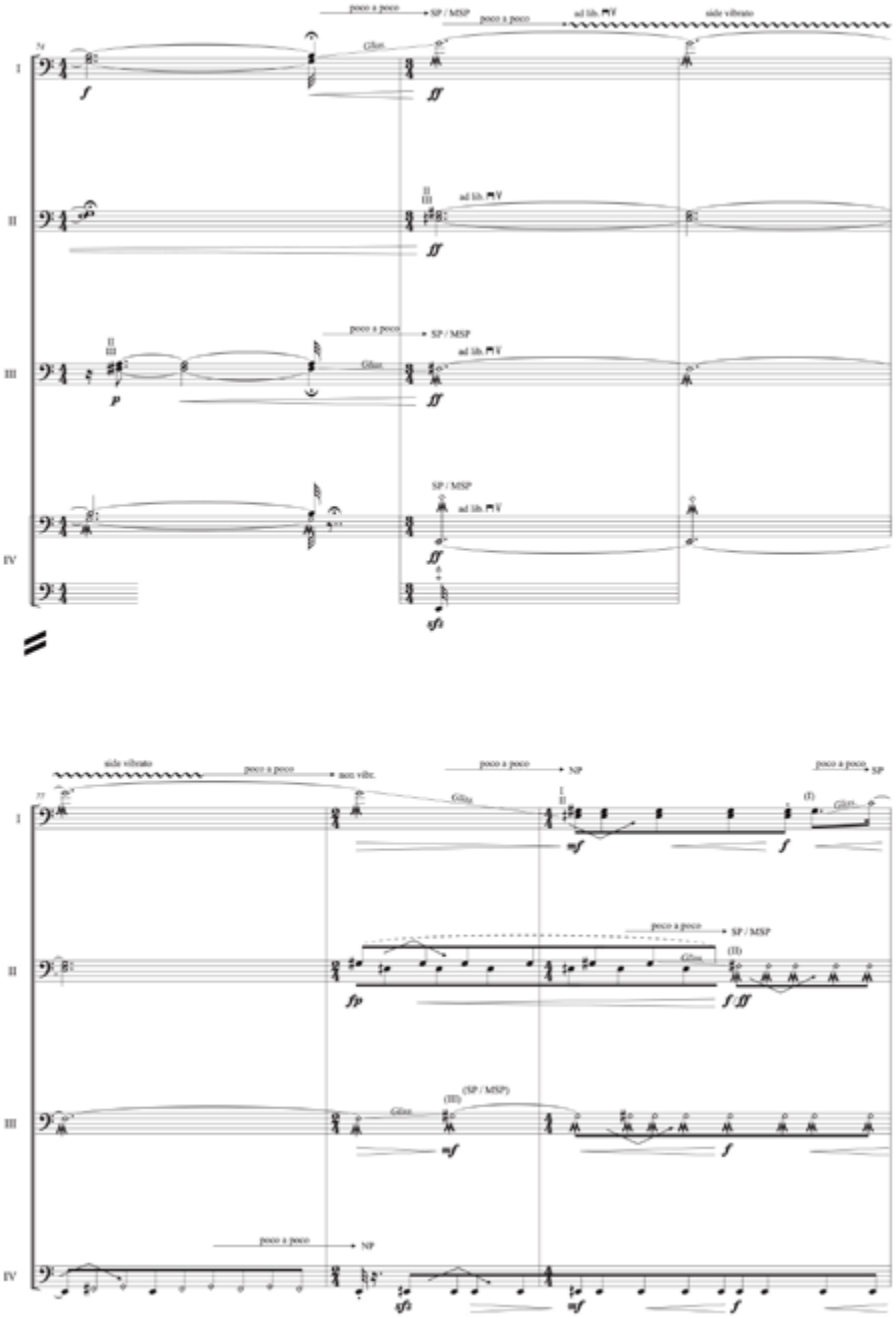
In the third section (mm. 65–74), a decisive structural pivot occurs, marked by a conflict that ceases to be an internal destabilization of G and instead becomes a layered coloristic relationship in which the pitch space is decentralized. The emergence of $B\flat_2$ (116.54 Hz) does not function as a superficial novelty but signals a paradigmatic shift – the focus moves from spectral centrifugality to timbral nuancing. This turn is initially articulated through the affirmation of $G\#_2$ in the first (and subsequently the second) double bass, which, unlike earlier appearances of new pitches, now emerges as a pure, autonomous tone. The dark timbre of B♭2 (m. 68), which thickens the space upward through transitional zones (A_2 /110 Hz/ and microintervals), alters the timbral character of the G-field, displacing the conflict from the level of spectral destabilization to that of timbre. The first double bass establishes the vertical relationship G–B♭, the second remains in the G#/F# zone as a residual area of preceding conflicts, while the fourth, through multiphonics and the sonority G#–B, introduces the first tertial relationship outside the G-field, thereby opening a new spectral space. In this transitional section a "modulation" from the G-field to the G#-field is articulated. The cadence in measure 74 confirms a state of layered stability in which G is no longer a hierarchical anchor but merely one stratum within a complex sonic system. Concurrently, G# acquires its own spectral identity, confirmed by the

multiphonic in the fourth double bass, whose partials ($D\#_6$, F_6, and A_6, mm. 72–74) radiate as the imprint of a new system. Thus, two coexistent gravitational fields are formed: the historical G-field and the new, still unstable G#-field, with equilibrium arising from their simultaneous existence rather than from resolution.

The entrance of E_1 in measure 75, accompanied by the emergence of multiphonics on the open E string, inaugurates a new formal and acoustic phase (Example 7).

E is not merely a new pitch but a fundamental that transforms the preceding sonic order: G and G# lose their hierarchical status, and earlier conflicts are reconfigured as resonant layers integrated within a deeper foundational stratum. The sound becomes vertical, extending from E_1 toward middle partials and high multiphonics and harmonics. Although E_1 functions as a physical anchor, the multiphonic relativizes the stability of this foundation, rendering it acoustically ambivalent. The third double bass activates the E spectrum through a multiphonic (radiating B_4, $D\#_5$, and a quarter-tone below $A\flat_5$), generating friction above the fundamental and activating E as a resonant field. Within this context, F# – the pitch upon which the multiphonic rests and which previously functioned as a source of conflict – loses its destabilizing role, becoming instead a residual energy within the system oriented toward E. The second double bass retains G# as a coloristic element in relation to E, without reinstating hierarchical tension. One of the most sophisticated gestures in this segment occurs in the first double bass, where a multiphonic on the second string radiates the pitches G_5, a quarter-tone above G_5, a quarter-tone above B_5, and a quarter-tone above G_6. The zones surrounding previous centers now appear as integrated partials of a single tone. The multiphonic functions as a document of sonic history: traces of earlier conflicts no longer operate as opposition but as internal dynamics within the vertical field. For the first time, the use of *side vibrato*[14] further controls resonance, allowing higher components to remain active without compromising the fundamental. In measures 77–85, consolidation occurs: earlier centers are transformed into layers of partials within E. The multiphonic in the fourth double bass (from m. 75), accompanied by harmonics, provides a pulsating foundation oscillating between E_1 and higher spectral tones, while the third double bass mediates between upper strata and the

[14] Side vibrato – rapid changes of vibrato amplitude and pressure on the string, but applied laterally (without pressing the string to the fingerboard) (score, p. 2).

Example 7: V. Korać, *Strings 0.4*, appearance of the pitch E_1, m. 75

fundamental, integrating G# as color. The migration of multiphonics among parts (mm. 75–82) confirms a new hierarchy in which G is reactivated (via the multiphonic present since m. 31) solely as an integrated nuance of the vertical system. Preceding conflicts are now understood as preparation for the establishment of E as an all-encompassing foundation.

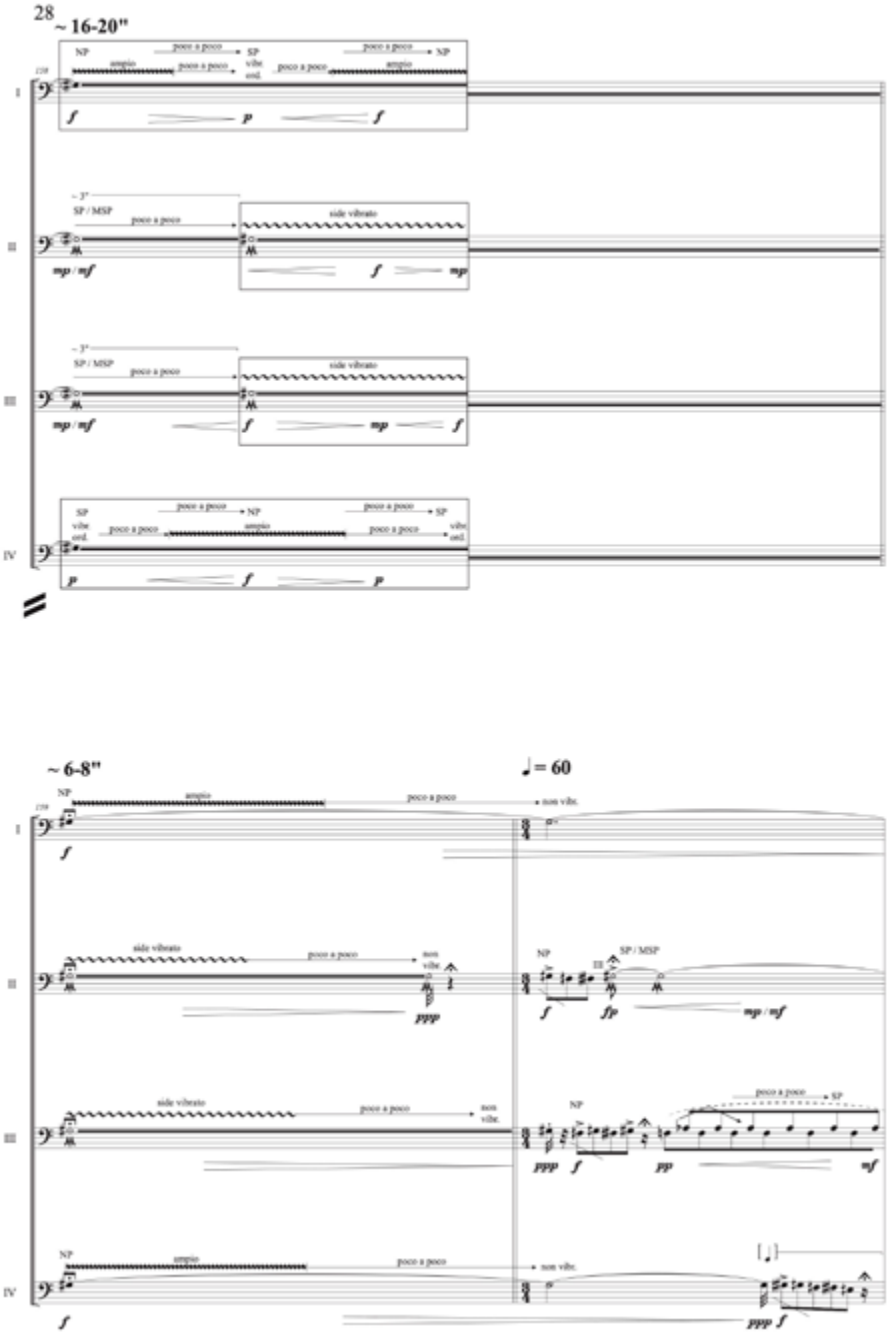
In mm. 82–88, earlier mechanisms (figurations) return, not to destabilize but to contribute to the stratification of the E-field. The partials of the first double bass (E_3, $C\#_4$, A_4, D_5) become shadows of past conflicts, while the quarter-tone above E_2 and $G\#_2$ in the fourth double bass function as a conceptual drone. From mm. 88–100, material circulates among the double basses: motives, partials, and multiphonics return without hierarchy; sound becomes a layered entity with its own internal life, wherein material is detached from its source. Formally, this signifies the material's maturity. It rotates without need for hierarchy or progression, testifying to a form that is stable yet not static. Linear time is transformed in this section into simultaneous acoustic duration, wherein each part carries an aspect of the same system. Particularly notable is the tone F_1 (43.65 Hz, mm. 98–100), which, in a low register with *ampio – non vibrato* and SP, acts as a shadow and pressure upon the E axis. It does not assume the role of center but partially undermines E, as demonstrated by the final verticality in measure 100, which summarizes the trajectory from the G-field, through F#, F, and G#, to E, without its ultimate affirmation. This verticality closes this developmental phase, yet without final resolution.

The section spanning mm. 101–159 represents a formally pivotal phase in the form of an extended zone of suspension, in which the sustainability of the system without its axis is examined. Although E had previously served as the structural center, it nearly completely withdraws here. Its place is temporarily occupied by G, G#, F, and F#, but without a new hierarchy, so the emergence of these pitches functions as an extension of the verticality from m. 100, lacking any stabilizing role. The section operates as a retrograde reflection, through which the form probes whether the system can persist without its own axis. Harmonics and multiphonics appear less frequently but more precisely, as carriers of latent tension, while E is no longer articulated as a height but persists in the form of a partial, an acoustic cause, or a shadow. In mm. 101–104, a secondary orbiting occurs without a clear axis. The first double bass evokes the earlier F/F# conflict, but now as an internal erosion rather than external destabilization. In the second double bass, G_2 – once the work's primary center – glides toward A_3 (220 Hz), but without a goal: no pitch becomes a center. The multiphonic containing the partial E_5 and a pitch

a quarter-tone below B_5 reflects the state of the system, confirming that E is present but without structural authority. The continuation of the F_1, gliding toward $F\#_2$, affirms that not even its closest "neighbor" can assume E's function. F does not orient toward E nor seek resolution, but instead glides into F# – the pitch that had previously functioned as a catalyst of conflict and a spectral destabilizer. The process of circumventing E concludes with a return to already exhausted material, confirming that only E possessed true structural weight. When F_1 appears, accented and rhythmically clearly profiled, it acts as an attempt to establish stability in the immediate proximity of the axis. Yet, the prolonged *molto vibrato* erodes this apparent solidity, and the glissando toward $F\#_2$ once again leads into a space devoid of developmental potential. Stability is revealed as illusion, and every attempt at consolidation ends in spectral instability.

In mm. 104–129, variants of figurations develop that "resolve" into prominent heights ($G\#_3$, A_3, $F\#_2$, $G\#_2$, and microtonal deviations). However, instability no longer drives development but becomes a permanent state. The process transforms from a functional impulse to a circulation of material: the field saturates around G# as a gravitational zone, rather than as a center. Grouped around it are G, A♭, A, F, and F#, while E appears indirectly, through multiphonics (m. 108, where a multiphonic emerges on the E string), as a spectral cause without clear articulation. The axis is present yet empty, with potential existing without realization. The E string, especially in the fourth double bass, serves almost exclusively for multiphonics and harmonics, while clearly articulated pitches in that register are $G\#_1$ and G_1. The insistence on G represents the last trace of the work's first center, but without stabilizing force. A rupture occurs in mm. 129–140, when E is articulated for the first time as an unambiguous real center. The vertical relations E–G# and G#–B form a precise pitch field within which G# is no longer an autonomous zone but a tertiary layer over E. Yet, the stability of the fundamental remains partial, as the space continues to be saturated with microtonal deviations. In the final segment (mm. 141–159), spectral contamination intensifies through more numerous, denser, and more closely related multiphonics, often distributed across the same strings in different double basses. The pitch inventory is relatively stable, but the hierarchy is suspended. E appears frequently – in tremolo with F# or in multiphonics as a partial – yet it rarely occurs as an isolated, clearly defined pitch. The concluding cadence (mm. 156–159) on G# with a multiphonic on G# condenses the entire preceding process (Example 8). A single tone exists simultaneously as a stable pitch and as a spectral cloud, articulating the work's fundamental conflict: pitch versus noise,

Example 8: V. Korać, *Strings 0.4*, cadence of the fifth section, mm. 158–159



center versus dispersion, identity versus contamination. The section spanning mm. 101–159 thus functions as an extended zone of examination in which the acoustic axis is suspended, former centers are reactivated without their power, development turns into circulation, and spectral pressure intensifies to the point of saturation. At the same time, it gradually reaffirms E_1 as the only pitch with true structural weight, while the final, self-referential gesture on G# remains a mirror of the entire dramaturgy – between the center and its shadow.

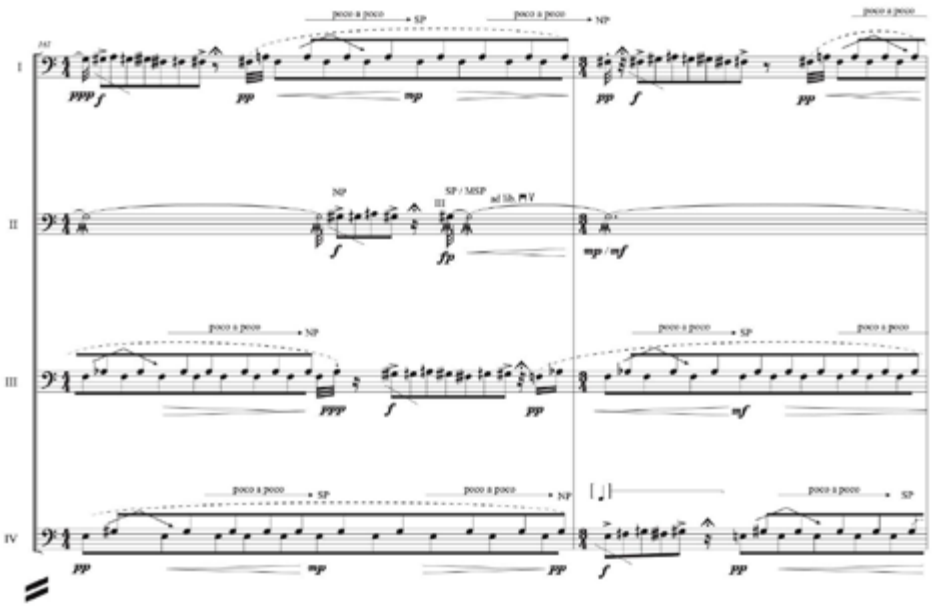
In mm. 160–176, the section grows organically out of the preceding phase and represents an internal transformation of an already established field. The pitch inventory, registers, and spectral relationships remain similar, but their internal organization changes.

Instead of spectral saturation and a conflict between a stable pitch and its stratification, a process of reorganizing the same material begins. A key sign of this change is the systematic alternation of two pitches in the double bass parts. A gesture that was previously fragmentary, microtonally blurred, and destabilized by tremolos and spectral "interferences"[15] now forms a network of tertian relations (Example 9). Instead of isolated impulses, a pattern is established, and instead of destabilization, a principle of structural organization emerges. This network can be understood as a processual spectral "harmonization": vertical organization exists, but without a closed chord and without resolution. The tertian relations arise from the earlier spectral densification. What had existed as a partial or a microtonal shadow now becomes a clear intervallic unit.

Full stabilization nevertheless fails to occur because of the role of G#. Although E appears with increasing frequency as the lower member of the third (E–G#), it is precisely G# that maintains the openness of the space, simultaneously confirming and postponing the consolidation of E. The conflict between pitch and noise is attenuated, multiphonics are rarer or function as a background timbre, yet hierarchy has still not been definitively established. This is why, in mm. 172–176, a brief but decisive phase of reduction occurs: the alternations in thirds narrow to the relations G#–B and G–B♭, and the multiphonic becomes a stabilized spectral frame. In this context, E_1 appears in its most stable form so far – as a quiet fundament (*ppp*, m. 173), with its stability arising from the calming of the system rather than from imposition. Previously, E had to "prove itself" – through conflict, through

[15] Hermann von Helmholtz, op. cit., 160.

absence, through spectral struggle with competing pitches. This is no longer necessary, so it does not suppress other pitches but instead integrates them. Stabilization is also accompanied by a slowing of musical time. Longer durations, slower changes, softer dynamics, and restrained articulation allow E to be perceived as a gravitational axis rather than as a momentary event. In this way, the process initiated by the suspension of the center in m. 101 is resolved: the testing of survival without a center ends with a quiet yet firm establishment of that center. The section spanning mm. 160–176 thus represents a final phase of consolidation, in which the material is reorganized and reduced to the point where E can function as a stable fundamental. Spectral harmonization through parallel thirds opens the space, reduction focuses it, and the slowing of time enables its final anchoring.

Example 9: V. Korać, *Strings 0.4*, a network of third-based relationships, mm. 161–162

From m. 177 onward, a final multi-phase process begins in which E_1 is constituted as the center in both a spectral and a perceptual sense. The very need for a temporally-extended stabilization already indicates a center that is not proclaimed but constructed through the integration of preceding tensions.

In the first phase, E and G# are the most prominent pitches, emphasized through duration and dynamics, with G# functioning as a resonant color and

an extension of the center. A special role in this legitimation is played by the multiphonic on the open E string, which for the first time clearly unifies the functions of cause and result: E functions simultaneously as the generator of its partials and their acoustic center, thereby granting the central pitch both physical and sonic validation. The appearance of F_1 (m. 184) does not open a new conflict but tests the boundary of stability. The semitone relation E–F, as well as the quarter-tone above E, no longer produces destructive tension. E remains present through a stable multiphonic and demonstrates the ability to absorb the closest possible pressure without loss of identity. Additional dramaturgical weight is provided by the fact that the anchoring occurs on the E string of all four double basses (mm. 184–194), so that the center is not only heard but also physically grounded in the performative gesture, with all instruments converging on the same sonic point. In the second phase (mm. 189–194), E remains the center, but in a complex, spectrally-enriched form. Its partials – E and B in different octaves, as well as G# – consolidate its identity, into which microtonal tensions are also integrated. E now possesses duration, dynamic presence, and physical authority, and the quarter-tone edge remains controlled, producing balance rather than a dramatic resolution. The third phase (mm. 195–201) introduces D_2 (73.41 Hz), which functions as a lower boundary and a sub-spectral shadow of E. The multiphonic on D (m. 196) does not construct its own spectrum, but rather opens a resonant space beneath the center E, recalling elements of earlier tensions. D thus deepens E's gravitational field, confirming its strength through the ability to bear instability from below.

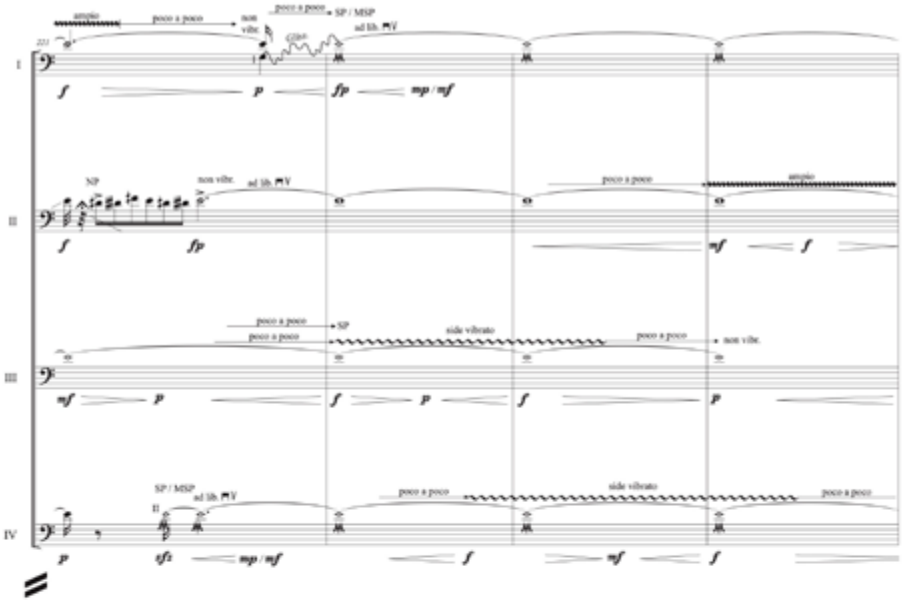
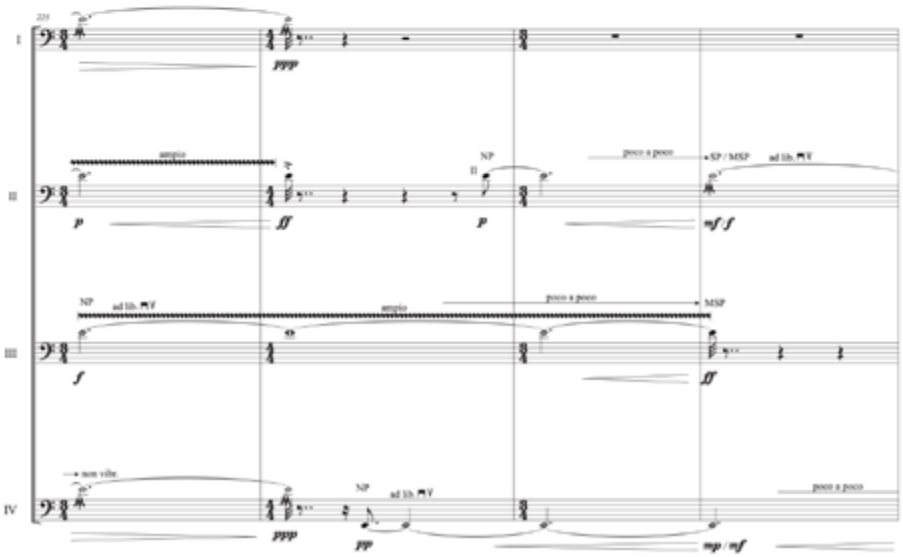
In mm. 201–211, which mark the fourth phase of anchoring, the various processes converge as what previously approached "from above" (G#, F) and "from below" (D) flows into the spectrum of E. The transition of all instruments to the fourth (E) string is crucial, as it carries the idea of sonic homogenization by erasing the earlier registral differentiation. E becomes the sounding substance into which everything is drawn, whose stability arises from a shared performative gesture. This degree of homogeneity, however, cannot be sustained for long. The segment in mm. 209–217 brings a brief, controlled blurring: figurations, spectral fissures, and the return of F_2 (m. 214) function as a reminiscence of earlier conflicts. A quarter-tone above F_2 represents an unsuccessful attempt at resolution toward G, which has long since lost its structural significance. At this point, E is constantly present as a sonic gravitation, and this through multiphonics. This final blurring has a threefold role. First, it acts retrospectively, recalling and condensing the pre-

ceding phases of development. Second, on a psychological level, it mitigates the possibility of an overly clean and abrupt ending, preserving a trace of inner tension. Finally, on the formal level, it separates the act of anchoring from the act of calming, thereby granting the ending on E a convincing, organic character. In the final phase (mm. 218–236), E is confirmed in multiple ways: as a full pitch emphasized by duration, dynamics, and articulation, as a harmonic, as part of a multiphonic, and as a *side vibrato* (Example 10). The material is reduced, yet nuanced in timbre, dynamics, and microintervallic deviations. The rotation of material within a limited space constitutes a formal gesture of closure: no hierarchy among parts remains, the sound is collective and spatially distributed. The final stabilization produces a state of duration and equilibrium as the goal toward which the work has been striving. After a prolonged examination of the center's boundaries, the composition thus does not end in an explosion, but in a quiet yet unwavering remaining in E.

The composition *Strings 0.4* unfolds as a continuous process of transformation of the sonic field, with an initial, hierarchically-ambiguous center G as a spectral zone, timbrally destabilized and relativized through G#, and ultimately vertically integrated and reinterpreted within the deeper acoustic framework of E as the work's fundament. The first two centers function as provisional gravitational zones whose stability is under constant scrutiny, while E gradually assumes the role of the only truly viable structural axis. E appears as the result of a prolonged examination of stability, conflict, and the absorption of tension. The affirmation of the fundament arises from the integration of the preceding centers, which remain present as partial layers within its field.

The work deliberately remains below the threshold of complete harmonic coherence, in an intermediate space between pitch, spectrum, and noise. In this sense, the composition constitutes a consistent and systematic exploration of the sonic limits of the double bass, in which performance technique, the acoustic properties of the instrument, and formal dramaturgy are inextricably linked. Inharmonicity, microtonality, extended duration, and spectral instability do not function as effects or coloristic additions, but as fundamental bearers of musical thought and structure. The composition does not strive for traditional resolution, but for the maintenance of a tense yet stably controlled spectral state in which even the smallest change in sound production gains structural significance. Sound is thus not treated as a means, but as a process – as a space in which form and perception continually condi-

Example 10: V. Korać, *Strings 0.4*, final phase of anchoring in E, mm. 221–228



tion one another. This form is shaped as an evolution of the center. The key compositional procedure is the avoidance of abrupt cuts: each new center arises from the inner logic of the previous one. This creates an organic continuity in which development is not linear but spiral, with constant returns of the same material in a new acoustic context. This procedure is grounded in the transformation of internal relations within the same material, whereby development unfolds through spectral densification, destabilization, assimilation, and eventual anchoring. The work's underlying idea rests on the conception of tone as process and of center as an acoustic field that is constructed over time. The composition can thus be understood as a study of the perception of center – not as a pre-given point of support, but as an experience that is formed through time.

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Summary

The composition *Strings 0.4* (*Žice 0.4*) by Vladimir Korać for double bass quartet (2025) is based on a systematic exploration of the instrument's sonic possibilities, with particular emphasis on the phenomenon of multiphonics and the spectral organization of sound. Rather than relying on programmatic or narrative elements, the work focuses on the internal structure of sound and on the ways in which different acoustic parameters can be shaped and developed over time. In this sense, sound is not treated merely as a medium of musical expression but becomes the primary building block of

form and the central carrier of the entire musical process. The compositional approach begins with the consideration of tone as a complex acoustic phenomenon. Each pitch contains a fundamental frequency as well as a series of harmonic and inharmonic partials that determine its timbral character and spectral density. In this composition, these elements are treated as a malleable material that undergoes gradual transformation, with particular attention directed toward their interrelationships and the changes occurring within the sonic spectrum. Through slow and progressive developmental processes, the listener is able to perceive subtle shifts in timbre as well as the gradual emergence of new textural layers.

The double bass quartet functions as a space for acoustic exploration. Various performance techniques enable the isolation of specific partials and the highlighting of particular spectral characteristics of the instrument. Through the interaction of the four instruments, complex sonic structures emerge in which spectral layers may overlap, complement one another, or undergo gradual transformation. This organization of material results in a musical form that evolves directly from the internal processes of sound itself, rather than from traditional melodic or harmonic models. Extended sonic events and gradual transformations allow the listener to focus on subtle acoustic differences, thereby heightening the awareness of the internal dynamics of sound. In this context, the composition can be understood as a process of listening in which musical meaning unfolds through the gradual recognition of changes in spectrum and texture. Through this conceptual framework, *Strings 0.4* explores the potential of the double bass as a source of rich spectral structures. The work thus shifts the focus from traditional parameters such as melody and harmony toward the sonic material itself, emphasizing its complexity, fluidity, and perceptual potential. In this way, the composition constructs a musical space in which timbre, texture, and gradual acoustic transformations become the primary carriers of artistic meaning.

REVIEWS

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The 17th International Conference of the Department of Musicology at the Faculty of Music in Belgrade – *Music in Socio-Cultural Turmoil* (29–31 October 2025)

The 17th traditional biennial international conference of the Department of Musicology at the Faculty of Music in Belgrade – *Music in Socio-Cultural Turmoil* – took place from 29 to 31 October 2025. Current social, cultural, and geopolitical developments formed one of the broader thematic frameworks of the conference, providing the space for examining the complex relationship between music and society and asking questions about "how music corresponds with social processes", "how the participants of the musical ecosystem respond to the pulsation of time", and "whether paradigmatic changes in the history of music (almost) always corresponded to social changes".

The formal hall of the Rector's Office at the University of Arts and its Rector's Hall hosted a total of eight sessions under the following headings: "Music and Society: Mediating Values and Change"; "Protest Tracks: When Songs become Weapons"; "Turmoil and Paradigm Shifts"; "Musical Testimonies of Crisis and Transformation"; "Music between Debate and Danger"; "Music, Ideology, and Institutions in Turmoil"; "Music in Transition: Identities, Ideologies, and Innovations"; "Music in Shaping Cultural, Educational, and Political Identities". These headings comprised, among other topics, those relating to music and politics, philosophy, sociology and his-

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tory, as well as issues pertaining to the status of musical institutions, orchestras, and digital musical archives in the context of Europe, and the creative poetics of authors espousing various stylistic frameworks. The sessions were chaired by professors from the Department of Musicology: Ivana Perković, Marija Masnikosa, Dragana Stojanović-Novičić, Biljana Leković, Stefan Cvetković, and Radoš Mitrović.

The proceedings opened with introductory keynote addresses delivered by Prof. Mirjana Nikolić, Rector of the University of Arts; Prof. Srđan Teparić, vice-dean for scholarly research at the Faculty of Music; and Prof. Ivana Perković, Chair of the Department of Musicology at the Faculty of Music and member of the conference's Organizing Committee, and proceeded with thirty-minute presentations by the participants. The entire gathering unfolded in a pleasant atmosphere and overall tone, leaving enough room for spontaneous, relaxed, and inspiring talks during the coffee and lunch breaks.

The participants – scholars and researchers – that is, their explorations and presentations encompassed in their approaches a broad range of historical and contemporary, local and global musical practices. In addition to providing insight into the multifaceted discourse on music amid cultural and social turmoil, the conference's comprehensive and interdisciplinary approach made it a forum for multilayered and provocative enquiries and discussions, with musical examples from diverse traditions – in classical and popular music genres alike. These practices were surveyed through the lens of cultural, social, political, and economic circumstances that shape and multiply their meanings, roles, and functions, reflecting thereby the complex processes through which music, in the broadest sense, participates in the development and formation of human civilization.

The keynote speakers at this, 17th conference, Prof. Paul Craenen from the Royal Conservatory in The Hague; Dr. Dario Martinelli, professor of the history and theory of art at the Kaunas University of Technology in Lithuania; and Dr. Juha Ojala, professor of music performance research at the Sibelius Academy's doctoral programme at the University of the Arts Helsinki, gave plenary talks on the following subjects: "Where is responsibility in music's ambiguity?"; "Ideologies are (un)dead: left and right as a cultural models in political songs"; and "Musical praxis as creation of virtual worlds". Substituting for Prof. Georgina Born from the department of anthropology at University College London, who was also planned as a keynote speaker but had to cancel due to illness, Prof. Rolf Bäcker of the Catalonia College of Music organized and led a discussion on artificial intelligence in musicology and higher education in music.

The keynote speakers' presentations opened numerous perspectives on reading the place and positioning of music – from ancient times via watershed moments in the history and culture of the 19th century to contemporary musical expressions, the performativity and role of music in activism, as well as songs that

changed the world and reshaped narratives in music and society. The programming of concerts of western European art music, to paraphrase Prof. Craenen, constitutes a sort of political act and has its import, meaning, and messages, apart from calling for a rethinking of the very autonomy of that art. Who stands to the left and why, who stands to the right, and what in that context Giorgio Gaber's Italian hit *Destra-sinistra* represents was memorable precisely because it seduced us with its musical content, while its basis was informed by important questions. However, this was not the only coupling of music and politics – Prof. Ojala presented us with his own vision, stressing that musical practice enables a safe domain for playing, testing, and thinking about possible changes in the real world, and that analysing, that is, perceiving and interpreting the signs of subjective experiences and social aspects presented in music provides a significant contribution to performance practice.[1]

Over the course of eight sessions, reflections on music bounced off between its roles in social, cultural, and political shifts and its power as a tool of protest, artistic activism, and a witness to crises. From analysing musical practices through history in Oleksandr Okhrimenko's presentation on changes in the musical landscape of the 13th century, via the artistic responses to social turbulences explored by Jovana Vukosavljević, Biljana Leković, and Radoš Mitrović, to Rachel Johnson's discussion of military music in her presentation and Maria Semi's consideration of the aesthetic of musical practice in "dangerous places", the topics covered a wide range of roles that music assumes in the formation and reflection of social turbulences. Also, in her discussion, Lucy Abrams-Husso addressed the change in contemporary music interpretation and American orchestras during the 1980s, with a special focus on the commercialization of music.

The conference also included a dissemination event of the IN.TUNE alliance, a proud member of which is the Faculty of Music in Belgrade. Under the auspices of its two-day programme, the Hungarian violinist Eszter Haffner gave a masterclass at the Adventist Church in Belgrade. The audience then had the opportunity to enjoy two concerts featuring works by Damjan Jovičin, Frederic Rzewski, a group of Romanian contemporary composers, and Michael Pisaro, hosted in the auditorium of the Composers' Association of Serbia, alongside Damjan Jovičin, by his friends and students from the Faculty of Music, as well as Nataša Penezić and Adriana Toacsen. Particular attention was drawn to a two-hour panel titled *Reimagining Society through Innovative University Cooperation in Music and the Arts*, which took place on October 30th, featuring the domestic and international participants of this unique European alliance dedicated to art and music. The speakers included Cristina Cubells and Alex Tentor, whose talk, titled *Politics in Open Score*, presented the complex theoretical frameworks of the

[1] See the conference website: https://musicinturmoil.wixsite.com/msct/post/musical-praxis-as-creation-of-virtual-worlds.

relations between politics, society, music, and interpretation. The very spirit of the IN.TUNE alliance reminded us that this was an idea born out of a need for a response to contemporary social and cultural shifts – an idea that connects artistic and educational institutions across Europe in search for new models of understanding and cooperation in contemporary academic communities.

These elements were all reasons why the 17th international conference of the Department of Musicology went rather successfully, leaving in its wake questions, images, and memories including, whether by accident or not, a quotation from the final slide of Dario Martinelli's presentation: "Politics of music is the art of living together".

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Prof. Dr. Ana Stefanović and Prof. Dr. Dragana Stojanović-Novičić (editors), *Interpreting of/through/by/in Music*, Belgrade
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The collective monograph *Interpreting of/through/by/in Music*, edited by Ana Stefanović, Ph.D., and Dragana Stojanović-Novičić, Ph.D., and published in 2023 by the Department of Musicology at the Faculty of Music, University of Arts in Belgrade, represents a profound contribution to the contemporary resurgence of musical hermeneutics. This comprehensive volume emerged from the scholarly dialogues initiated at the conference *Music – Musicology – Interpretation*, held in Belgrade from October 21 to 23, 2021. The monograph is published in English.

Structurally, the book is meticulously organized into seven thematic chapters encompassing twenty-three diverse contributions, framed by an insightful editorial preface and concluding with the biographies of the contributing authors. At its core, the monograph investigates the multidimensional mechanisms of meaning-making across methodological, poetic, and performative domains. The contributors conceptualize musical interpretation as a continuous, dynamic chain of mediation that inextricably links the lived world, the structural anatomy of the score, its performative actualization, and its subsequent scholarly reception. Navigating the dialectic between subjectivity and objectivity, the volume strongly advocates for an epistemological reconciliation between formal structural explanation and hermeneutic understanding, frequently utilizing concepts such as metaphor and narrativity. Ultimately, this publication succeeds in repositioning musical performance not as a static, acoustic reproduction of a musical text, but as a transformative, socioculturally situated act of appropriation that is essential to the ontological realiza-

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tion of the musical work. As such, it provides a vital theoretical framework for modern musicological discourse and lays a robust foundation for the essays that follow.

The opening chapter, *Interpreting of/through/by Music*, comprises contributions that critically theorize the multifaceted concept of interpretation, conceptualizing it as an act performed upon music, mediated through music, and enacted by music itself. In his study "Classical music as interpretation", Lawrence Kramer explores three interconnected modes of interpreting classical music: through verbal description, performance practice, and the intrinsic capacity of music itself to interpret other concepts and media. By analyzing Liszt's compositions on the theme of "Mazeppa" alongside related literary and visual works, the author demonstrates that musical meaning is continuously generated and transformed through the dynamic interaction of diverse artistic forms. Robert S. Hatten's contribution "Toward a speculative hermeneutics of music" establishes the concept of a speculative musical hermeneutics grounded in the expressive motivations of formal structures, defending this approach against exclusively empirical methods of interpreting musical emotions. Through case studies of works by Mozart and Bach, the author demonstrates how an analytical understanding of musical topics, gestures, and structural play directly contributes to a deeper interpretation and a more meaningful performance practice. In her paper "Music as metaphor and narrative in music drama", Ana Stefanović proposes a hermeneutical approach to the relationship between music and text in music drama, introducing the concept of the "living musical metaphor" inspired by the philosophy of Paul Ricœur. Within this theoretical framework, the author demonstrates how music generates new meanings and reshapes familiar narrative models, whereby the interpretive character of music manifests through its capacities to metaphorize and to narrate.

The second chapter, entitled *Interpreting Music of/by Unconscious, Fantastic, Mystical* unites contributions that explore the musical manifestation of the unconscious, the fantastic, and the mystical, while simultaneously examining how music can be interpreted through these conceptual lenses. This thematic framework is systematically developed through four distinct studies. Thus, in her study "'Art belongs to the unconscious': The 'night' topos and Arnold Schönberg's attempt at musical renewal", Ellen Fryberg draws upon the hermeneutic concept of "worldview music" (*Weltanschauungsmusik*) to demonstrate that Arnold Schönberg found the vital catalysts for the transformation and renewal of his musical language within the Romantic topos of the "night". Drawing upon Paul Ricœur's theory of interpretation, in her essay "Fantastic landscapes of interpreting music", Tijana Popović Mlađenović explores how creative performance and analytical reading transcend the fixed musical score, constructing a musical meaning that operates independently of the composer's initial intention. Using

Vasilije Mokranjac's piano work *Odjeci* (*Echoes*) as a case study, the author demonstrates that the autonomy of the musical text facilitates diverse "crystallizations" of its structure, thereby generating the "ever-changing, fantastic landscapes" of the musical flow. Violetta Kostka's article "Stylistic blends which emerge while listening to Paweł Szymański's *Singletrack* for piano" draws upon conceptual blending theory to probe cognitive responses to polystylism, questioning whether compositions deliberately engineered as polystylistic trigger stylistic blends within the listener's perception, and she examines the specific manifestations of such cognitive phenomena. In "The sound that melts the walls: Djuro Živković between Nikiphoros the Monk and Gilles Deleuze", Miloš Zatkalik delves into the spiritual dimensions of Živković's composition *On the Guarding of the Heart* and establishes a profound theoretical bridge between the Eastern Orthodox doctrine of *philokalia* and the philosophical concepts of Gilles Deleuze.

Building upon the preceding thematic trajectory, the third chapter, *Interpreting Music of/by Myth*, narrows its hermeneutic focus to the dialectic between music and myth. It examines both the musical translation of mythical narratives and the exegesis of musical works through their embedded mythological content. In her article "*L'adorable arabesque totale, que me veux-tu?* The journey of *circular motion*: from the *periphery* to the *center of meaning* of Claude Debussy's musical work *Syrinx*", Ivana Petković-Lozo analyzes Debussy's composition through the conceptual lens of interpretation as a "circular motion", positing a spiral hermeneutic trajectory that progressively guides the listener from the periphery toward the elusive semantic core of the work. In "A possible perspective of musical hermeneutics: a Jungian interpretation of *Daphnis et Chloé* by Maurice Ravel", Milica Lazarević applies Carl Gustav Jung's model of the psyche to the ballet's architecture. She interprets the musico-dramatic structure not merely as a narrative accompaniment, but as the manifestation of a comprehensive "conscious-unconscious whole". Drawing upon concepts from Gaston Bachelard's *The Psychoanalysis of Fire*, Marija Simonović's paper "*Imagination of fire* and the possibility of its interpretation in the work *Prometheus: the poem of fire* by Alexander Scriabin" explores the artistic imagination of fire within Scriabin's composition, analyzing it as a complex synesthetic metaphor of music and color. In her paper "*Sounding through the hollow reeds*: the *aeolian flute sound* as a reference to the myth of Pan and Syrinx", Marija Tomić elaborates on the use of the extended aeolian sound technique in flute compositions by Serbian composers (Zoran Erić, Ivana Stefanović, and Vuk Kulenović) as a sonic reference to the proto-sound from the myth of Pan and Syrinx. Drawing upon Mircea Eliade's concept of the "eternal return", the author demonstrates how this approach recreates the very genesis of the instrument, evoking a re-entry into primordial, mythical time.

The next chapter, entitled *Interpreting Musical Languages in History*, shifts the analytical focus toward historical contextualization, examining the evolution, theoretical foundations, and cross-cultural transmission of musical languages. This thematic scope is explored through two distinct historical and theoretical frameworks. In her study "Tonal cohesion as an elementary/inevitable phenomenon in the theoretical/compositional aesthetics of Vlastimir Peričić", Dragana Stojanović-Novičić examines the theoretical and aesthetic paradigms of the Serbian composer, highlighting his conviction that even twentieth-century music necessitates a foundation within a broadly conceived tonal system. By meticulously reconstructing the complex network of his stylistic orientations and compositional poetics, the author contextualizes the multifaceted and highly productive nature of Peričić's musical identity. In her study "Serbian chant as an indicator of Russo-Serbian cultural relations in the eighteenth century", Marina Marković investigates how Russo-Serbian cultural ties during the eighteenth century facilitated the incorporation of Kievan chant elements into the liturgical practices of the Serbian Orthodox Church. By analyzing the education of Serbs at the Kyiv-Mohyla Academy and the circulation of liturgical texts, the author elucidates how this tradition permanently shaped the formal structure and musical substance of Serbian church chanting.

The fifth chapter, *Interpreting Music in Film, Television and Digital Media*, broadens the scope of hermeneutic inquiry to encompass screen media and digital ecosystems, examining the semiotic and narrative functions of music across cinema, television, and contemporary streaming platforms. In her contribution "Les chansons des films grecs: Une expression de joie, de tristesse et… d'espoir!", Kalliopi Stigka investigates the semantic function of cinematic scores composed by Manos Hatzidakis, Alecos Alexandrakis, and Mikis Theodorakis, specifically focusing on how the principal songs of these Greek films transcend their immediate audiovisual context to become deeply embedded within the collective cultural memory. In her paper "Paolo Sorrentino's sound visions – the role of music in the television series *The Young Pope* and *The New Pope*", Biljana Leković investigates how an eclectic soundtrack participates in narrative construction and the portrayal of the principal characters in Paolo Sorrentino's television series. By analyzing the synthesis of Lele Marchitelli's original score with a diverse array of appropriated musical genres, the author demonstrates that the music in these productions transcends a mere auditory backdrop and functions as a pivotal element that actively generates and enhances the semantic depth of each scene. Through the examination of prominent streaming ecosystems – namely Deezer, Spotify, Apple Music, and YouBox – in her study "Internet music platforms and streaming services audience – creators, performers and interpreters of new music mass media narratives", Marija M. Karan elucidates the

complex, interactive correlation between contemporary online music media and the evolving roles of the internet audience as both consumers and active interpreters of new media narratives.

The next chapter, *Interpreting of/in Music Performance*, shifts the discourse toward the pragmatic and interpretive dimensions of musical execution. In his article "Preparing the Serbian edition of *The Art of Playing on the Violin* by Francesco Geminiani – expressiveness of intonation and fingering", Rastko Popović addresses the editorial complexities of translating and preparing Geminiani's seminal treatise, illustrating how specific intonation and fingering choices serve to unlock the expressive capacities inherent in eighteenth-century performance practice. In her study "The triangulated narrator of opera fantasia performance", Rachel Becker explores late nineteenth-century Italian opera fantasias for woodwind instruments, demonstrating that these works transcend mere virtuosic medleys and function instead as deliberate commentaries on their source operas. Through the concept of a "triangulated narrator" connecting the performer, composer, and character, the author elucidates how instrumental "vocality" facilitates the unfolding of a new, autonomous narrative trajectory that diverges from the original operatic plot. In "Expressive features as means to revealing the structure within the process of memorizing Luciano Berio's *Sonata per pianoforte solo*", Nataša Penezić evaluates the mnemonic function of pedal and tempo indications. She introduces the cognitive framework of "performance cues", demonstrating how these expressive markers enable the performer to construct a coherent "mental map" of the piece's complex architectural structure. Katerina Diakoumopoulou investigates the "Theater of Achievable" method developed by Greek director and composer Kostas Gakis, wherein sound and music serve as the fundamental point of departure for both actor training and stage direction. Through the process of musicalizing the dramaturgy, the author demonstrates in her study "'Theater of Achievable' of performance-maker Kostas Gakis: the notable works of speech and sound" how this approach emancipates actors from the dominance of the text, thereby cultivating authentic emotion and generating performative hybrids that inextricably fuse theater, music, and dance. Finally, Michał Łukowicz explores the inherent mutability of popular music in his paper "A song as a performance. About the opportunities and threats posed by the plasticity of popular music pieces". By analyzing divergent interpretations of Wojciech Młynarski's song *Jeszcze w zielone gramy* (*We are still playing green*), Łukowicz expands the academic discourse on "song performativity", scrutinizing the intricate interplay between verbal texts, musical structures, and broader historical and performative contexts.

The final chapter of the book, *Interpreting Music in Musicological Discourses*, brings the monograph's overarching narrative full circle by returning to the foundational epistemic questions raised at the outset. Drawing upon an analysis of the

online database "Digital Resources in Musicology", in her study "'Digital resources in musicology' and its potential for musicological interpretation", Sanela Nikolić demonstrates that digital musicology has successfully navigated the initial phase of mass digitization regarding musical scores and audio recordings. However, the author concludes that the cultivation of a critical posture toward further operability, standardization, and analytical tools is now imperative if these vast datasets are to become genuinely viable for the broader scholarly community within the framework of "Big Musicology". Nitta Takayuki advances a novel historiographical and analytical approach in "The rhetoric of musical discourse: toward the tropological project of a critical history". He proposes a tropological reading of musicological discourse, establishing a critical epistemological differentiation between the inherently metaphorical nature of structural musical analysis and the metonymic character that defines the sociology of music.

Ultimately, the collective monograph *Interpreting of/through/by/in Music* establishes an important theoretical edition that fundamentally enriches the contemporary landscape of musical hermeneutics. By illuminating the multidimensional mechanisms of meaning-making, this invaluable collection provides an indispensable conceptual foundation that will inspire and guide future generations of musicologists and scholars in their ongoing quest to decode the complex ontology of the musical arts.

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Marina Frolova Walker and Jonathan Walker,
***Shostakovich's Symphony No. 5*, Oxford and New York,**
Oxford University Press, 2024, 194 pp.
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When Richard Taruskin discussed Shostakovich's Fifth Symphony in his *Defining Russia Musically*, he struggled with interpretation. "What constrains interpretation? What validates or invalidates a reading? What, finally, does the symphony mean?", he asked; "Answers can […] only be deduced from practice and from the specific case".[1] Taruskin was troubled by the critical tension inherent in the various claims to "ownership" of interpreting the Fifth Symphony, with its ongoing "inscription and reinscription" following the dissolution of the Soviet Union, at a time when rights of interpretation had just started to be handed back from the Party to the individual.[2] Taruskin insisted that a valid interpretation must be historically informed, with arguments grounded and carefully balanced. *Shostakovich's Symphony No. 5* by Marina Frolova-Walker and Jonathan Walker clearly adheres to this belief by negotiating the many complex narratives that have arisen about the work. They also offer a dedicated website for audio examples that provide the reader with the opportunity to make direct comparisons of the available recordings.

The first chapter charts the prehistory of the Fifth Symphony, beginning with the 1936 *Pravda* article denouncing Shostakovich's opera *Lady Macbeth of Mtsensk*, Op. 29 (1932), which prompted him to postpone the planned première of his Fourth Symphony. The startling stylistic contrast between the modernist Fourth and the realist Fifth Symphonies signals the fact that the latter indeed marks a crucial stylistic turn for Shostakovich, likely facilitating his subsequent rehabilitation. In Chapter Two, "Musical Contexts", Walker & Walker trace the

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[1] Richard Taruskin, *Defining Russia Musically. Historical and Hermeneutical Essays*, Princeton, Princeton University Press, 1997, 521.

[2] Ibid.

works that exerted a possible musical influence on Shostakovich, from the Austro-German symphonic tradition of Beethoven and Mahler to the contemporary styles of Paul Hindemith and Ernst Krenek. Chapter Three paints an intricate picture of the relationship between the Russian intelligentsia and the Revolution. It questions to what extent Shostakovich himself was an "intelligent" protagonist of the entire symphony, and how its early reception followed the narrative of the critic Alexey Tolstoy, who interpreted the symphony as depicting "the individual reaching maturity within society" (p. 68). Chapter Four investigates how performance practices have been linked with the critical reception of the Finale's coda. Leonard Bernstein and Yevgeny Mravinsky chose two different tempi – the former fast and jubilant, the latter slow and tragic – both of which were approved by the composer. Just how fast should it be? Should the composer have the final say on making such decisions? Shostakovich was open to different renderings. Initial critics were hesitant to defend him because of the *Pravda* article and the ongoing Great Purge, until Tolstoy effusively praised the symphony about a month later, arguably reflecting a reading in line with Party thinking, with the symphony as an "optimistic tragedy" serving the mainstream ideology of socialist realism. Shostakovich grasped this opportunity, repeating the same narrative as a political shield.

The relationship between the individual and the collective in socialist realist Russia forms an underlying theme of the book, which is most explicitly discussed in Chapters Three and Five. In the fifth chapter, the Walkers return to the Finale's coda, a "triumph formula" as they call it, to rethink this fraught relationship, yet it is again a matter of interpretation. The coda can variously signify a "hard-won victory" (p. 106) or a "gnostic, personal statement" (p. 119). The same "formula" even appeared in Shostakovich's film music for *The Great Citizen* (1938) and later compositions. Here again, the Walkers remain open to various interpretations.

This openness can appear overcautious. For Shostakovich and many sympathisers, the Beethovenian tradition is more at stake here. The mature Shostakovich, says Taruskin, was indeed a Russian *intelligent*, a "civic" artist whose artistic inspiration was not based on "alineation" (as with Western Modernism) but on "service".[3] The many possible readings of the Fifth Symphony are symptomatic of a composer who struggled to balance both public service under socialist realism and personal needs under harsh circumstances. Chapter Three considers the relationship between Soviet literature and music, in light of which the Fifth Symphony can be seen as a prototype of musical socialist realism comparable to the Soviet *Bildungsroman*, such as Nikolai Ostrovsky's *How the Steel was Tempered* (1934). In this reading, the Fifth offers a hard-won, heroic classicism that enables its composer as an individual *in extremis* to find expression in the collective according to the ideals of the Party.

[3] Richard Taruskin, op. cit., 496.

The emergence of new archival sources, however, offers a challenge to the overarching heroic narrative discussed in the first five chapters. Chapter Six describes Alexander Benditsky's discovery of a "secret programme" in the Symphony, namely a love affair between Shostakovich and a student called variously Lala or Elena, whose name is embedded in a monogram of pitches in the work similar to Shostakovich's use of his own motto DSCH and other monograms in his later oeuvre. More strikingly, the Walkers' thorough analysis of each movement reveals that the symphony was "profoundly imbued with the music of Bizet's *Carmen*" (p. 127). Instead of endeavouring to resolve these competing interpretations, the Walkers acknowledge both the public and private spheres of the Symphony, with no single narrative cancelling out any other. Yet this also returns us to Taruskin's questions at the beginning: if the Fifth Symphony indeed "remains an open book" (p. 153), just how open is it? The Walkers spare no effort in reconstructing the context of the Symphony, suggesting that although a work like Shostakovich's Fifth can afford many interpretations, each one has its own limits. What to do with these various interpretations, then, becomes another matter. Perhaps, in the end, these various interpretations of the Symphony prove that we still need stories to tell.

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