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## REVISITING THE TRITONE

### Resumé

This presentation shows a specific aspect of research work currently in progress. But my purpose here today is not to present results, but to describe and illustrate with examples the first steps taken towards the study of a particular element, an interval: the **Tritone**. This constitutive parameter of the Georgian harmonic grammar punctually grants a characteristic color to certain liturgical chants of the Gelati Monastery-School (Imereti), not so much as in the Svetitskhoveli or Shemokmedi Monasteries. The approach to this object will be supported by musical tools coming from **Pedagogy** and **Composition** fields, disciplines that, in my case, coexist and are in permanent interaction with research. Its use offers the possibility of accessing and observing complex harmonic structures from other angles.

### And why my Interest in this Interval?

I would like to remind my first participation in the 5th International Symposium in Traditional Polyphony that took place in 2006, when I participated thanks to the invitation of the International Research Center for Traditional Polyphony through Professor Simha Arom. At that time the subject chosen for my presentation was 'The Wagogo Vocal Polyphonies', a systematic study carried out in Tanzania, Africa, and materialized in several academic works, books and audiovisual editions. At that time, I highlighted the different polyphonic techniques used by the wagogo and its combination within their plurivocal songs; proceedings such as *ostinati superimposition*, **bourdon**, **parallelism** & **homophony**, **canon** and *hoquetus*. Let's listen to a brief example (audio ex. 1, example 1).

Concerning the Musical System, at that time I mentioned briefly -although giving the importance it deserves- the use of an *pentatonic anhemitonic* scale (Si-La-Sol-Fa-Re), which has the peculiarity of containing an implicit **tritone** (Si-Fa), an interval that appears also explicitly in many other songs and gives to the Gogo music a peculiar harmonic color as an essential hallmark of its musical identity.

This fact -recognition and verification of the tritone as a constitutive element of their musical system- caused me a certain shock at the beginning, but at the same time it aroused an unusual interest on it, both musicological, pedagogical and compositional. For this reason, I began to search about its origin and its presence in Western Music History during the 2nd millennium.

What we know about the tritone:

- It was described as 'Diabolus in Musica' by medieval theorists (*Musica Ficta*) and institutionalized its prohibition by Monk Guido D'arezzo, an aspect that remained along the Renaissance and whose consequences are still visible today in the field of music education.

- This qualification, *diabolus in music*, was due to its difficulty for intonation and to the fact that it was -melodically and harmonically- unstable, 'strange and shocking to the ear'. This rejection and prohibition ended officially naming and treating the tritone as a 'dissonance', a concept (like 'consonance') that doesn't work in the harmonic conception of Georgian music.

From a music systematic angle, we know that:

- It is an interval composed of three whole tones, augmented 4<sup>th</sup> between degrees IV and VII, or diminished 5<sup>th</sup> (between degrees VII and IV), both considering the Tonal System.

The image shows a musical score with two staves. The upper staff is a vocal line with a tritone interval (F# to C) marked with a bracket and the letter 'I'. The lower staff is a piano accompaniment with a G7 chord. Below the piano staff, the text 'V7' and 'I' is written. To the right, a four-measure sequence shows the resolution of the tritone: C to F#, E to Bb, G to Db, and B to F.

- is a characteristic interval of all the Major scales, or minor (harmonic or melodic), and its 2 constitutive notes are considered obligatory movement or tendency (IV-III, VII-I).

- The interesting thing is that, attending to what we call *enharmony* (notes with different names but same pitch), certain tonalities ‘antipodes’ one to the other, contain the same tritone, for instance C Major (Fa-Si) and Gb Major (Dob-Fa). The fact of dividing the octave into two equal parts indicates that the same sound can function in two different ways depending on the harmonic context.

The image shows a single staff with two tritone intervals. The first interval is Fa-Si and the second is Dob-Fa. A bracket above the staff spans both intervals, with the text 'tritonos enarmónicos' written above it.

- For example, Fa and Si can be part of a dominant 7th chord over Sol resolving to Mi and Do, respectively, as part of C Major. However, those same notes, with the names of Mi# and Si, can be part of a dominant 7th over Do# and resolve to Fa# and La#.

- In the heptatonic scales, as is the case of the ancient modes’, the tritone only appears once, circumscribed to precise moments and voice movements.

- Within the framework of Western Music, the above characteristics, added to the particular and ‘expressive’ sonority that the tritone generates, gives an exceptional position among the rest of the intervals.

- In general terms, in the liturgical chants of the Gelati Monastery happens something similar with the tritone that confers a characteristic color to certain moments of the harmony.

### Some Examples in Western Music

Apart of listening music examples containing the tritone in the Gelati’s chants, and to observe its behavior and movements within the syntax, I devoted myself on recognizing and doing an immersion in Western music’s where it appears. As I announced at the beginning, in addition to the musicological research, I approached the tritone from two paths: Pedagogy and Music Composition.

In the same way that the fact of transcribing music becomes itself a first degree of analysis, observing the tritone from the field of Pedagogy (by practicing and experimenting), or Composition (by creating music’s where the tritone is a structural element), generates logics that can help us to understand this phenomenon from other angles.

Below, some music examples composed by distinguished composers where the tritone is present, implicitly or explicitly, acting always as a relevant melodic or harmonic element (examples 2-10)

### **Pedagogical Approach to the Tritone**

This curiosity about the tritone led me to treat it from the educational field, creating a simple canon with the aim of ‘normalizing’ the presence of an augmented 4th in songs from the classroom repertoire; an interval that, in a way, is still stigmatized in music education and considered with not much interest, something disposable. A 3 equal voices circular canon in which the tritone acts both melodically and harmonically.

Apart from the interesting work behind singing this music with young’s, the harmonic atmosphere that arise from the total is very particular and expressive, a similar impression to some songs from Gelati Monastery that present ‘colored’ chords like this. Here, a fragment from canon ‘The Wind’ performed by a choir of teenage girl students (audio ex. 2, example 11)

### **Creative Approach to the Tritone from the Field of Composition**

Following a similar process but with a higher goal, I composed a piano work based exclusively on tritones. This interval selection reduces considerably the harmonic field and forces the development of compositional procedures to give mobility and interest to the result. Inspired by Claude Debussy and his collection of Piano Studies, some of which I have had the pleasure to play when I was a student, these studies show different harmonic atmospheres created by specific intervals: 4th, 6th, 5th, 8<sup>th</sup>. And so, that was the reason I ventured to compose a study based exclusively on tritones.

Logically, I called it ‘Diaboulus’ (audio ex. 3)

Although it is a purely creative experience, the composition of this study allowed me to reflect again on the tritone but from a different angle. I know that approaches of this type can be very subjective, but it accentuates the degree of perception towards the behavior of this interval in different harmonic contexts.

### **A Gateway to the Liturgical Chants of the Gelati Monastery**

As a starting point to observe the role that this interval plays in the Georgian harmonic syntax, I chose a very well-known liturgical chant to the Georgians: *Ganatldi*. Like this one, I could have selected any other since most of them present similar characteristics. I refer to chants like:

- *Ese ars tsmida da chinebul dge*. ‘This is the chosen and Holy day’. Tone I, VIII irmos to Easter. Gelati
- *Gikharoden shen, tsmidao dedupalo*. ‘Hail, O Queen’. IX Theme-song of Pentecost (Whith Sunday). Ornamented Style. Gelati
- *Tsmidao, tsmidao, tsmidao upalo sabaot*. Holy, holy, Holy. Lord of Sabaoth’. Ornamented Style. Gelati School
- *Netar ars katsi* ‘Blessed is the man’, in Tone VIII, hymn for vespers (1er samo) Ornamented Style, Gelati
- *Gmert khar mshvidobisa* V Irmos of the Nativity, in Tone I. Gelati And now propose I propose the audience to listen the liturgical song *Ganatldi* while pointing out on the vertical points where the tritone appears. Even if brief and almost fleetingly, it is perfectly recognizable to the ear thanks to its expressivity and the given color to the music, an identity sign of many liturgical chants of the Gelati Monastery. And, if time permits, following the listening I will make some observations and throw out some simple questions.

And this is the beginning point of advanced research whose results I hope to be able to present on future occasions. (audio ex. 4, example 12).

### Audio Examples

**Audio Example 1.** 5 voices Polyphonic fragment from *Cipande* repertoire (Wagogo, Tanzania)

**Audio Example 2.** Fragment from „The wind”, Three parts canon & one tritone. ©Polo Vallejo

**Audio Example 3.** An excerpt of Diaboulus, Piano Studio. ‘Cuadernos del Tiempo’ @Polo Vallejo

**Audio Example 4.** *Ganatldi*, Gelati Monastery. Basiani Ensemble. CD *Georgia: Sacred and Secular Polyphony*. Ocora / Radio France

**მაგალითი 1.** 5 ხმიანი პოლიფონიური ფრაგმენტი ციპანდეს რეპერტუარიდან (ვაგოგო, ტანზანია)

**Example 1.** (Cipande Repertoire) 5 voices Polyphonic fragment from *Cipande* repertoire (Wagogo, Tanzania)

**მაგალითი 2.** ი.ს. ბახი. ქორალი *Est ist Genug*. კანტატა *O Ewigkeit, du Donnerwort*. BWV 60 (ასევე, გამოყენებულია ალბან ბერგის მიერ სავიოლინო კონცერტში)

**Example 2.** J.S. Bach, coral *Est ist Genug*. Cantata *O Ewigkeit, du Donnerwort*. BWV 60 (Used as well by Alban Berg in his Violin concerto)

**მაგალითი 3.** ლ.ვ. ბეთჰოვენი. სონატა 32, Op. 111 (დასაწყისი)

**Example 3.** L. V. Beethoven: *Sonata 32*, Op. 111 (beginning)

**მაგალითი 4.** რიჰარდ ვაგნერი. ტრისტანი და იზოლდა (პრელუდია, სანწყისი აკორდი)  
**Example 4.** Richard Wagner: *Tristan und Isolde* (Prelude, initial Chord)



**მაგალითი 6.** ფერენც ლისტი. *Via Crucis*. ნაწილი XII „იესო აღესრულება ჯვარზე“  
**Example 6.** Franz Listz: *Via Crucis*. Station XII ‘Jesus Stirbt am Kreuze’



**მაგალითი 7.** კლოდ დებუსი. „ფავნის ნაშუადღევის პრელუდია“  
**Example 7.** Claude Debussy: *Prélude à l’après-midi d’un faune*



**მაგალითი 8.** იგორ სტრავინსკი. ფასკუნჯი (ინტროდუქცია)  
**Example 8.** Igor Stravinsky: *The Firebird* (Introduction)



**მაგალითი 9.** ა. სკრიაბინი. „მისტიკური აკორდი“ (პრომეთეს აკორდი/IV საფორტე-პიანო სონატა)

**Example 9.** Alexander Scriabin: 'Mystic Chord' (Prometheo's Chord/Piano 4<sup>th</sup> Sonata)

Musical score for Example 9, Alexander Scriabin's 'Mystic Chord' (Prometheo's Chord/Piano 4<sup>th</sup> Sonata). The score is in G major, 3/4 time, and marked 'Andante' with a tempo of 63. It features a piano part with a 'p doleiss.' dynamic. The score includes a treble clef staff with a key signature of one sharp (F#) and a bass clef staff with a key signature of one sharp (F#). The piece is identified as Op. 30 (1903).

**მაგალითი 10.** ლეონარდ ბერნსტაინი. დასავლური ისტორია („მარია“)  
**Example 10.** Leonard Bernstein: *West Side Story* ('Maria')

Musical score for Example 10, Leonard Bernstein's 'Maria' from *West Side Story*. The score is in G major, 3/4 time, and marked 'Moderately (warmly)'. It features a vocal line with lyrics: 'Ma ri-a, I've just met a girl named Ma - ri-a, And'. The piano accompaniment is marked 'mf'. The score includes a treble clef staff with a key signature of one sharp (F#) and a bass clef staff with a key signature of one sharp (F#).

**მაგალითი 11.** „ქარი“, სამხმიანი კანონი და ერთი ტრიტონი. ©Polo Vallejo  
**Example 11.** The wind, Three parts canon & one tritone. ©Polo Vallejo

Musical score for Example 11, 'The wind, Three parts canon & one tritone'. The score is in G major, 3/4 time, and marked 'Moderately (warmly)'. It features three vocal parts: Soprano (S), Alto (A), and Tenor (T). The lyrics are: 'up blows down the wind blows up and up up to the', 'The wind blows up to The wind blows down to The wind blows always in my ears blows down blows'. The score includes a treble clef staff with a key signature of one sharp (F#) and a bass clef staff with a key signature of one sharp (F#).

**მაგალითი 12.** გელათის სკოლის საგალობელი „განათლდი“.

**Example 12.** *Ganatlđi*, Gelati Monastery. Basiani Ensemble. CD *Georgia: Sacred and Secular Polyphony*. Ocora / Radio France

Ganatlđi  
Gelati Monastery, Imereti

Transcription in C. Polo Valejo

The musical score is presented in a standard Western staff format with three staves per system. The top staff uses a treble clef, the middle an alto clef, and the bottom a bass clef. The time signature is 3/4. The score is divided into six systems of measures. The first system is labeled '1-10' and the last '51-60'. Yellow circles are placed over specific notes in the vocal lines across all systems, likely indicating points of interest or specific melodic motifs. The notation includes various rhythmic values such as quarter, eighth, and sixteenth notes, as well as rests and accidentals.