

FROM BOSPHORUS TO MARAGA: THEORETICAL PURSUITS & APPLICATIONS THAT STRIVE FOR THE GENUINE IN EXPRESSING MAQAMS

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Invited paper to the “[International Symposium on Mugam](#)” within
the framework of the International Festival “[Space of Mugam](#)”

Dates: 15-17 March 2011

Location: Baku

Key Concepts

- In Turkiye, the 24-tone Pythagorean Yekta-Arel-Ezgi-Uzdilek tuning is **grossly at odds** with maqam practice.
- Utilization of 12-tone Equal Temperament in keyboard and fretted instruments in Classical/Contemporary Western music is not in the least unacceptable; namely, **one can perform a piece written for trombone or violin on a piano** without grossly misrepresenting or distorting the intended music...
- Whereas, **fretting the tanbur or affixing mandals on a qanun strictly according to the 24-tone Yekta-Arel-Ezgi-Uzdilek tuning will be disastrous** for maqam performance; in other words, this tuning scheme will grossly misrepresent or distort the intended music, particularly for maqams or modulations to Saba, Ushshaq, Huzzam, Karjighar, etc., where the margin of error for certain tones is very narrow.

Whence the tuning discrepancy?

- Yekta-Arel-Ezgi-Uzdilek model was formulated during a period when “music based on quartertones” was condemned by the newly founded Republic as synthetic & unnational.
- Flagrant discrepancies between Yekta-Arel-Ezgi-Uzdilek tone-system and measurements acquired from Turkish Maqam music practice arguably stem from a deliberate Turkocentric revisionism, calculated, to all appearances, to abnegate and ward off the above-mentioned “quarter-tones” in order to prevent implicating the maqam heritage as having a Byzantine / Arabic origin.
- In what seems like a vain effort to rescue the venerable tradition and redeem it as an inextricable component of the maiden Turkish nationalization project, “Yekta-Arel-Ezgi school” appears to have condoned the significant alienating of maqam theory to actual practice.

Yekta-Arel-Ezgi school's (counter-)arguments

- Turkish (Maqam) music is a national entity conceived by scholars and practitioners of **pure Turkic lineage since about a thousand years ago**. It therefore embraces the indigenous rural styles of Anatolia whose Euro-harmonized versions were promoted by the regime in place of the Art/Classical genre.
- The genre does not sport cumulative quarter-tones which would implicate it as Byzantine / Arabic, but instead is based on melodic intervals distinguished by **commatic differences misconstrued by Westerners as the division of the whole tone into 4 equal parts**.
- Subtle commatic inflexions are not only indispensable features of makamlar, but also **essential in any would-be endeavours in harmony and polyphony**.

Stuck between quartal and Pythagorean division of the WT

- To represent the “mujannab zone” or “mujannabat” that arguably renders Maqam music its unique texture, Arabs and Persians have nevertheless adopted the quartal division of the whole tone in theory & notation.
- However, a literal 24-tone Equal Division of the octave is no less problematic compared to YAEU without sufficient room for pitch inflexions.
- Mainstream trends seem to force a choice between quartal and Pythagorean division of the whole tone.
- In contrast, from the time of Safi al-Din al-Urmavi, Pythagorean and complex arithmetic divisions of the genera were given side by side under Abjad notation.

Today, in retrospect

- Turks and Syrians talk of the 53 equal comma system embodying perfectly the YAEU cast.
- While a solid option, Holderian comma system is wholly applied to neither qanuns nor tanburs.
- Tanbur frets are placed haphazardly.
- In Turkish qanuns, the semitone mandal is affixed at 100 cents due to taking as reference imported Western tuners, and the distance to the nut is divided arithmetically to 5, 6 or 7 parts depending on the register as a fluke, yielding to all intents and purposes 60, 72 and 84 equal divisions of the octave respectively.

Multiples of 12-equal

- Multiples of 12 equal tones are a novelty under the influence of Westernization for Maqam music and do much injustice to the authentic tuning of maqams.
- All maqam theories thus far suggested in the Levant are either tuned to **subsets of 106** (double the Holderian comma resolution) **or multiples of 12**.
- Music theory is not – contrary to popular belief – just a field of discovering and establishing the rules of music, but more so the gradually flourishing incentive and impetus behind music-making as a consequence of its sheer impact on music education throughout time. **Hence, the right theory matters!**

Desiderata

- Maqam theory as either a national or an international phenomenon can no longer shelve to account for clustering microtonal savours supersaturated with harmonically complex intervals of varying hues.
- How true are we today to the faithful rendition of the makam/maqam/mugam/dastgah repertory when in fact the established yet demonstrably wanting tone-systems and theoretical models that emerged to explain them were shaped during the same period as Western conventions forcefully penetrated into our geographies?
- A novel and comprehensive maqam theory must aspire to become not only an unbiased means of guidance to the praxis, but also – and foremost of all – a faithful servant to the genuine performance traditions of the Middle East while at the same time propagating them into the future.

Yarman-24

- Single diapason (Ahenk) Arel-Ezgi-Uzdilek alternative utilizing SAME accidentals.
- Contains a 12-tone Modified Meantone Temperament core.
- Also flaunts a 17-tone cycle of fifths.
- Can satisfactorily express middle second intervals peculiar to Ushshaq, Huseyni, Saba, Karjighar, Huzzam, even without pitch inflexions.
- Features minimal xentonicity / microtonal polyphony.
- Best match against histogram peaks of pitch measurements derived from collated 128 recordings in 9 maqam categories (2009 JNMR article).

Yarman-24 score example

Saba Küpe
Düyek

The image shows a musical score for a piece titled "Saba Küpe" in the "Düyek" mode. The score is written on four staves, each with a treble clef and a key signature of one flat (B-flat). The time signature is 8/4. The lyrics are in Turkish and are written below the notes. The lyrics are: GA- -Y RI SE- -N DE- O- -L Bİ RAZ E- -Y BÜ- -L BÜ Lİ- GÖ- -N LÜ- -M HÂ- MU- -Ş VA- -S FI Nİ- OL GO- -N CA Nİ- -N BÂ- Â DI SA BÂ- DA- -N E- -Y LE GÜ- -Ş

GA- -Y RI SE- -N DE- O- -L Bİ RAZ E- -Y
BÜ- -L BÜ Lİ- GÖ- -N LÜ- -M HÂ- MU- -Ş
VA- -S FI Nİ- OL GO- -N CA Nİ- -N BÂ-
Â DI SA BÂ- DA- -N E- -Y LE GÜ- -Ş

Yarman-36

- Medium resolution maqam tone-system optimized for 5 diapasons (Ahenks) & tunable by ear ($A_4=438.41$ Hz).
- Triple bike-chain of 12-tone Temperament Ordinaires with dedicated notation.
- Layer I, fifths cycle (beats per sec.)
-2, -1, -2, -1, +1, +1, 0, -2, -1, -2, -1, -1
- Layer II (jump G > wide 5:6, thrice per second)
-2, -1, -1, -1, 0, -1, 0, 0, -2, -1, -1, -1
- Layer III (jump C > 11:9)
-2, -1, -2, -1, 0, -1, 0, 0, -1, -1, -1, -1

Yarman-36 accidentals

The screenshot displays the 'Chromatic Clavier' software interface. The main window shows a keyboard layout with 36 keys, each labeled with a note name and its corresponding accidental. The notes are arranged in a chromatic scale across two octaves. The interface includes a control panel at the bottom with various settings and buttons.

Chromatic Clavier

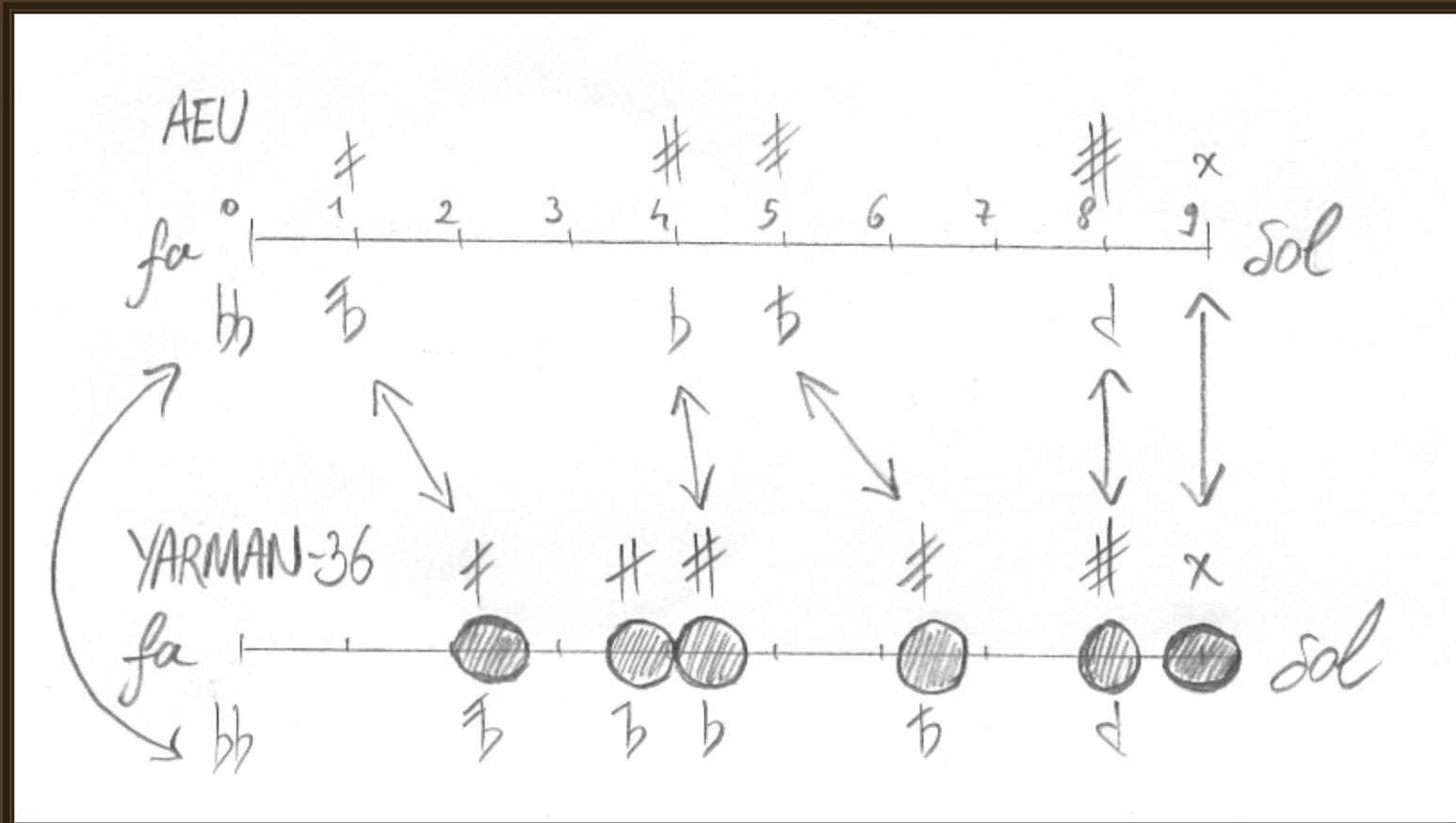
| Octave 1 | Octave 2 |
|-----------|-----------|
| D \flat | D \flat |
| E \flat | E \flat |
| F \flat | F \flat |
| G \flat | G \flat |
| A \flat | A \flat |
| B \flat | B \flat |
| C | C |
| D | D |
| E | E |
| F | F |
| G | G |
| A | A |
| B | B |
| C | C |

Frequency values (Hz): 0, 199, 396, 501, 700, 897, 1095, 1200

Control Panel:

- Number of octaves: 2
- Shift: 0
- Pad 1 (new age)
- Notation system: YA36
- Buttons: Select..., Preset, Freq., Chord..., Sound Settings, Help

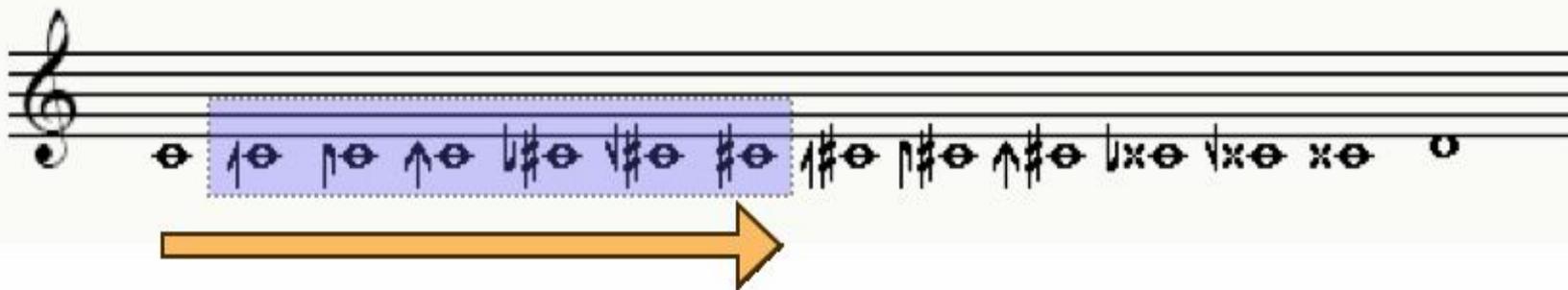
Yarman-36 vs AEU thru the WT



79 MOS 2deg159-tET

- 79/80-tone Moment of Symmetry subset of 159-tone Equal Temperament.
- Generator is 33 part logarithmically equal division of 4:3 (pure fourth), hence 2/3 Holderian comma (78 times), plus 1 Holderian comma yielding the octave register yegah-neva.
- Though unequal, symmetric due to only two comma sizes.
- Contains a 12-tone Well-Temperament core.
- Notated using a complementary Sagittal Microtonal System by Secor & Keenan.

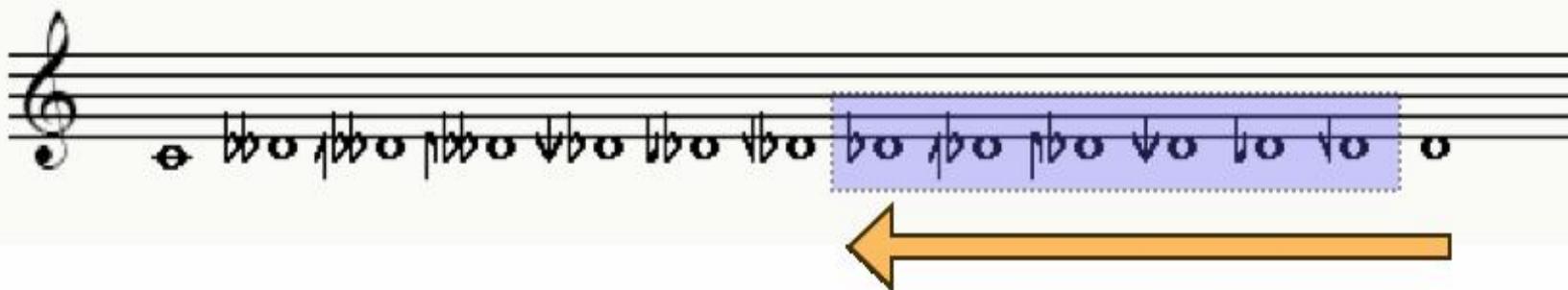
Wholetone in 79 MOS 159-tET



3 steps to the quartertone,

6 steps sharp/flat,

12 steps double sharp / double flat



The 79-tone qanun

- Nominate *Rast* as the main maqam instead of Arel's contrived *Çargah* in accordance with historicity and map its basic scale to the naturals on the staff (Supurde Ahenk = Concert Pitch);
- Yield the 3rd and 7th degrees of *Rast*'s principal ascending scale, here being *segah* and *awdj*, without breaking the chain of tolerable generator fifths;
- Alterate to the slightly higher 3rd and 7th degrees named *buselik* and *mahur* again through an uninterrupted chain of fifths, allowing direct modulation to maqam *Mahur*;
- Position myriad middle second intervals as necessary to common perde-pair locations such as *dugah-segah*, *chargah-saba*, and *neva-hisar*;
- Repeat the above procedure over sharp and flat tonalities as easily as over naturals, rendering the instrument wholly key-transposable.