Raimonda Žiūkaitė

The Audiation of a Triad and its Rejection in the Composing Process

Abstract. In this article a well-known object – a triad chord – is discussed in the context of two types of musical syntax. Triad's role in classic musical syntax, as well as its acoustic properties and corresponding audiation are well established. However, Richard Cohn notices that triads are not only ideal acoustic objects, but also ideal mathematical objects: the potential of consonant triads to engage in parsimonious (stepwise) voice-leading is a function of their group-theoretic properties as equally tempered entities, but triads' acoustic properties have masked recognition of its group-theoretic potential and substantial intellectual resources. Neo-Riemannian theory deals with non-functional, voice-leading based triadic relations, which create different musical syntax.

These two types of musical syntax correspond with two types of logic in the composing process: musical logic (notion, coined by H. Riemann), which includes audiation; and structural logic, which relies only on abstract thinking processes and seeks to find internal order of elements without audiation. Regarding the triad as a material for composition, triad's possibilities to engage in structural composing while rejecting its audiation properties will be examined (since the usage of a triad in functional harmony and classic musical syntax is already well established). Conscious rejection (or restriction) of aural conducting in the composing process is also characteristic of some Lithuanian composers. (Auto)analysis of composers' creative process reveals strategies of composing with the triad while rejecting its aural properties. The goal is to see such a known object in a new light and explore its new potential.

Keywords: triad, neo-Riemannian theory, audiation, generative voice-leading, musical syntax, musical logic, group theory, structural composing, Ričardas Kabelis.

1. Triad's double nature. The peculiarities of the phenomenon of a triad

1.1. Triad's acoustic nature: musical syntax, musical logic and the audiation of a triad

A set of three notes in thirds, a triad (in particular, the consonance triad – a chord of three tones obtained by the superposition of two (major and minor thirds) is a very special object in music and music theory. As (Michael Beiche 2000: 8) notices, "the whole term's[1] history shows its exclusive value in harmonic and in general musical context". Through centuries, music theorists regarded the triad as a perfect consonance (Parncutt 2011), a natural phenomenon (Marx 1839; Hindemith 1937), the Holy Trinity of music (Herbst 1653; Simpson 1659), the primal harmony and source of music (Andreas Werckmeister 1702; Eduard Krüger 1866)[2]. Latter belief that all music consists solely of triads was even more confirmed after the discovery of a triad in the overtone series. It proved a triad to be an essential/basic chord since it already exists in nature, in any musical sound. The discovery of overtone series not only justified the triad as a source of music, but also allowed to understand the phenomenon of triad's inversions. Some theorists (e.g. Vogler 1802; Hauptmann 1853) also comprehend a triad as a unit, the unity of three tones into oneness (germ. *dreitönige Einheit/Klangeinheit*)[3].

We can notice that notions of a triad emphasize its acoustic properties ("perfect consonance", "overtone series"). As Richard Cohn notices triad's "unique acoustic properties are well established and indeed are fundamental to standard approaches to triadic music" (Cohn 1997: 2).

Regarding the triad, as the most important chord, harmonic music may be divided into three main periods according to Willi Apel (1969: 372–374):

- pre-tertian harmony period (c. 900–1450); potentialities of the triad have not yet been exploited.
- tertian harmony period (c. 1450–1900), the third/triad is sovereign.
- post-tertian harmony (c. 1900–). After the exhaustion of the triad, new combinations were sought after.

Thirds and triads were especially preferred in so-called common practice period. It may be said that functional tonality system indicates certain priority for thirds, thirdiness. Reinhard Amon explains it as the most consonant division of fifth, which forms tonal system (Amon 2005: 58). In Schenkerian analysis aimed to

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1 The term of harmonic triad ("trias harmonica") first mentioned by Johannes Lippius in "Synopsis musicae novae" (1612).

2 More notions of a triad as an origin of all harmony, may be found in Michael Beiche, 2000: 8–9: "a triad is the highest content of composition", "the origins of all perfect harmonies" (Lippius 1610); The triad may be said to be the basis of our whole harmonic system" (Piston 1944); "la triade de Tonique est l'alpha et l'omega" (Gevaert 1905); "ut mi sol, re fa la – tota musica et harmonia aeterna" (Buttstett 1715); "the triad is ever-present and that the interpolated dissonances have no other purpose than to effect the continuous variation of the triad" (Mizler 1739); "All sonorities should be reduced to triads and dissonances explained through triads" (Stoepel 1827; Schering 1911).

3 "Triad is a unified entity, not the superposition of two thirds … the triad must be thought of, not as a mixture of three different pitches, but as a harmonic unity in its own right" (Levarie/Levy, "Triad", A Dictionary of Music Morphology, 1980, quoted by Beiche 2000: 13).

analyze the music of common practice period the foreground of musical text is also reduced to a primal triad (*Urlinie* and *Ursatz* – simplified horizontal tonic triad). The idea that functional tonality system is encoded in a triad, i.e. that the triad has the potential to develop tonality system, because the vertical structure of a triad (third, fifth intervals) reflects in the relations between triads, was mentioned already by theorist and composer Jean-Philippe Rameau in the 18th century ("Traité de l'harmonie réduite à ses principes naturels", 1722).

The audiation of a triad, corresponding to its acoustic properties and its role in functional tonality system, is well established too. According to Reinhard Amon, "from all chords of three or more tones only major/minor triads cause the sense of full stability" (Amon 2005: 58). Because of its sense of stability, a tonic triad used to have an exclusive privilege to end (and begin) a musical phrase or a whole composition. Thus a function of a tonic triad in musical syntax could be compared to the one of a dot in literary text. Moreover, while hearing a triad, usually we can anticipate the continuation and it happens in the framework of functional harmony.

The audiation of triads and their relations to each other are mostly based on the musical logic, which was described by Hugo Riemann in 1872–1873, in his article "Musikalische Logik". "In the article, Riemann explained that musical logic resides in the cadential succession I-IV-I-V-I. His 'logic' here was presented in dialectical terms a la Hauptmann triad of triads", as noticed by Rehding (2003: 68). The perception of music was significant to Riemann. He continues the theory of Rameau of micro-level reflecting into a higher systematic level (macro-level) and claims that tones represent sonorities (*Klangs*), and *Klangs* represent tonalities. "Riemann's work on tonal functionality is among the sources that established the tonic-subdominant-dominant-tonic progression as archetypical in modern discussions of tonal harmony", as Rehding put it (Rehding 2003: 38).

All in all, the system of functional tonality is inseparable from its musical logic and so has its own distinguishable musical syntax.

1.2. Two types of musical syntax

The role of a triad in functional harmony and its musical syntax is well known and is causing connotations. However, the musical syntax of classical period and its logic is not the only logic music could operate. Classical syntax is governed by music gravitation, tension/release forces, but in some triadic music, for instance late Romanticism, we encounter unexpected modulations or tonal gravity often seems to be in suspension. In his book *Audacious Euphony* (2012) Richard Cohn talks about two types of musical syntax and argues that romantic harmony operates under syntactic principles distinct from those that underlie classical tonality, but no less susceptible to systematic definition. These two types of musical syntax can be compared to a sequence and cadence phenomena. "A sequence is an opposition of a cadence. A cadence creates a sense of resolution, while a sequence is characterized by constant motion with its inner logic of repeats. A cadence is ruled by clear tendencies, goals, directions and functional powers; in a sequence functionality is in suspense, here dominates a melodic, voice-leading based developing of a *musical* idea. A cadence concludes a phrase, section, or a piece, whereas a sequence rushes forward" (Amon 2005: 230).

The tool to analyze non-functional musical syntax, where gravitation is suspended or rejected, is the neo-Riemannian theory, born as a response to late-Romantic music, which posed a question "if this music is not fully coherent according to the principles of diatonic tonality, by what other principles might it cohere?" (Cohn 1998: 169).

1.2.1. What is neo-Riemannian theory?

Edward Gollin notices that one of three features that characterize the neo-Riemannian perspective is "the interpretation of triadic relationships as transformations that constitute the formal elements of mathematical groups" (Gollin 2005: 153).

Neo-Riemannian theory (NRT) is a segment of Transformational theory, founded by David Lewin and formally introduced in his 1987 work "Generalized Musical Intervals and Transformations", where he addresses musical transformations through mathematical group theory[4]. "Transformational theory continues the tradition of Milton Babbitt and Allen Forte by using mathematics to show the relationship between and among intervals. By performing group transformations or, in our case, NRT, the musician can see meaningful relationships within these *triadic* progressions", as claimed by Mason (2013: 6).

[4] "Group theory extracts the essential characteristics of diverse situations in which some type of symmetry or transformation appears" (Aceff-Sánchez 2012: 7).

So neo-Riemannian theory (NRT) "formalizes relationships between consonant major and minor triads from the vantage point of Lewinian transformations, rather than more traditional tonality-based approaches" (Chung 2012: 31). As argued by Cohn (2000: 89), "neo-Riemannian theory maps the group structure of triadic transformations in an equal-tempered (twelve-pitch-class) environment, with special attention to those transformations that optimize pitch-class intersection, and, more generally, voice-leading parsimony". Cohn also notices that each of these concepts, except group theory (Lewin's appropriation of mathematical tools for studying triadic harmony is indebted to mid-twentieth century American music theories), was familiar to harmonic theorists in late nineteenth-century Germany.[5] Hugo Riemann also worked with the quasi-algebraic system of *Schritte* and *Wechsel* operations[6], presented in his 1880 treatise "Skizze einer neuen Methode der Harmonielehre", where he proposed a system of transformations that related triads directly to each other (without tonic reference). Riemannian concept of *Harmonieschritte* was the inspiration for neo-Riemannian theory.

Excursus to the group-theory. "Formally speaking, groups are families of functions that act upon specific families of objects. Additionally, a group contains a law of composition that defines how group members can combine with each other", as mentioned by Chung (2012: 3). A mathematical group must satisfy four properties:

GROUP CLOSURE. "The composition of any two [group] elements … always yields another element in the same [group]", as argued by Steven Rings (2011: 12). One can compose (in the sense of applying successively) operations and this will always give another operation. For example, passing 2 keys, then 3 keys, is actually the operation of passing 5 keys.

GROUP IDENTITY ELEMENT. "The composition of the identity element with another member *g* of the group is equivalent to that member of the group alone" (Chung 2012: 5). If one has a special operation, which is "passing 0 keys", it will end up on the same note one has begun with.

GROUP INVERSE ELEMENT for any and every element in a group there is also an inverse element, i.e., for any operation, we always have an inverse operation which takes us back exactly where we began. For example, if we pass +5 keys, then -5 keys, that's equivalent to applying the identity operation. This works in the other way too: if we pass -5 keys, then +5 keys.

GROUP ASSOCIATIVITY. "Given any three or more pc-transpositions, combining (associating) them in different ways (while preserving left-to-right ordering) does not alter the result of the combination" (Chung 2012: 6). If we have three operations: T_p, T_q and T_r and pass first $(q + r)$ keys, then p keys, that is exactly the same operation as passing first r keys, then $(p + q)$ keys (in the end, we always end up passing $(p + q + r)$ keys).

"An example of a group of transformations acting upon a musical space is the group of pitch class transpositions under modulo-12 equivalence, familiar post-tonal theoretical devices. Any pitch class can be related in a discrete way to any other; a certain unique transposition under mod-12 equivalence describes the relationship between the two pitches. A T7 transposition, defined according to conventions of post-tonal theory, acting upon the pitch class "C" (or 0) always transforms "C" (or 0) into "G" (or 7)" (Chung 2012: 4).

Despite its propensity for formalism, neo-Riemannian theory still seeks to elaborate the idea of music perception in the sense of moving through abstract musical space. Daniel Harrison (2011: 548) claims that "one of the main benefits of NRT is animation it brings to relationships that have long been thought to be static". That is so called "transformational attitude", a particular analytical perspective Lewin advocates for the use of his theories. Chung (2012: 11) writes, that "for Lewin, transformations model specific actions or *doings*, metaphorical motions through musical spaces across certain distances or intervals. 'If I am at *s* and wish to get to *t*, what characteristic gesture should I perform in order to arrive there?'" As Gollin (2005: 154) states, another important feature of Neo-Riemannian perspective is "the spatial representation of transformational relationships as formal graphs or networks". Cohn and other NRT scholars develop a set of interrelated maps that organize intuitions about triadic proximity as seen through the lens of voice-leading proximity, using various geometries related to the 19th-century *Tonnetz* (tone network).

[5] "Recent developments in neo-Riemannian transformational theory have stimulated the recognition of affinities between late-twentieth-century American pitch-class theory and some mid-nineteenth-century German conceptions of harmonic Verwandtschaft. Equal temperament was advocated by Vogler (1802) and by Weber (1817); for Marx (1837) and for Hauptmann (1853), among others, the proximity of a pair of chords was gauged by the number of tones that they shared; Marx and Hostinsky (1879) emphasized parsimonious voice-leading; and Oettingen (1866) and Riemann (1880) advanced transformational views of triadic progression. The single aspect of recent theory that does not first appear in nineteenth-century writings is the mathematical theory of groups, which furnishes neo-Riemannian theorists with a systematic framework for the co-ordination of these concepts" (Cohn 2000: 89).

[6] *Schritte* are relations between triads of the same mode (major or minor), while *Wechsel* are relations between triads of opposite mode.

1.2.2. Main operations of neo-Riemannian theory

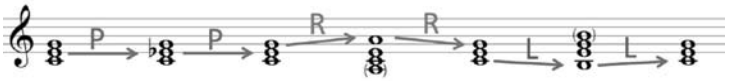
The main elements of the theory are voice-leading perspective based triads' relations. As Gollin (2005: 154) puts it, "the privileging of transformations that maximize common tones while minimizing the displacement of moving voices (known as voice-leading parsimony)", in other words, the minimal change done to one triad in order to obtain other triad; to transform one triad into another.

Neo-Riemannian theory consists of three basic transformations: Parallel (P), Relative (R), and Leading-tone exchange/*Leittonwechsel* (L).

A Parallel transformation converts a major triad to the minor and vice versa by moving the third by half-step. In other words C major is transformed to C minor just as C minor is transformed to C major.

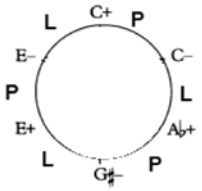
A Relative transformation converts a major triad to a minor triad by moving the fifth a whole-step up and vice versa, moves a minor triad to a major triad by moving the root down by whole-step (i.e. C major to A minor or A minor to C major).

The Leading-tone exchange transformation converts a major triad to a minor triad by moving the root down by half-step, and vice versa, from minor to major by moving the fifth up a half-step to become the root of the resulting triad (i.e. C major to E minor and E minor to C major).



Example 1. NRT transformations (P, R, L) performed on a C major triad (Mason 2013: 7)

These single transformations can be combined into compound transformations. If two, three or four PLR operations are applied successively, they generate various chains and cycles, as seen in (Cohn 1997: 33), for example, binary generator LP/PL produce a cycle of six triads, known as maximally smooth cycle since any pitch class set in the cycle becomes another pitch class set in the cycle by moving a single note by a half-step.



Example 2. LP maximally smooth cycle of triads generated by LP/PL

Interestingly, a maximally smooth cycle appears also in functional tonality system: it is the circle of fifths, which is considered maximally smooth due to the change of one pitch of the scale to create another scale (for instance, C major becomes G major when F is raised to become F♯). The preservation of two common tones among the couples of triads appears not only in PLR operations, but is also characteristic in Riemann and Hauptmann theories, where the basis of chords' functional relationship is also common tones. Chords, which share two common tones, have the same function.

1.3. Triad's double/second nature

Richard Cohn draws attention to voice-leading parsimony in triadic relations. "Parsimony is inherent to the PLR-family, whose defining feature is double common tone retention. What is not inherent is an incremental motion of the third voice which proceeds by semitone or by whole tone. This feature is not without significance to the development of musical culture where conjunct voice leading in general and semitonal voice leading in particular, are enduring norms through many epochs and styles" (Cohn 1997: 1–2). Later Cohn mathematically proves that "among mod-12 trichords, the consonant triad alone is susceptible to parsimonious voice-leading under the three PLR-family operations. This circumstance is a function of trichord's step-interval sizes which are an aspect of its internal structure. The optimal voice-leading properties of triads therefore stand in incidental relation to their optimal acoustic properties" (Cohn 1997: 5). Cohn summarizes that "the potential of consonant triads to engage in parsimonious voice-leading … is, rather, a function of their group-theoretic properties as equally tempered entities modulo-12" (1997: 2).

Cohn explains that, however, "triad's acoustic properties have masked recognition of its group-theoretical potential. Our sensibilities, born of incessant exposure to a musical tradition that habitually implements the acoustic properties of triads as well as to a music theoretic tradition that habitually models this habitual

implementation, have been trained to resist by default any effort to regard the triad as anything other than acoustic *in essence*" (Cohn 1997: 5).

So Cohn shows that actually major and minor triads have two distinct natures: one based on their acoustic properties, and the other on their ability to voice-lead smoothly to each other in the chromatic universe of 24 triads. Whereas their acoustic nature underlies the diatonic tonality of the classical tradition, their voice-leading properties are optimized by the pan-triadic progressions characteristic of the 19th century. That means, a triad encodes not only a functional tonality system (as noticed by Rameau and Riemann), but also other, generative voice-leading system and alternative triadic syntax. Thus triadic successions, generated by PLR operations, may be compared to the phenomenon of a sequence, whereas functional tonality operations T, S and D would constitute a cadence. Daniel Harrison (2011: 552) notices that "transformational theory in general requires a separation of object and activity, of what something *is* and what is *done* to it – with what something is sometimes being defined solely by 'what is done to it'". He claims that transformational theory cannot deal well with "being", so its operations PLR is something what is "done" to an object, whereas T, S and D are fundamentally about "being", especially T.

To summarize our findings so far:

Table 1. Oppositions of double nature of the triad

Riemann	Neo-Riemannian
Musical logic	Structural logic
Cadense	Sequence
Audiation in composing process	Rejection of audiation
Functionality	Non-functionality
Classical	Late-Romantic/Renaissance etc.
Diatonic	Chromatic
Acoustic properties	Group-theoretic properties/voice-leading
Static: labeling objects	Dynamic: labeling relations between objects
Main operations: T S D	Main operations: P R L

All in all, these discoveries about triad's mathematical nature show that a triad is a unique element in music, suitable for self-generating since having a triad (3-tone subset of 12-tone set), and giving voice-leading rules (which consist of P, R, L operations), we can convert it into another member of the same set with the most minimal change and program various chains and cycles. Furthermore, if we have discovered the whole new field of a triad, it means some new possibilities to use it in analysis and composition should be revealed, too. Further we will investigate the ways to compose with a triad, relying on its second nature.

2. A triad as a composition material. The rejection of audiation in triadic composition

According to the two sorts of musical syntax and corresponding two triad's potentials, two types of logic in the composing process can be distinguished as well: musical logic (notion, coined by H. Riemann), which includes audiation; and structural logic, which relies only on abstract thinking processes and seeks to find internal order of elements without audiation.

As it was said, triad's mathematical properties have not much to do with its acoustic properties and audiation. It means that in a composition based on triad's mathematical properties the audiation, which involves our sensibilities and procedural knowledge, should be automatically rejected, leaving the composer on the rational, structural side of composing.

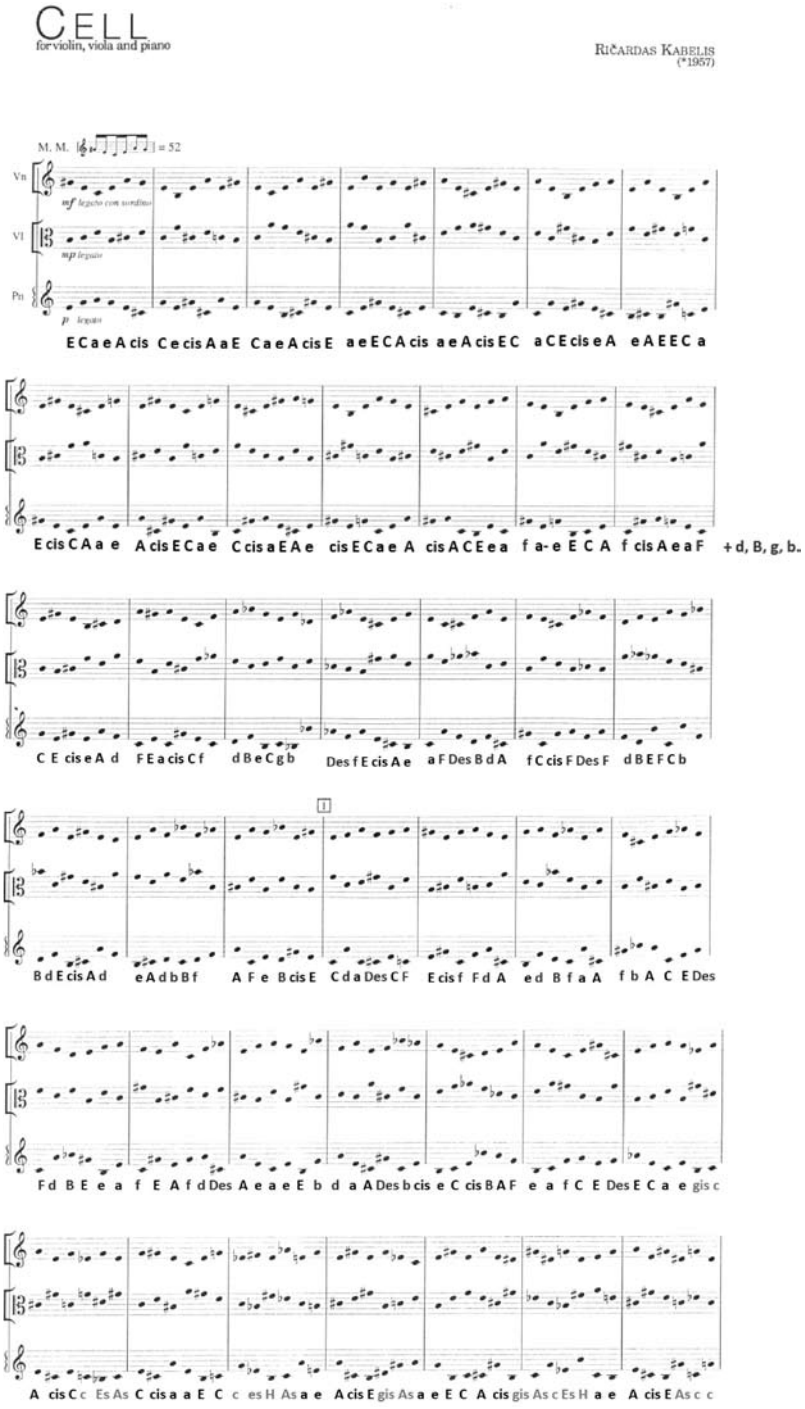
We will take a look at several cases where audiation is rejected in the composing process, and where the main object of composition remains a triad. Two compositions by Lithuanian composers, which expand the usage and perception of a triad, will be analyzed while applying neo-Riemannian theory.

Before starting to analyze, we need to mention that several degrees of triad's presence in such composition of non-functional triadic syntax could be distinguished. The first one occurs when pure triads still can be heard, the triad itself still causes us connotations and corresponds with audiation practice, but the order of their sequence is not familiar to our musical habits. An example of such music, consisting of triads in unexpected relations, can be the music of Renaissance (e.g. Carlo Gesualdo chromatic modality), characterized by unexpected harmonic changes and sudden modulations. Yet the second, a more complex level would be the one where triads cannot anymore be heard in the final sounding result, instead, they are hidden in multilayers and serve as building blocks for more complex structures/harmonies.

2.1. Analysis of "Cell" (1992) for piano trio by Ričardas Kabelis (b. 1957)

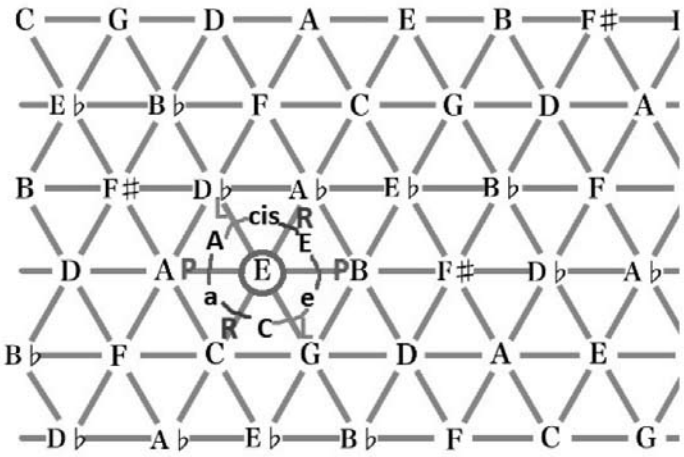
This piece represents the first case of triad's non-functional usage: the composition consists of triads, alternating in seemingly random order. What is more important, a step further is made by increasing the tempo of harmonic changes. The tempo is so fast (the duration while six triads are played is 52 seconds) that the listener cannot even grasp those changes, so this constant alternating of triads loses its connotation and creates rather an atmosphere, an ambience.

In his composing process, the composer rejects audiation and instead sets such rules: the voices are never led the same direction and triads are constantly inversed. This yields "jumping" voice-leading full of skips. It differs from neo-Riemannian voice-leading idols, such as parsimonious voice-leading, where triads share common tones and move stepwise.



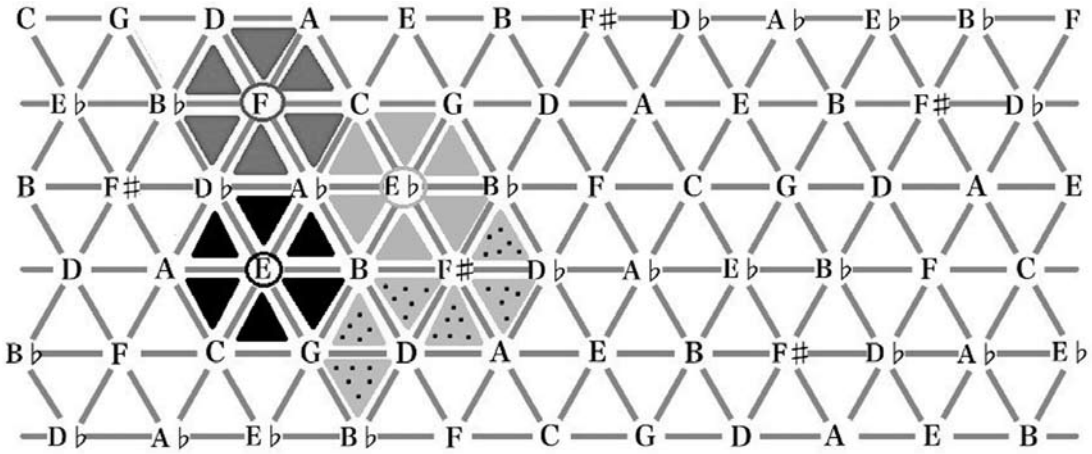
Example 3. Kabelis, "Cell" for piano trio, mm. 1–42

In the piece, firstly a group of six alternating triads – E major, E minor, C major, C# minor, A major, A minor – is introduced. They all share common tone E. We can arrange them in a circle with the most minimal voice leading C a A c# E e (C) and label the neo-Riemannian operations between triads: to transform C major to A minor we need a Relative (R) operation, then from A minor to A major we need a Parallel operation (P), and so on. After labeling all the transformations, we see that actually this set of 6 triads is LRP loop of ternary generator. Cohn (1997: 44) claims, that "a significant feature of these loops is that their 6 triads share a single pitch-class, located at the center of the matrix representation". Applied twice, LRP returns the sequence into primal triad (loop).



Example 4. LPR-loop around the pitch-class E

So the composition begins with alternating members of ternary loop around central E. Later triads from another group are gradually introduced. It is ternary loop around F, so all six triads share common tone F (in Example 5 marked with dark grey colour). After that the third group generated by ternary loop appears, the central pitch class is E♭ (in Example 5 marked with light grey colour). Thus triads expand from the initial center E to both directions by semitone. Finally the rest of triads appear and thus the set of all 24 triads is exhausted. The primal group of common tone E remains present during all the composition.

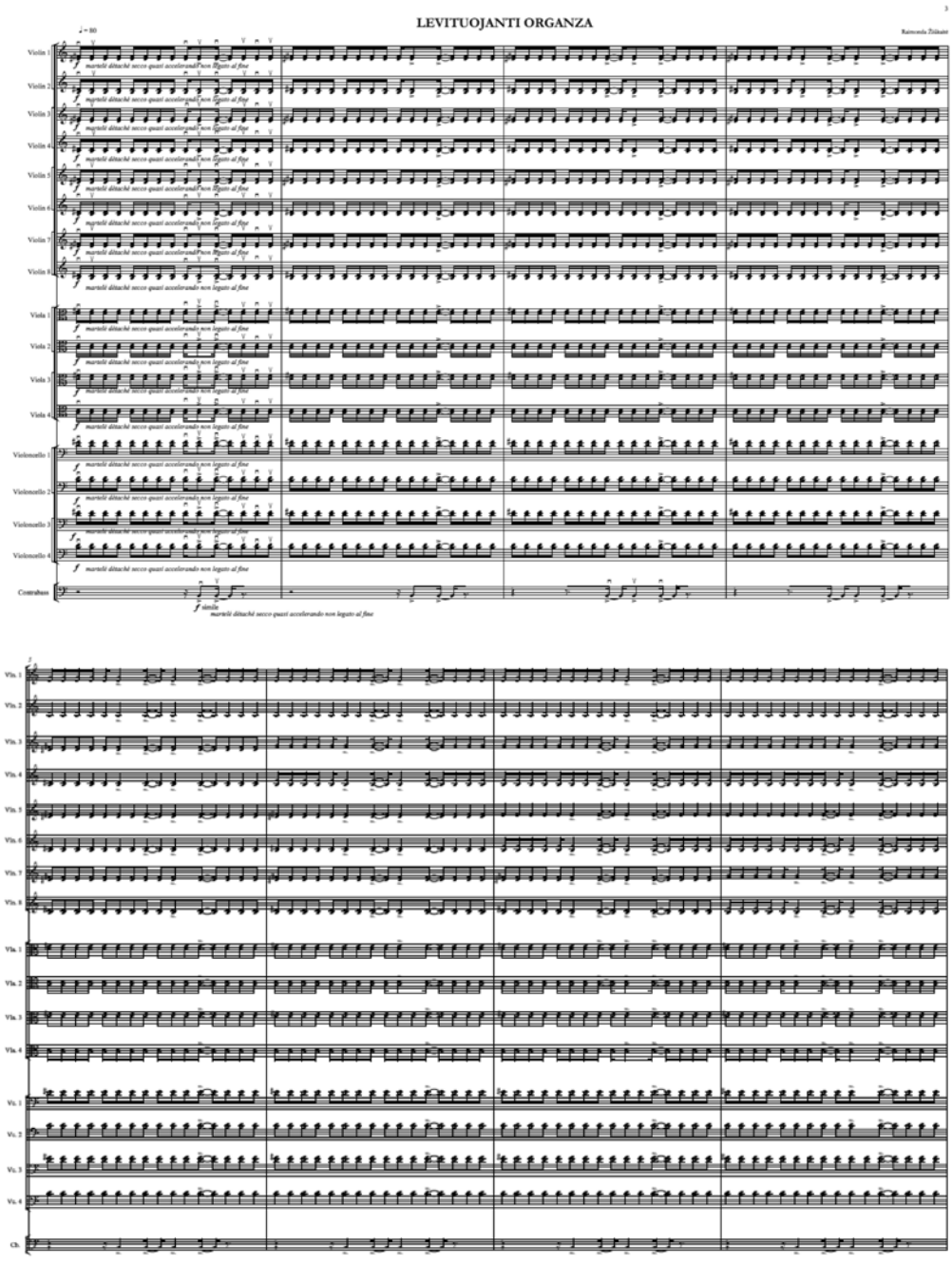


Example 5. All LPR loops around: E (black), F (dark grey), E♭ (light grey), the rest of triads (dotted)

Interestingly enough, the composer was not aware of neo-Riemannian theory and LRP-loops since the article about ternary loops appeared in 1997, and the piece was composed in 1992. Moreover, the voice-leading choices by composer were made improvised, intuitively, based on melodic voice-leading where the voices where exchanged randomly, yet the whole is still surprisingly systematic. Perhaps it shows the cyclic nature of the triads' non-functional relations and voice-leading possibilities as well as the limits of 12-tone harmonic system capacity.

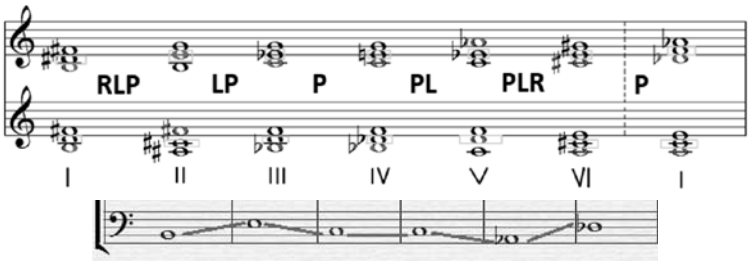
2.2. Analysis of "Levitating Organza" (2014) for string orchestra by Raimonda Žiūkaitė (b. 1991)

Our second example represents a triad as a building block for more complex structures and multilayered composition. In the composing process, the composer rejects audiation. Instead, two rules for creating a triadic progression are set: a maximally smooth movement, with half-tone step being the only possible step of voice movement and that the progression would be consistent in its moving direction (always upwards or downwards). The piece starts with two triadic progressions, one ascending, played in thirds by eight violins, the other descending, played in thirds by 8 viola and violoncellos.



Example 6. Žiūkaitė, "Levitating Organza" for string orchestra, mm. 1–8

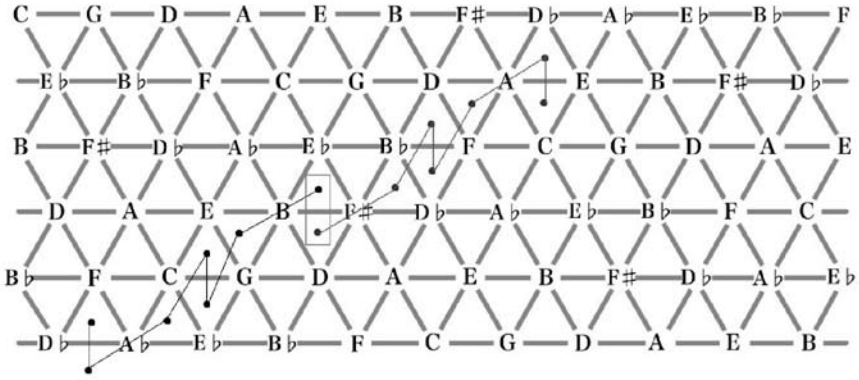
The primal 6-member segment (cell) (shown in Example 7) consists of two sub-segments (3 + 3), and is either ascending or descending direction. As an important condition was maximal smoothness of voice-leading, so the distance between voices never exceeds a semitone step (inside the segment, two voices move one semitone each; between sub-segments and segments there is only one voice by one semitone movement).



Example 7. The primal segment of "Levitating Organza"

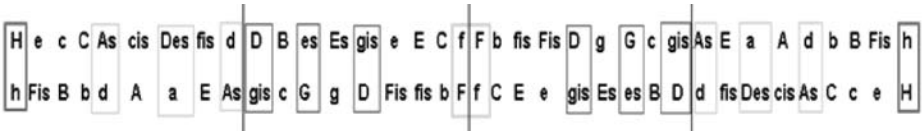
This primal segment yields symmetry in several levels. The roots of triads constitute symmetry of trichords, the axis of symmetry of the upper sequence being C, of the lower sequence B♭. Interestingly, at the macro-level – the whole composition – the symmetry axis is B.

After labelling the neo-Riemannian operations we can notice that they are symmetric as well. To get from the first triad (either B major or B minor) to the second we need three operations RLP. Then from the second to the third triad we need only two operations LP, and finally from the third to the forth we need only one operation P. The operation P is the axis of this symmetry. Symmetry is also seen in Tonnetz representation.



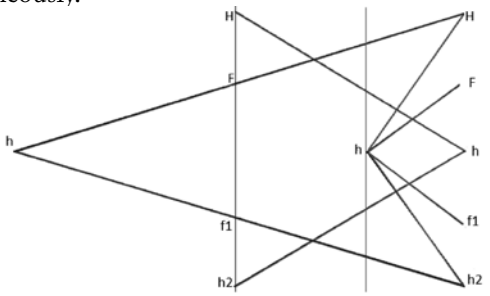
Example 8. The primal segment of "Levitating Organza" in *Tonnetz*

These primal segments (cells) of 6 triads are sequentially repeated and form maximally smooth and directional (gradually rising or falling) progressions, which move in stepwise motion starting from B minor and major triads towards furthest point – F major/minor triads.



Example 9. The full triadic sequence of "Levitating Organza"

In the first section of the piece there are two sequences (lines) of triads, in the second section there are four sequences, because two new successions are added, and in the third section there are already 8 different lines of triads sounding simultaneously.



Example 10. The structure of "Levitating Organza"

All in all, in "Levitating Organza", triads' progression is just a thread in multilayered fabric. Major-minor triads connect into the network of triads, which developed gradually reminds of waving (levitating) organza fabric. Smooth voice leading and directional motion give unexpected symmetry. The patterns of micro-level (cell) actualize at macro-level (the composition).

Conclusion

In conclusion, after analyzing some triadic compositions, we can pose the question whether neo-Riemannian theory, being the tool for analyzing non-functional triadic movements, could also be the tool to compose or to generate pre-composition structures, and, more generally, could a triad as an object still be relevant in nowadays composition. As it can be seen in the work of Arvo Pärt, Philip Glass etc., regarding a triad not from a functional harmony perspective and searching for its new potential might still be relevant, and neo-Riemannian theory may provide some strategies for composing or generating pre-composition material. Of course, it is just a tool, it gives us a great way to think about chord relations without the reference to a tonal center and voice-leading inspired perspective, however, its application is quite specific and narrow hence a composer should be flexible while applying it.

As for musical syntax and audiation, Daniel Harrison criticizes neo-Riemannian syntax for its indifference for a sensuous dimension: "objects are inert and without tendency, and all activity and meaning are supplied by transformations applied to them" (Harrison 2011: 552). He notices that "while the substances of T, D and S impose a distorting gravitational field upon pure transformational space, they do restore a sensuous dimension to the hearing and experience of tonal music" (Harrison 2011: 553). All in all, the musical sensibility and gravitation are important, however, the next direction for research should be the preservation of tension/release forces outside the framework of functional harmony.

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Triados (trigarsio) audiacija ir audiacijos atmetimas komponavimo procese

Santrauka

Svarbus muzikos teorijos ir praktikos elementas triada (trigarsis) straipsnyje aptariama dviejų muzikinių sintaksių kontekste. Šalia plačiai žinomų triados akustinių ypatybių ir vaidmens funkcinėje harmonijoje bei klasikinėje sintaksėje, kurioje veikia muzikinė trauka, atskleidžiamas triados vaidmuo nefunkcinėje harmonijoje ir sintaksėje, pvz., XIX a. antrosios pusės muzikoje, kurioje chromatinės progresijos pasižymėdavo ryškiomis moduliacijomis, staigesniais harmonijos pokyčiais, o tonacinė trauka šioje muzikoje dažnai atrodė susilpnėjusi. Richardas Cohnas (2012) teigia, kad muzikinės sintaksės principai romantizmo harmonijoje skiriasi nuo klasikinio tonalumo, ir atkreipia dėmesį į triadų nuoseklios balsavados galimybes, kurios nesusijusios su jų akustinėmis savybėmis. Šis balsų vedimo potencialas kyla iš matematinės *grupių teorijos* savybių, kuriomis triados pasižymi tolygiai temperuotame 12 garsų lauke. Trigarsiai ryšiai kaip matematinių grupių elementų transformacijos interpretuojami vadinamojoje neo-rymaniškojoje (*neo-Riemannian*) teorijoje (NRT). Joje išskiriamos trys pirminės transformacijos: P (*Parallel*, t. y. bendravardis mažoras / minoras), L (*Leittonwechsel*, t. y. vedamojo tono pakeitimas) ir R (Relative, t. y. gimininguma s), kurios tarp objektų išsaugo maksimaliai daug bendrų tonų ir mažiausią judančių balsų poslinkį (vadinamą *balsavados parsimonija*). Transformaciniai ryšiai šioje teorijoje vaizduojami formaliais grafikais ar tonų tinklais (vok. *Tonnetz*).

Taigi triada turi dvi atskiras prigimtis: viena pagrįsta jos akustinėmis savybėmis, kita – galimybe sudaryti nuoseklius balsavados junginius chromatinėje visumoje. Akustinė triados prigimtis sudaro pagrindą klasikiniam diatoniam tonalumui, o balsavados savybės atsiskleidžia XIX a. chromatinėse progresijose. Iškeliama prielaida: jei triados intervalinė / vertikalioji struktūra nulemia funkcinę harmoniją, tai ryšiai tarp triadų (neo-rymaniškosios transformacijos) gali nulemti nefunkcinę, generatyvinę harmoniją ir alternatyvią sintaksę. Taip triadų sekos, sugeneruotos LPR operacijų, pagal sintaksę gali būti prilyginamos sekvencijos fenomenui, o funkcinio tonalumo operacijos (T-S-D) – kadencijai. Danielis Harrisonas (2011) pažymi, kad, remiantis minėtąja teorija, reikia atskirti objektą ir veiksmą, atliekamą tam objektui. Transformacinės teorijos operacijos LPR yra veiksmas, atliekamas objektui, o funkcinio tonalumo operacijos (T-S-D) yra buvimas objektu.

Naujai atskleisti triados resursai rodo, kad tai yra programavimui palankus muzikos elementas (nes ryšiai tarp tų elementų yra palankūs formalizuoti). Triada (3 tonų subrinkinys 24 tonų grupėje) yra konkretus objektas, kurį pagal balsavados taisykles (susidedančias iš P, L ir R operacijų) galima transponuoti į kitą tos pačios šeimos objektą minimaliu žingsniu (pakeitus vieną iš trijų tonų) ir taip sugeneruoti įvairias triadų sekas bei ciklus.

Komponavimo procese išskiriamos dvi logikos kryptys, atitinkančios dvi skirtingas sintakses: tai muzikinė ir struktūrinė logika. Straipsnyje analizuojamos galimybės naudoti triadą būtent antruoju, generatyviniu, balsavada grįstu aspektu, kuriame triada praranda savo kaip funkcinės harmonijos elemento konotaciją / audiaciją ir kuris atstovauja struktūralistiniam komponavimo metodui. Kaip tokie triados panaudojimo pavyzdžiai pateikiami Ričardo Kabelio ir Raimondos Žiūkaitės kūriniai. Kabelio trio „Cell“ harmoninėje vertikalėje skamba vien tik triados; jos jungiamos improvizuotai perstatinėjant balsus ir skamba greitu tempu, tad klausantis sukuria tam tikrą atmosferą. Įdomu, kad, atrodytų, atsitiktinai besimainantys trigarsiai vis dėlto sudaro LPR kilpą. Žiūkaitės kompozicijoje „Levituojanti organza“ triados jungiamos į nuosekliai kylančias ir krintančias sekvencijas, kurios sluoksniuojamos, taigi vertikalėje girdimi daugiagarsiai sąskambiai.

Apibendrinant keliamas klausimas, ar gali neo-rymaniškoji teorija tapti komponavimo įrankiu, naudojančiu naujus triados resursus. Daroma išvada, kad minimoje teorijoje neatsižvelgiama į jutiminę muzikos dimensiją, kurią išlaikyti vaduojantis iš funkcinės harmonijos ribų būtų siekiamybė.