

Oriental Jazz Improvisation  
Microtonality and Harmony





by

Thomas Mikosch

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الْحَمْدُ لِلَّهِ

Psalm 139:14

## **Oriental Jazz Improvisation: Microtonality and Harmony**

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## Preface

In his *Theory of Harmony*, the great Arnold Schönberg once declared the discovery of our scale a *stroke of luck* for the evolution of our music. One could have – like the Arabs, the Chinese, the Japanese, or the "Gypsies" – equally found another row [Schönberg: p. 22]. He did not call it the final – the *ultimate goal* of music – but essentially just an *interim stage*. The overtone series presents many problems that must be addressed in the future. Hence, he referred to equal temperament as a *compromise* between the perfect intervals and our *inability* to use them. Moreover, in pursuit of a *higher-order system*, he reflected on the possible future use of *quarter tones* within the bounds of possibility. Even Olivier Messiaen labeled our Western musical system merely "our *current* chromatic system" [emphasis added, Messiaen: p. 85]. I suppose, given the severity of the problem, one must retain a good sense of humor in dealing with this system, or risk becoming as cold and *temperamental* as the very form being critiqued.

Select Turkish makamlar (pl. of *makam*) appear, for instance, in Bulgarian wedding music or Balkan jazz but are utilized also in Greek rebetiko music. The Ottoman music tradition had a significant impact on the music of these particular countries. Countries whose territories once were part of the *Ottoman Empire*, which ruled over large portions of South-Eastern Europe, Western Asia, and Northern Africa (an expansive area stretching all the way over the Black to the Red Sea and from the Mediterranean Sea to the Tigris-Euphrates rivers), between roughly the 14th and early 20th centuries. Arabic maqamat (pl. of *maqam*) occur in Jewish klezmer and, until today, are heard in Sephardic synagogues. The muezzin's call to the five daily Muslim prayers was already performed during the lifetime of the Prophet, blessings be upon him, (570-632) using certain maqamat. Even the *Qira'at*, the readings of the Noble Qur'an, are held using maqamat; in the manner of the calls to prayer, they are never accompanied by musical instruments during the recitations, in keeping with the Islamic tradition of a strong devotional *a cappella practice*, revealing the beauty of the Most High's word.

Many scales and modes in this curated collection are widespread in Romani music across South-Eastern Europe, especially in the music of the Balkans and in Greek rebetiko, as well as in Jewish music. There are even traces of Arabic music in Andalusian flamenco, manifesting in the abundant pedal tone playing and the use of drones in the *toque* of the guitar player and, of course, in the *cante flamenco* – the vocal tradition. This influence extends to several rows that are remarkably prevalent in contemporary jazz music. That is no surprise at all, taking under consideration that many swing musicians in fact had a Jewish background. So there can even be heard klezmer influences – already before Ziggy Elman (born *Harry Aaron Finkelman*) joined – in Benny Goodman's sound.

This book is a dynamic resource, designed to inspire new paths of experimentation. While grounded in rigorous research, it is not a dry scientific treatise or a rigid instructional guide, but a compendium of ideas for the practicing musician exploring modal traditions of the Middle East, South and Central Asia, along with their diasporic musical expressions. Think of it as a palette of colors on a blank canvas. These traditions embody a profoundly open approach to improvisation; an expressive liberty nurtured within these pages by unveiling the underlying structural foundations. Rather than aiming for stylistic imitation, it seeks to expand tonal literacy through comparison and structural insight, broadening the spectrum and revealing how different traditions – even with the same intervals – shape scales and modes in distinct ways. The chapters build upon one another, tracing a progressive path that mirrors the layered understanding needed to grasp the essence of these scales. The *Index of Scales and Modes* at the end of this volume serves as a map, guiding through intricate sonic landscapes. Keep in mind, however: when transcribing these modes into equal temperament, the result can only be an approximation rather than a faithful equivalent.

This modest work embodies the culmination of over 25 years of dedicated study, defined by my personal spiritual journey and the pursuit of unbounded musical freedom. It is the distillate of that endeavor, longing for the Word: *In ipso vita erat*. In the beginning, there was the Word. Yes; from that arose a murmur: *Omnia per ipsum facta sunt*. And since I am not Bernard Shaw, let us now set the stage, allowing the silence of *itself* to sing first.

*Işık doğudan yükselir.*

Peace.

Third stone from the Sun, February 2, 2022

Thomas Mikosch



## A Very Brief History of Arabic and Turkish Music Theory

The roots of the musical scales and modes used by both Arabs and Turks trace back to ancient Greece. The music-theoretical texts of ancient Greek scholars were translated by the Arabs at the onset of the *Golden Age of Islam* in the 8th century, leading to the writing of the first books on Arabic music theory. One such influential work was the seminal *Kitāb al-Mūsīqā al-kabīr* (Arab. 'Great Book of Music') by the great philosopher Abū Nasr Muhammad al-Fārābī (872-950). This treatise established the ground for a precise scientific approach to the subject of music. Al-Fārābī, a scholar of the *Greek Enlightenment*, is credited with preserving many original Greek texts during the Middle Ages through his commentaries and treatises. In philosophy, he is regarded as the second in rank after Aristotle (384-322 BCE) and is therefore referred to as 'the second teacher' or even 'the second master.' The historical origins of the two – the Arabic maqam and the Turkish makam (Turkish 'position') – are strongly rooted in ancient Greek texts. Both systems are founded on the work of Greek scholars, especially the use of *tetrachords* (a series of four tones). However, it is essential to recognize the nuanced interplay between theory and practice within these music traditions. While scholars like al-Fārābī provided structured frameworks for understanding music, practitioners relied predominantly on the oral tradition of *meshk* (Turk. meşk) to transmit practical knowledge across generations. Musicians often lacked a scientific approach to music, with many unable to name the scales and modes they played, let alone individual tones. Conversely, many theorists were not musicians, hence the term 'theorists.'

At the beginning of the 14th century, with the foundation of the Ottoman Empire, a distinct Ottoman Turkish music tradition began to develop. While this tradition evolved independently, it was never entirely free from external influences, particularly from the Arabs and Persians. The Persian music tradition, in turn, is rooted in the Assyrian-Babylonian heritage. Given the close connections among these music traditions, it is more accurate to describe their relationship as an *interrelationship* rather than mere influence. Musicologists such as Hüseyin Sâdeddin Arel (1880-1955) and Râuf Yektâ Bey (1871-1935) have challenged the prevalent claims that Ottoman music originated solely from Byzantine and Persian traditions rather than from Turkish sources. They presented substantial evidence through documents and research to support their arguments. Although many scales and modes in Ottoman court music were adapted from Arabic music, and numerous Turkish makamlar carry Persian names – reflecting the historical use of Persian as the court language and, at times, the empire's official language – these elements were incorporated into a uniquely Ottoman context. Educated Ottoman Turks spoke, besides Ottoman Turkish (*Osmanlı Türkçesi*), both Arabic and Persian; akin to how Latin served as the lingua franca of science in the West, while French was the means of expression of art and poetry. Arel and Yektâ's assertions were most likely influenced by national pride, given the recent establishment of the Turkish Republic. Insults are effective only where emotion is present.

By the end of the tragedy of World War I in 1918 and the subsequent collapse of the Ottoman Empire some four years later, this interrelationship declined. At this point, Western influence stemming from the occupation of Arab territories by the English and French began affecting Arab music traditions. Habib Hassan Touma even went so far as to call this Westernization frankly "degeneration of the authentic music" [Touma: p. 32]. Fortunately, with the *Treaty of Lausanne*, signed on July 24, 1923, securing Turkey's sovereignty and preventing occupation, the Turks were spared this fate. Later that year, on October 29, Mustafa Kemal Pasha, who would go on to be known as *Atatürk* – meaning 'Father of Turkey' – founded the modern Republic of Turkey.

Then, in 1932, the *1st International Congress of Arabic Music* was held in Cairo. During this congress, a generally accepted foundational music theory was established, which finally enabled the notational transcription of Arabic music. Although systems of Arabic musical notation have existed since the 9th century, they had not achieved widespread acceptance. Some scholars even assert that the Arabs rejected the accidental '#,' due to its visual resemblance to the *Satīya*, a two-rung ladder representing the fourth of the seven seals of the Magnificent Qur'an and symbolizing a spiritual ascent to God, glorious and exalted is He. As the saying goes, sometimes words have two meanings. No stairway, denied. The prevailing narrative suggested that the notation of Arabic music would simply *rob its soul*. The introduction of Western staff notation into the Arabic and Turkish music traditions

marked a *paradigm shift*, igniting significant criticism and debate among musicians and theorists alike.

Until the Congress of Arab Music in 1932, Râst was the tone Yakâh in the Arabic music tradition. Meanwhile, Yakâh designates the lower G. In the Turkish musical system, accordingly the D. Here, moreover, the Arabic tone Husayni was defined as equal to the Western pitch standard A, which was 435 Hz at that time and, after the BSI conference in May 1939 in London, 440 Hz. The Arabic system once also began on D. But, with the decline of the Ottoman Empire, was immediately changed to G by the Arabs. Comparing both musical systems, it is noteworthy that the pitch names are largely identical, with the Arabic being a perfect fifth lower. The change in the Turkish scale, now beginning on C instead of D as in Yektâ's *24-tone Pythagorean tuning*, was made by Arel-Ezgi-Uzdilek.

Turkish tone and pitch name		Arabic tone and pitch name	
D	Yegâh	G	Yakâh
E <sub>b</sub>	Kaba Nim Hisar	A <sub>b</sub>	Qarar Hisâr
E <sup>♯</sup>	Kaba Hisar		
E <sub>d</sub>	Kaba Dik Hisar		
E	Hüseynî Aşîrân	A	Ushayrân ... etc.

Many Turkish terms derive from Arabic or Persian, for many Turkish makamlar originate from there. Tones or makamlar with the suffix *-gâh*, for example, originate from Persia. Gâh is Persian for *position*. Their musical system is being referred to as *dastgâh* (دستگاه), standing for *position of the hand*; and, just like the Arabic term maqam (مقام), refers to the position of the hand in fingering the tones on the oud. Fairly similar to the Western 'Guidonian hand,' whose originator Guido d'Arezzo (992-1050) was in fact very well aware of Arabic music theory. Thus, the names of the tones are not equal in the octave, since the position on the fingerboard is not equal. The *position* is relative to Râst. Mind that Râst once was Yegâh, *the first position* (yek-gâh).

یک	Yek-gâh	on the first position	دو	Dü-gâh	on the second position
سه	Se-gâh	on the third position	چهار	Çâr-gâh	on the fourth position
پنج	Penç-gâh	on the fifth position	شش	Şeş-gâh	on the sixth position
هفت	Heft-gâh	on the seventh position	هشتگاه	Haşt-gâh	on the eighth position

While in the Turkish musical system Dügâh, Segâh, and Çârgâh remained in their original positions, the change of Yegâh to Râst and the Arabic scale now beginning on G required the Turkish tone Pençgâh to be renamed, as it had become the octave of Yegâh. It was thus renamed Nevâ, while Şeşgâh and Heftgâh were renamed Hüseynî and Eviç, respectively.

Over the centuries, there has been a variety of tunings; and the intonation of the scales and modes themselves – due to their music tradition being an oral one, which is, moreover, dependent on the geographical region, school, or personal taste – was and still is, akin to a language with its countless dialects, very different from region to region. So a musician from Damascus will intonate the scales and modes differently, compared to one from Baghdad. Songs or pieces may sound completely different depending on the very region in which they are performed. According to oud virtuoso Munir Bashir (1930-1997), notating Arabic music would "kill its regionality" [el Mallah: p. 73]. That, of course, made and still makes a notation extremely difficult or even impossible. So even until today, there still is a not negligible discrepancy between the music as it is notated and how it is performed.

In Turkey, from 1910 on, Rauf Yektâ – who too was present at the Congress in Cairo – as well as Arel, Suphi Ezgi (1869-1962), and Salih Murat Uzdilek (1891-1967) had designed an own Turkish musical system that was widely accepted and is being used until today, though the conceptual construction of the (current) Turkish *A-E-U system* (short for Arel-Ezgi-Uzdilek) has caused quite a number of problems and therefore is an enduring target of criticism and subject of debate, especially among the devotees of the *old music* as it was performed in Ottoman times.

Referred to collectively as 'quarter tones,' Arabic maqamat and Turkish makamlar exemplify a complex microtonal framework, with 'quarter tones' serving as a *pars pro toto*. In the Turkish system, the whole tone (or *Pythagorean second*) is divided into nine commas, though only a few are typically used. Both the Yektâ and A-E-U systems thus employ a modified Pythagorean tuning, producing a 24-tone octave. Philolaus (c. 470-385 BCE) already quantified the large whole tone as nine commas, with the apotome comprising five and the limma four. This echoes the celestial architecture of sound, ushering us into the luminous, arcane realm of Turkish music theory.

# مقام राग

"What science cannot declare, art can suggest; what art suggests silently, poetry speaks aloud; but what poetry fails to explain in words, music can express."

"One who knows the secret of sound, knows the mystery of the entire universe."

HAZRAT INAYAT KHAN (1882-1927)

"Et ignotas animum dimittit in artes."

OVID (43 BCE-17/18 CE), *Metamorphoses*, VIII, 188

# Pronunciation of Turkish Terms

In the Turkish language, the following pronunciations are different in comparison to the English.

## 1. Vowels, Umlauts, and Diphthongs

The total of 29 letters in the Turkish alphabet has 8 root vowels: four *bright-sounding*, *e*, *i*, *ö*, *ü* and four *dark-sounding*, *a*, *ı*, *o*, and *u*. Note that in the Turkish language, the letter 'y' is, unlike in the English language, strictly a consonant.

In the following, the letters are transcribed using the *International Phonetic Alphabet (IPA)*.

<b>A, a</b>	[a]	like <i>a</i> in m <u>o</u> ther
<b>E, e</b>	[e]	like <i>eh</i> in s <u>e</u> nd
<b>İ, i</b>	[i]	dotted <i>i</i> ; short, like <i>ee</i> in s <u>ee</u>
<b>I, ı</b>	[ɯ]	undotted <i>i</i> , like <i>i</i> in c <u>i</u> rcus or <i>e</i> in rat <u>e</u> d
<b>O, o</b>	[o]	like <i>o</i> in n <u>o</u> te
<b>Ö, ö</b>	[ø]	umlaut; rounded, like <i>i</i> in K <u>i</u> rk or <i>ea</i> in <u>E</u> arth
<b>U, u</b>	[u]	like <i>u</i> in <u>U</u> h <u>u</u> ra or <i>oo</i> in M <u>oo</u> n
<b>Ü, ü</b>	[y]	umlaut, like <i>ü</i> in German or <i>u</i> in French, like in t <u>u</u>

Long vowels as well as diphthongs only occur in Arabic or Persian loanwords. Each vowel retains its individual sound like, for example, in the word 'aile' [a.i.le], which means 'family' in Turkish. In all other cases, each letter is spoken and has only one sound. Every word is pronounced as it is spelled.

## 2. Consonants

The remaining 21 letters are consonants. Again, a distinction is made between *unvoiced hard* and *voiced soft consonants*. Of the 21 consonants, 8 are voiceless and listed alphabetically: *ç*, *f*, *h*, *k*, *p*, *s*, *ş*, and *t*. The remaining 13 consonants are voiced and are *b*, *c*, *d*, *g*, *ğ*, *j*, *l*, *m*, *n*, *r*, *v*, *y*, and *z*.

<b>C, c</b>	[dʒ]	like <i>j</i> in j <u>a</u> zz
<b>Ç, ç</b>	[tʃ]	c-cedilla, like <i>ch</i> in <u>ch</u> ild
<b>G, g</b>	[g]	like <i>g</i> in <u>g</u> ood, spelled softer with front vowels
<b>Ğ, ğ</b>	[w:]	soft <i>g</i> ( <i>yumuşak g</i> ); not pronounced, lengthens preceding vowel
<b>H, h</b>	[h]	like <i>h</i> in <u>h</u> alf or <u>h</u> igh; never silent, always unvoiced
<b>J, j</b>	[ʒ]	like <i>s</i> in mea <u>s</u> ure
<b>R, r</b>	[r]	single flap <i>r</i> , like <i>r</i> in <u>r</u> ose
<b>S, s</b>	[s]	like <i>s</i> in <u>S</u> pock, always unvoiced
<b>Ş, ş</b>	[ʃ]	s-cedilla, like <i>sh</i> in <u>sh</u> ine
<b>V, v</b>	[v]	like <i>v</i> in <u>v</u> ending machine

## 3. Circumflexes

<b>â, î, û</b>	circumflex ( <i>düzeltilme işareti</i> ), faint <i>yee</i> sound following preceding consonant
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