

Maqam Analysis: A Primer

The goal of this paper is to provide an accessible introductory framework for the analysis of music within the *maqam* (modal melodic) traditions of Egypt and the Levant (Syria, Lebanon, Palestine), a region that shares both repertory and an approach to melody. While much of what is written here will also apply to many of the musics from related *maqam* traditions (including Turkey, Iraq, the Arab Gulf, and parts of North Africa, and to a lesser extent traditions from Iran and Central Asia), I do not wish to make claims that are too broad, nor that fail to respect the many subtle and not-so-subtle differences among regional traditions. I have selected musical examples from Egypt and Syria to illustrate my points, all of which can be heard at <http://www.maqamlessons.com/analysis>. The website contains much more than could be presented here: complete analyses of 27 pieces of music (plus fragments from two more), broken down *jins*-by-*jins* into 819 audio samples that illustrate more completely the same analytical points made in shorter form here. I feel strongly that the analyses and claims made in this article cannot be understood without hearing the audio samples, so the reader is highly encouraged to follow the analysis track of the website and play those samples along with the article itself.

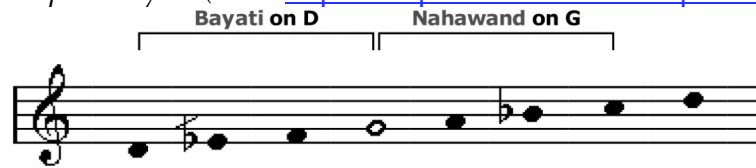
Aside from addressing the general need for more *maqam* analyses in the music theoretical literature in English¹, this paper advances new ideas that differ significantly from the conventional view of *maqam*, as represented both in the theoretical literature and in the oral theory tradition of practitioners. The concept of *jins* is refined here, through the new concept of “*jins* baggage,” as well as through the identification and naming of *ajnas* not described in previous theory. The understanding of *maqam* (and *sayir* within *maqam*) is expanded to encompass the frequently occurring paths of common modulations from *jins* to *jins* within a *maqam*. The shape of each *maqam* can be represented as a network of pathways among *ajnas*, rather than simply a scale or set of scales divided into tetrachords. This new perspective is based in my experience as a practitioner: over the course of my study, performance, and teaching, I grew to feel that there was a gap between the conventional understanding of *maqam*, and what I actually heard in the repertory and experienced through practice.

That conventional understanding is, to summarize: that *maqamat* are scales built from conjunct or disjunct tetrachords, known as *ajnas* (singular: *jins*, meaning in Arabic “kind,” “type,” or “gender,” derived from the Greek word *genus*, and translated as “genre” in some writings (e.g. Maalouf 2002)), and that *maqamat* are organized into family groupings with others sharing the same lower (or root) *jins*. Some sources also allow for the existence of pentachords (occasionally are referred to as *3uquud* rather than *ajnas*) as well as trichords. All of this is perfectly adequate for a description of scales in the

¹ See Farraj, Maalouf, Marcus, Nettle, Riddle, Racy and Touma.

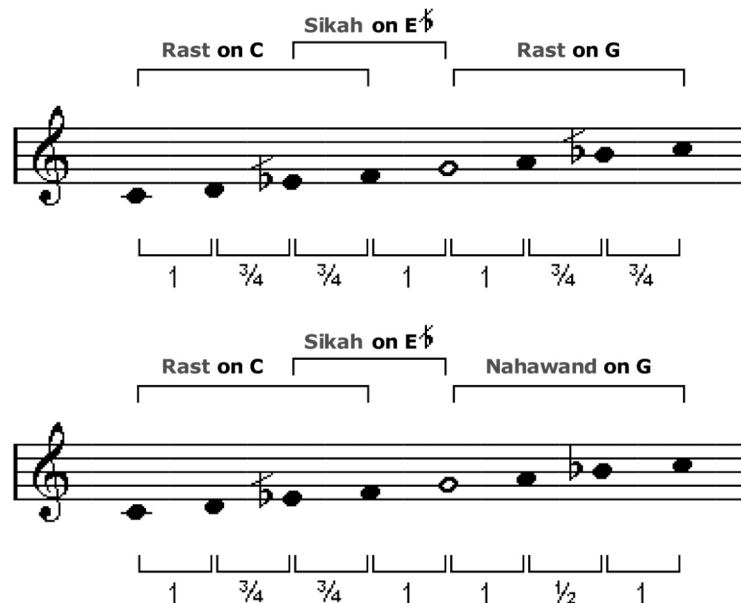
abstract, and on that level I have no major disagreement with the presentations of scales on www.maqamworld.com or elsewhere², such as the following:

Example 1a, *Maqam Bayati* (from <http://maqamworld.com/maqamat/bayati.html>)



Example 1b, *Maqam Rast* (from <http://maqamworld.com/maqamat/rast.html>)

Maqam Rast 



Maqam **Rast** has two forms shown above. In general the first form (Rast-Rast) is used on the way up, and the second form (Rast-Nahawand) is used on the way down. The secondary jins is the *Sikah* trichord on the 3rd note, often used in [modulation](#).

The major gap I feel exists between the theory and practice of Arabic music is that, from what I have been able to understand, current theory in both Arabic and English amounts to little more than a description of scales. Not only does Arabic music tend to violate the constraints of octave-based scales,³ but the melodic content that uses those scalar skeletons is just as important to treat theoretically as are the scales themselves, if not more important. By analogy, if Western tonal theory only dealt with descriptions of the diatonic scales, rather than accounting for common and uncommon chord progressions,

² For example, Al-Hilu (1958), who gives similar *jins* breakdowns over the traditional double-octave scale. See also Marcus, Allah Werdi, Touma, Maalouf, etc.

³ *Maqam Saba* is often presented as the one exception to octave equivalence, whereas a closer look at the repertory reveals that: 1. numerous other *maqamat* in practice do not display octave equivalence, and 2. the factors leading *Maqam Saba* not to display octave equivalence (namely the power of typical relationships among adjacent *ajnas* to outweigh octave relationships) apply generally to all of the *maqamat*.

melodic motifs, and large-scale melodic movement, there would be no way to tell the difference between Bach and Tchaikovsky, since both use the same diatonic scales in their compositions. In fact, the material presented here will not go as far as I would like in characterizing melodic content, but will attempt to lay the groundwork for that discussion⁴ by clarifying the broader use of the *maqamat* in actual musical practice.⁵

A brief note about notation and intonation: in my transcriptions I will be using the fairly standard accidental symbols for the so-called “quarter-tone” notes: \flat for “half-flat” (so that “E-half-flat” is a note roughly halfway between E-flat and E-natural), and \sharp for “half-sharp” (so that “F-half-sharp” is a note roughly halfway between F-natural and F-sharp). This does not mean that I am claiming that Arabic music uses an equal-tempered 24-tone schema out of which scales are built: to the contrary, not only was such a schema demonstrated false (Maalouf 2002) at the 1932 international conference of Arabic Music held in Cairo (attended by such well-known Western musicians and scholars as Bela Bartok and Henry George Farmer), but it has been demonstrated that the intonation of the so-called “quarter-tones” differs from scale to scale, being higher in some scales than in others, and that the apparently “normal” notes (E-flat, F-sharp) also differ in intonation from scale to scale (Marcus 1993), so that the musical reality is one of many gradations of pitch, each of which is learned precisely by ear by practitioners of the tradition; by my count I have, as a practitioner, around 12 different distinct notes between my lowest E-flat and my highest E-natural (Abu Shumays 2007). Nonetheless, the similarities in quality among intervals do lend themselves to grouping in three broad categories: flat, half-flat, and natural (or natural, half-sharp, and sharp, depending on the position with respect to the diatonic scale), so that we can say that there are several kinds of E-flat (some higher and lower), several kinds of E-half-flat, and several kinds of E-natural. Therefore, the 24-tone schema is useful for nomenclature and notation, as long as it is understood that the precise intonation of the notes so represented must be learned by ear. To those not familiar with the tradition, this may make it complicated to accurately hear and classify the *ajnas*, but to those within the tradition, such differences add to the clarity with which *ajnas* can be distinguished from one another, in addition to differences in melodic vocabulary used in each *jins*, and differences in tonal emphasis. The subject of intonation

⁴ being drafted at www.maqamlessons.com.

⁵ I note two important differences between my approach and those of Scott Marcus and Mikhail Khalil Allah Werdi: first, they describe modulation as occurring between whole *maqamat*—as most practicing musicians do—while I argue that modulation happens mostly between *ajnas* and only more rarely between *maqamat* (and that we can categorize these as different types of modulation, a distinction lost when every modulation is described as a move from *maqam* to *maqam*). Second, my philosophical objection to Marcus’s attempts to formulate “rules” for modulation, and my preference instead for a catalogue organized by frequency and rarity, should become apparent. My discussion of arbitrariness could be taken as a refutation of his (and most other Western music theorists’) approach in this regard, though it is not directed at him specifically (in his rule-building he is much more in line with the philosophical leanings of mainstream music theory, to which my critique is actually directed). However, in terms of the modulations themselves I am more or less in complete agreement with both Marcus and Allah Werdi, as to which happen and when. The difference lies in how we interpret their occurrence, and their consequences to our understanding of the system as a whole.

is too large to be discussed in this paper beyond what I've written here,⁶ so the reader will have to simply accept that the transcriptions are approximations of musical reality, especially from the perspective of intonation, and that the more definitive analytical statements are those made by the naming of *ajnas* used within the musical examples.

I would also note that in my transcriptions I have transposed pieces to pitches that facilitate an easier comparison with other pieces in the same *maqam*; for example “Fakkaruni” (Example 9) is actually performed by Umm Kulthum in Rast on A-flat, which I have transposed to Rast on C, while “Mihtaar ya naas” (Example 20) is actually performed by Umm Kulthum in Bayati Shuri on B, which I have transposed to Bayati Shuri on D. *Maqamat* and *ajnas* are intervallically and melodically invariant with respect to pitch transposition, with transpositions most frequently occurring to accommodate the range of the singer; these transpositions are frequently (but not always) accomplished by the retuning of instruments a half or whole step lower or higher, so that the *maqamat* are technically and conceptually in the same location as they would be in their original key. Hence I felt no compunction in making matters easier for readers by transposing all of the examples of pieces in the same *maqam* to the same key, which in most cases is also the key used in the description of that *maqam* in conventional theoretical sources (Rast on C, Bayati on D, etc.). Therefore, when I refer to pitches by note name in making my analyses, those pitches should not be assumed to be absolute, but instead relative to the root tonic of the piece in question. On the companion website, www.maqamlessons.com/analysis, I have used scale degrees relative to the root tonic of the piece, rather than note names, for consistency and clarity (e.g. “Jins Rast 1,” “Jins Hijaz 5,” “Jins Jiharkah 8”) to refer to the position of each *jins* within the *maqam*—“1” refers to the root tonic, “5” the fifth scale degree, “8” the octave, and so on.

A Clarification of the Conventional Definition of *Jins*

According to a conventional definition, *Maqam Bayati* looks like this:

Example 2

Maqam Bayati form 1
Jins Bayati D Jins Nahawand G

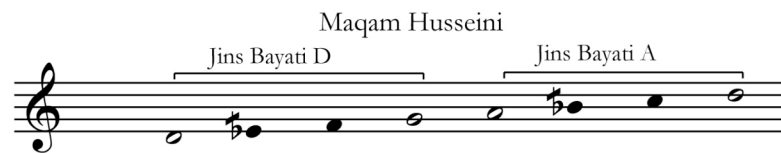
Maqam Bayati form 2
Jins Bayati D Jins Rast G

Astute readers will notice two differences from the presentation of *maqam Bayati* on www.maqamworld.com, as shown above. First, I have shown two forms, one with an upper *Jins Nahawand G*, the second with an upper *Jins Rast G*. On www.maqamworld.com, Bayati has only one form, and the scale that starts with *Jins Bayati D* and finishes with *Jins Rast G* (what I've labeled “form 2” here) is listed as *Maqam*

⁶ For more thorough discussions of intonation in Arabic music, please consult: http://www.maqamlessons.com/analysis/FuzzyBoundaries_MaqamIntonation2009.pdf and <http://shumays.libsyn.com/microtones-in-arabic-music> as well as Marcus (1993).

Husseini. This reflects a minor dispute within the Arab music community; many others represent Bayati as I do here, with *Maqam* Husseini being represented as follows⁷:

Example 3



The second major difference between my presentation of Bayati and that on www.maqamworld.com is that I have represented the *ajnas* (plural of *jins*) Nahawand and Rast as pentachords, rather than as tetrachords. The reason is: in all of the *maqamat* in which Nahawand and Rast occur as a root *jins*, the most important secondary tonic occurs on the 5th rather than the 4th scale degree; and when Nahawand and Rast occur as *ajnas* within other *maqamat*, they most frequently modulate on their 5th scale degree. I have therefore adopted the convention of classifying the size of a *jins* (as 3, 4, or 5 notes) according to the scale degree of its expected secondary tonic / point of modulation. Within this classification system, *ajnas* of the same size are most likely to modulate amongst each other on the same tonic, a fact that makes it more useful than the current convention of classification, in which all *ajnas* are represented as tetrachords unless it is impossible to do so (as in the case of Nakriz, which is represented as a pentachord because of its raised 4th scale degree, or Sikah, which is represented as a trichord because of its limited range). This in itself—what amounts to a simple reclassification of some of the *ajnas*—is not a radical departure from the conventional understanding of *ajnas* and *maqamat*, except perhaps to those who may believe that it is important to maintain a strong connection with Greek tetrachord theory, which heavily influenced the Arab theorists of the medieval period in their descriptions of the scales.⁸ In the classification system for which I am arguing here, there are no *maqam* scales made from disjunct *ajnas*; all are made from conjunct (or overlapping) *ajnas* of different sizes. (See the “Basic Ajnas” section of the website for audio samples of all of the most common *ajnas*: <http://www.maqamlessons.com/analysis/basicajnas.html>.)

⁷ This is the version of Husseini more consistent with the Turkish & Iraqi music traditions, as well as the older Syrian Muwashshah tradition. Husseini has more or less disappeared as a *maqam* in the Egyptian tradition, which has led some contemporary practitioners to be confused about its usage. However, in the double-octave note-name system shared by Turks and Arabs, the name “Husseini” refers to the A-natural, which in Bayati-family *maqamat* is the 5th scale degree. The melodic path of Husseini, where it is extant in Turkish, Greek, Iraqi, Kurdish/Persian musics, and in older Syrian repertory, involves a suspended 5th scale degree resolving down to the 4th scale degree. *Maqam* Bayati itself makes very common use of Jins Rast on the 4th scale degree, as you can see from the numerous examples at <http://www.maqamlessons.com/analysis/bayati.html>.

⁸ the 13th-century theorist Al-Urmawi extended the sense of *jins* beyond that of his predecessor, 10th-century theorist Al-Farabi, to allow for 5-note *ajnas*, yet most of the 5-note *ajnas* he lists are identical to the 4-note *ajnas* with the addition of a whole tone at the top—and there is no mention of any tonic emphasis being the reason for that distinction between the two classes of *jins* (Maalouf 2002).

Jins Baggage, or the Expanded Jins

The real departure from conventional theory comes when we begin to examine the repertory. Taking Example 2 as a starting point for *Maqam Bayati*, how can we account for the modulations that open the second *khana* of the very famous Sama3i Bayati al-3Aryan,⁹ shown in Example 4?

Example 4



The first 8 beats of the measure arguably tonicize *Jins Bayati* on A, though that tonicization is brief, and resolves quickly to the secondary tonic of G via a Nahawand phrase at the end of the measure. Starting on measure 2, from beat 4 on, and into measure 3, it should be clear that we are in *Jins Rast* on G. The notes I'd like to draw your attention to occur within the first three beats of measure 2, the F-half-sharp and E-natural. How should we account for these notes? Are they part of a *Jins Bayati* on E-natural (a naive interpretation I've actually seen from practitioners—which would be a radically distant modulation)? *Jins Rast* on D (also a rather distant modulation from Bayati on D)? Theoretical sources (and practicing musicians) have difficulty accounting for these notes. Yet they are very common in *Maqam Bayati*; here's another example, from the very popular song “Nura Nura” by Farid el-Atrash:

Example 5



The same F-half-sharp occurs on the second beat of Bar 3 of my transcription, between extended passages in *Jins Nahawand* on G and *Jins Rast* on G. Here there is no E-natural, so should we refer to this mystery passage as the trichord Sikah on F-half-sharp?

⁹ The word “*khana*” refers to a verse in instrumental pieces composed in verse-refrain format, where “*taslim*” refers to the refrain. The *sama3i* is a genre of instrumental music in a 10-beat rhythm invented by the Ottoman Turks but adopted by the Arabs; the first three *khanat* and the *taslim* are always in the 10-beat rhythm known as *Samai thaqil*, while the fourth and final *khana* is in an alternate rhythm of the composer’s choosing. This particular *Sama3i*, composed by the Syrian Ibrahim al-3Aryan, is one of the most emblematic pieces in *Maqam Bayati* in the region I cover here.

None of the scalar explanations (Sikah on F-half-sharp or Bayati on E-natural) really make sense when we listen to these passages. Instead, it becomes clear that these notes serve to aid in the tonicization of G. If we were to write out the scale of *Maqam Rast* on G we would find that its principal form uses the notes G, A, B-half-flat, C, D, E-natural, F-half-sharp, G. Therefore, we could account for these notes (E and F-half-sharp) as the 6th and 7th scale degrees of *Maqam Rast* on G. However, in both of these passages, the Rast feeling lasts for only two or three measures, and does not reach a full octave above its tonic. Can we really say that we are in “*Maqam*” Rast? I would argue that the answer is no, and that instead these are passages in *Jins Rast* on the fourth scale degree of *Maqam Bayati*, but the notes underneath this secondary tonic form a part of the *jins* itself. I am depending on the evidence of a single tonicization within these passages, *and claiming on that basis that a jins equals a tonicization*.

Here’s another example, also involving *Jins Rast* tonicizing the fourth scale degree of *Maqam Bayati*, from a 1950 Egyptian film dance piece for the dancer Taheya Carioca:



A scalar, tetra- or pentachordal, definition of *jins* might lead to an analysis of this passage using four *ajnas*: *Jins Sikah* on B-half-flat in measures 1 and 2, *jins Bayati* on D at the end of measure 2, *Jins Nahawand* on D in the middle of measure 3 (on the basis of the fact that the E-natural has a half-step trill to f-natural), and *Jins Rast* on G in measure 4. Yet the tonicization analysis is more elegant and clear: *Jins Bayati* on the octave tonic in measures 1 & 2, and *Jins Rast* on the 4th in measures 3 and 4. Both *ajnas* extend beyond their conventionally-defined *jins* boundaries: *Jins Bayati* using the 6th and 7th scale degrees under its tonic (B-half-flat and C), and *Jins Rast* using the 6th scale degree above its tonic (E-natural). What might have appeared confusing and dissonant—the close juxtaposition of E-half-flat and E-Natural less than a measure apart—now becomes comprehensible and straightforward.¹⁰

I have found in the repertory that the notes appearing *below* the *jins* tonic are nearly as consistent as the 3-4 notes above the *jins* tonic that conventionally define the *jins*; *jins Bayati* on D almost always occurs with C-natural and B-half-Flat underneath it, *Jins Bayati* on G almost always occurs with F-natural and E-half-flat underneath it, etc. *Jins Rast* on C almost always occurs with B-half-flat and A-natural underneath it, *Jins Rast* on G almost always occurs with F-half-sharp and E-natural underneath it, etc. The notes occurring above the secondary tonic of the *jins* are also somewhat consistent—certainly consistent enough that when the *jins* in question occurs, it frequently causes accidental changes on the 5th or 6th scale degree above its tonic—though less consistent than the notes underneath the primary tonic. For example, *Jins Rast* on C usually includes A-

¹⁰ The questions “Why is there an E-natural in this passage?” and “Why does that E-natural not feel strongly dissonant, but almost pass unnoticed?” were a major factor in helping me to seek clarification regarding the manifestation of *ajnas* within the repertory.

natural as its 6th scale degree, but occasionally A-flat. This consistency on either side of the conventionally-defined *jins* (and the melodic use of those “extra” notes while still preserving the primary tonicization of the *jins*) is strong enough across the repertory to allow for a refinement of the *jins* definition that includes those neighboring tones, which I sometimes like to call “*jins* baggage.” Using this new definition of *jins*, I represent *Maqam Bayati* as follows:

Example 7

The image displays four musical staves, each representing a different *jins*. The notes are written on a five-line staff with a key signature of one flat (B-flat). The notes are as follows:

- Jins Bayati D:** D4 (small filled), E4 (small filled), F4 (open), G4 (large open), A4 (small filled), Bb4 (small filled), C5 (small filled).
- Jins Nahawand G:** G4 (small filled), A4 (small filled), Bb4 (small filled), C5 (large open), D5 (small filled), E5 (small filled), F5 (small filled).
- Jins Rast G:** G4 (small filled), A4 (small filled), Bb4 (small filled), C5 (large open), D5 (small filled), E5 (small filled), F5 (small filled).
- Jins Bayati D (octave):** D5 (small filled), E5 (small filled), F5 (open), G5 (large open), A5 (small filled), Bb5 (small filled), C6 (small filled).

The larger open note represents the principal tonic of the *jins*, the normal-sized open note represents the secondary tonic of the *jins*, the normal filled notes are those within the conventional *jins* definition, and the smaller filled notes represent the “*jins* baggage.” Thus this representation privileges the notes within the conventional definition of each *jins*, while simultaneously acknowledging the presence of surrounding notes as important. Similarly, my sense of the meaning of *jins* in *maqam*-based music still recognizes the primacy of the trichord, tetrachord, or pentachord above the *jins* tonic, but acknowledges the surrounding notes and emphasizes the meaning of the word *jins* itself in Arabic—as a “kind” or “type” or “gender”—and could be stated as: a tonicization with a specific set of intervallic relationships both above and below the tonic.

Although the notes underneath the *jins* tonic are very consistent, there are cases in which those notes are modified by the prevailing *maqam* context, examples of which we will see later in this study. In all of the representations I make below using the form of Example 7, the smaller, “*jins* baggage” notes are those used within the melodic context of that particular *jins* **within the *maqam* in question**. Ideally, I would go further in including within the definition of a *jins* the specific vocabulary of melodic motion used, but the subject of melodic vocabulary is (as I’ve stated above) too large to be treated in this study. (See <http://www.maqamlessons.com/analysis/jinsbaggage.html> for these and more examples of *jins* baggage.)

Previously Unnamed *Ajnas*

Using this new sense of the word *jins*, I have encountered a number of tonicizations within the repertory distinct from the *ajnas* identified in conventional

theory.¹¹ I will deal here with the two most frequent cases of this phenomenon: the first, one that occurs prominently in *Maqam Rast*, and the second in *Maqam Hijazkar*. Here is the opening of the famous *muwashshah* “Ya Shadi il-Alhan:”

Example 8



How should we characterize the *jins* of the first two bars? Traditional sources would call this *Jins Rast* on G (see Example 1b). Indeed, it has the intervallic structure of *Jins Rast* on G: (G A B-half-flat C). But what note is tonicized? It is clearly C, not G;¹² we don’t have a tonicization of G until the B-flat of the 3rd bar leads to *Jins Nahawand* on G (also expected from Example 1b). There is something strange about this *Rast*—if it were really *Rast*, we should expect an F-half-sharp underneath it, as I suggested above in my discussion of *Rast* as a secondary *jins* within *Maqam Bayati*. No F-half-sharp occurs (although there is also no F of any kind in this passage).

To see clearly what is going on, we need a counter-example. In the Umm Kulthum song “Fakkari,” composed by Mohamed Abdel-Wahab, the first verse is in *Maqam Rast*; below is my transcription of the ending of that first verse (the brackets underneath the staff represent instrumental interpolations between the vocal melody called “*lawazim*,” sing. “*lazima*”).

¹¹ A standard list of *ajnas* in the conventional theory would include the following 5-note *ajnas*: *Rast*, *Nahawand*, *Ajam*, *Nakriz*, *Athar Kurd*; the following 4-note *ajnas*: *Hijaz*, *Bayati*, *Kurd*, *Saba*, *Saba Zamzama*; the following 3-note *ajnas*: *Sikah*, *Mukhalif*, *Mustaar*; and the following hard-to-classify *ajnas*: *Jiharkah*, *Sikah Beladi*. See the “Basic *Ajnas*” section of the website for audio samples of most of these (<http://www.maqamlessons.com/analysis/basicajnas.html>).

¹² Nettle claims (1973) that it is difficult to identify tonic emphasis in Arabic music examples, or that such identification is “subjective”—but it is in fact easy and clear to experienced practitioners, and difficult only for those not immersed in the tradition as either listeners or practitioners. There is no great mystery in this (nor any pretense or haughtiness in claiming a privileged position based on experience)—the same could be said of identifying tonicization in Bach or in Jazz music—unfamiliar listeners would have difficulty identifying what is perfectly clear to practitioners. I would only add to this that tonicizations are much clearer from the sound of the music itself than they are from transcriptions; I have demonstrated this tonicization in particular many times in classes, getting students to listen and then sing the phrases in question, and then asking them to identify the note they feel is tonicized. I performed all of the analyses shown in this paper by ear first, and transcribed later—in no case have I analyzed transcriptions, a very dangerous practice I wouldn’t recommend to anyone (readers of the transcriptions present in this paper are advised to consult the audio recordings supplied).

Example 9

The musical score for Example 9 consists of four staves of music in 4/4 time, starting at 8:27. The lyrics are written below the notes. Above the staves, various *jins* are labeled: *Jins Nahawand G* (first staff), *Jins Rast G* (second staff), *Jins Nahawand G* (third staff), *Jins Hijaz G* (third staff), *Jins Rast C* (third staff), *Jins ??* (fourth staff), *Jins Hijaz G* (fourth staff), and *Jins Rast C* (fourth staff). The lyrics are: "ba - 3id - na leh ba - 3id - na leh ba - 3id - na le - h ba3-di ma - sad - da' - ti in - ni - 'i - dir - ti an - sah". The score ends with a triple repeat sign (3x).

The passage starts in *Jins Nahawand* on G, dips below Nahawand within the scale of Rast on C in measures two and three (Nahawand as a secondary *jins* is more flexible with the notes underneath its tonic than are some other *ajnas*, and frequently conforms to the *jins* below it), returning to the G emphasis at the end of Bar 3. Bar 4 introduces the dramatic change we were looking for, but didn't find, in "Ya Shadi il-Alhan": a clear tonicization of *Jins Rast* on G, complete with E-natural and F-half-sharp to solidify it. The C at the peak of the melody in bar 5 doesn't feel like a tonic, but rather like the fourth scale degree above the tonic of G. This Rast passage continues through Bar 9, at the end of which the B-flat *lazima* re-introduces *Jins Nahawand* on G, which continues through Bar 11. The brief reference to *Jins Hijaz* on G in Bar 12 neutralizes what has come before, and Bars 13 and 14 clearly tonicize the octave C—with the same mystery *jins* from "Ya Shadi il-Alhan" (shown here to be different than the Rast on G from Bars 4-9)—followed by a descent (via a brief reference to the A-flat of Hijaz on G) to the root *Jins Rast* on C by the end of the passage.

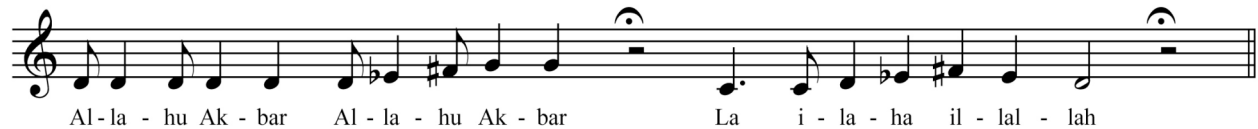
The contrast between these two passages couldn't be clearer to my ear: and it should be apparent that if a composer or musician really wished to tonicize *Jins Rast* on the 5th above the root of *Maqam Rast*, he or she would do so using the characteristic "*jins* baggage" underneath the tonic I referred to above. This type of tonicization is in fact extremely rare in the repertory in *Maqam Rast*—I have encountered only one other piece using it (also composed by Abdel-Wahhab)—though, as we saw above, it is a fundamental tonicization within *Maqam Bayati*. Much more common in Rast is the tonicization found in "Ya Shadi il-Alhan," which for lack of any other name I have decided to call: "*Jins Secondary Rast G/C*" to distinguish it from "true" Rast on G that actually tonicizes G.

One might reasonably ask, based on the arguments I have made regarding expanding the range of a *jins*: why give this a *jins* name at all?—isn't it the same as the "notes underneath the tonic" described above, and hence simply a part of the ordinary *Jins Rast* on the octave tonic? The difference is that in the passage in "Ya Shadi il-Alhan" (and in other similar passages we will see below, as well as in bars 13 and 14 of the

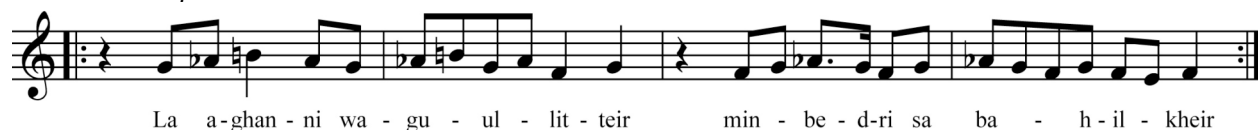
“Fakkaruni” passage), the area beneath the tonic is dwelt on, the area above the tonic doesn’t occur in the melody (or at most the D one step above the tonic), and the G is strong and present, though not tonicized. If the G were absent, and most of the melody were above the tonic, I would instead refer to the A-natural and B-half-flat as part of the upper-octave *Jins* Rast. I admit that as a result of the way I’ve chosen to delineate *ajnas* the boundaries are sometimes not as clear as they are in the conventional theory—as we saw above in the case of Bayati (examples 6 & 7), the *ajnas* as I describe them actually overlap each other as scale fragments—nonetheless, I prefer not to force the music to fit the procrustean bed of an inadequate theory, and instead to allow the theory to reflect the less-than-clear boundaries within the music itself. To me, the combination of tonicization and melodic motion settles the issues of analysis as well as can be hoped.

The second hitherto-unnamed *jins* I’ll discuss here occurs in *Maqam* Hijazkar and those of its family, such as Shadd Araban, Suzidil, etc. *Jins* Hijaz (occurring as a root *jins* in *Maqam* Hijaz, and as a secondary *jins* in *Maqam* Suznak, *Maqam* Bayati Shuri, and many other *maqamat*), has the same intervallic relationships below its tonic (i.e. “*jins* baggage”) as does *Jins* Bayati: a whole step immediately below the tonic, and a $\frac{3}{4}$ step between the 6th and 7th scale degrees below the tonic. Example 10 shows a few characteristic melodies in *Jins* Hijaz: Example 10a is a simplified version of the melody of the call to prayer used all over the Arab world, in Hijaz on D; Example 10b is the opening of the third verse of “Ghannili Shwayya,” in *Jins* Hijaz on G, which in this case is the 5th degree of *Maqam* Suznak (whose root *jins* is Rast C).

Example 10a



Example 10b



So how should we describe the *jins* that opens the *muwashshah* “Tif Ya Durri,” in *Maqam* Hijazkar-Kurd on C?:

Example 11



Conventional theory would account for this passage using two *ajnas*: Hijaz on C, and Hijaz on G. But there is one tonic (the C), and the melody is stepwise and contiguous surrounding it. We also cannot say that the notes underneath the tonic of C represent a variation on the *jins* baggage for *Jins* Hijaz C, because the B-flat and A-half-flat that would

typically be there in that case are very strong in the repertory, and because the diminished third that occurs around the tonic, between D-flat and B-natural, is so characteristic, distinguishing the quality of this *jins* from the usual *Jins Hijaz*. Hence I have chosen to call this unnamed *jins* “*Jins Hijazkar C*” which I represent as follows:

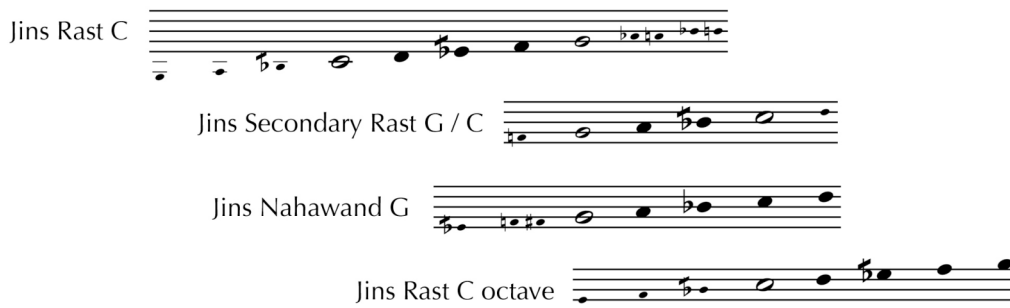
Example 12



Notice that in this case I have not made the notes underneath the tonic a smaller size; that is because melodies in *Jins Hijazkar* are usually centered on the tonic, spending as much time below it as above.

A close look at the repertory reveals several other examples of hitherto unnamed *ajnas*, around 15 that I have counted, four or five of which are quite common (we will encounter a few others later in this article), with these two—*Jins Secondary Rast* and *Jins Hijazkar*—being the most common. *Jins Secondary Rast* also has a prominent place in *Maqam Sikah*, and *Jins Hijazkar* also has a prominent place in *Maqam Nawa Athar*. Along the model of the revised version of *Maqam Bayati* I presented in Example 7 above, here are my versions of *Maqam Rast*, *Maqam Sikah*, *Maqam Hijazkar*, and *Maqam Nawa Athar*, showing these two “new,” previously unnamed *ajnas* (Examples 13 a-d).

Example 13a: Maqam Rast



Example 13b: Maqam Sikah



Example 13c: Maqam Hijazkar

Jins Hijazkar C 

Jins Nakriz F 

Jins Rast F 

Jins Hijaz / Hijazkar C low 

Example 13d: Maqam Nawa Athar

Jins Nakriz C 

Jins Hijazkar G 

Jins Nakriz C octave 

(See <http://www.maqamlessons.com/analysis/unnamedajnas.html> for more examples, as well as for descriptions of several other previously unnamed ajnas, including Secondary Ajam, Secondary Saba—discussed later in this paper—and Pseudo-Sikah.)

A *Maqam* as a Pathway; Common Pathways

When discussing the motion or direction of a *maqam*, Arab musicians and theorists refer to the concept of “*sayir*” (meaning “trip,” “procession,” “movement,” or “course”): each *maqam* is said to have its own *sayir*, which, in the descriptions I have encountered, usually means little more than that either the melodies in the *maqam* start at the bottom of the scale, or start instead at the top of the scale¹³. Turkish musicians are a little more specific with this concept: some *maqamat* start at the bottom, go up, and then come down again, while other *maqamat* start in the middle, go up, and then descend, while others start at the top of the scale and descend. At this level of generality, all of these patterns can be observed in the repertory, and certain *maqamat* can be observed always to obey one *sayir* (such as rarer *maqamat* like Zanjaran, which we’ll encounter later), while others appear to have the option of using more than one *sayir* (such as Rast).

¹³ Allah Werdi (1948) and Al-Hilu (1958) offer minimal descriptions of *sayir*: in the case of Al-Hilu, *ajnas* are represented along the double-octave scale common in Arabic and Turkish music theory, with occasional differences in the *jins* choices for the upward versus downward trajectory of the *maqam*; the presentation there is not much different than on www.maqamworld.com (Farraj 2007). Al-Hilu offers, in his definition of *sayir*, common whole *maqam* modulations (i.e. Maqam Rast can modulate to Maqam Suznak), which is echoed by Marcus (1992, 2002, 2007). The common understanding of practicing musicians is consistent with these two sources.

We can formalize this rather minimal concept by specifying the most frequent *ajnas* and sequences of *ajnas* used in any given *maqam*,¹⁴ which will take the *maqam* graphs in examples 7 and 13 one step further. Let us return to *Maqam Rast* for further illustration. The transcription and analysis of the remaining melody of “Ya Shadi il-Alhan” (the opening of which served as example 8) is as follows:

Example 14

Example 14 shows a musical transcription in 8/4 time. The first staff contains three measures: the first is labeled 'Jins Nahawand G', the second 'Jins Hijaz G', and the third 'Jins Rast C'. The second staff contains two measures: the first is labeled 'Jins Secondary Rast G/C' and the second 'Jins Rast C'.

Another *muwashshah* typically performed in the same *wasla*¹⁵ as “Ya Shadi il-Alhan” is “Sihtu Wajdan,” part of whose transcription and analysis follows:

Example 15

Example 15 shows a musical transcription in 8/4 time across three staves. The first staff is labeled 'Jins Secondary Rast G/C' and 'Jins Rast C'. The second staff is labeled 'Jins Nahawand G'. The third staff is labeled 'Jins Hijaz G', 'Jins Sikah/Mustaar E-half-flat', and 'Jins Rast C'.

Here is the chorus of an early song for the Egyptian Singer Layla Murad, composed by Daoud Husny, called “Hayrana Leh”:

¹⁴ An even greater specification of *sayir* would involve a discussion of the melodic vocabulary used within each *jins* in the progression of the *maqam*.

¹⁵ The Syrian *wasla* is a suite of *muwashshahat* and *qudud* (the *qad* is a genre of light song—“Ah Ya Hilu” from ex. 18 would be referred to as a *qad*) in the same *maqam*, usually introduced by a *doulab* (a very short instrumental piece intended to introduce the *maqam*) and including *taqasim* (instrumental improvisations) as well as possibly a *mawwal* (a vocal improvisation on a few lines of poetry; traditionally the poem used was a genre of 7-line colloquial language poetry invented in Baghdad, called the *Mawwal*, but in modern times, and especially in Egypt, the term *mawwal* has become generic for any vocal improvisation using colloquial language poetry). Modern Syrian *wasla* performances also occasionally include the performance of an Egyptian *dawr* (a genre of through-composed song invented in Egypt in the 19th century) at the end of the *wasla*.

Example 16

The musical notation for Example 16 consists of three staves in 4/4 time. The first staff begins with a treble clef and a key signature of one flat (B-flat). It contains a sequence of notes: G4, A4, B-flat4, A4, G4, F4, E4, D4, C4. Above the staff, a bracket spans from the first G4 to the final C4, labeled 'Jins Secondary Rast G/C'. Another bracket spans from the final C4 to the final G4, labeled 'Jins Rast C (Octave)'. The second staff continues the melody with notes: B-flat4, A4, G4, F4, E4, D4, C4, B-flat4, A4, G4, F4, E4, D4, C4. Above the staff, a bracket spans from the first B-flat4 to the final C4, labeled 'Jins Nahawand G'. Another bracket spans from the final C4 to the final G4, labeled 'Jins Hijaz G'. The third staff continues with notes: B-flat4, A4, G4, F4, E4, D4, C4, B-flat4, A4, G4, F4, E4, D4, C4. Above the staff, a bracket spans from the first B-flat4 to the final C4, labeled 'Jins Rast C'. The music concludes with a double bar line.

In all three of these examples—and we could present many more similar to them—we see the expression of a pathway among three *ajnas* based around the 5th scale degree of *Maqam Rast*: *Jins Secondary Rast G/C*, *Jins Nahawand G*, and *Jins Hijaz G*. Those who might wish to see the move to *Jins Hijaz* as a modulation away from *Maqam Rast* into *Maqam Suznak* (as Allah Werdi and Marcus do) are missing the fact that this *Jins Hijaz* is just as seamlessly woven into the overall *Rast* melody as are *Jins Secondary Rast* and *Jins Nahawand*, and that therefore we should consider *Maqam Rast* (the principal member of its family) large enough to include *Jins Hijaz* as a passing modulation within it. In fact, that modulations occurs with overwhelming frequency in the repertory of *Maqam Rast*, and usually in conjunction with these other two secondary *ajnas*, *Nahawand* and *Secondary Rast*.

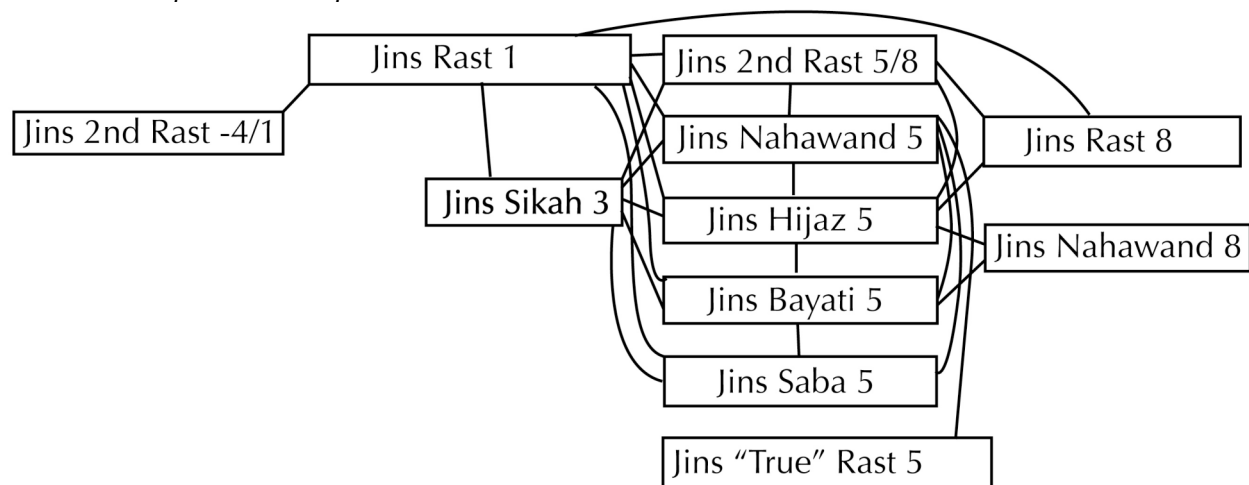
I suggest the following criteria as a way to distinguish *Maqam Suznak* from the use of *Jins Hijaz* within *Maqam Rast*: when *Jins Hijaz* on the 5th above *Rast* is 1. *heavily emphasized as a long-term modulation* (as in the second verse of Umm Kulthum’s long song “Aruh Li-Meen”), when it 2. *takes precedence over the other secondary ajnas* (as in “Ghannili Shwayya”), or when it 3. *opens the melody* of the song or piece (as in the instrumental “Tahmila Suznak”¹⁶), then we should say we are in *Maqam Suznak*. None of those cases apply to the examples above.

Several other *ajnas* have a frequent enough occurrence within *Maqam Rast* melodies that I feel they should be included in the overall structure of the *maqam*, namely *Jins Bayati* on the 5th scale degree, *Jins Saba* on the 5th scale degree, and *Jins Sikah* on the third scale degree. In a *maqam* that is as central to the Arabic music repertory as *Maqam Rast* (many, including myself, would consider *Rast* the most important *maqam* of the entire system; in Syria there is an expression that translates “If your night is long, use *Rast*”), its frequent occurrence is bound to mean that it occurs with many variants, and that the melodic and modulatory vocabulary available to it is very large. In general, the most common and central *maqamat* contain the greatest number of pathways, while the rarer *maqamat* have many fewer pathways. The branch *maqamat* contain a subset of the

¹⁶ The *tahmila* is a genre of instrumental piece that involves an improvisatory call and response between the solo instrument and other instruments; frequently each instrumentalist will take a turn soloing over the course of the performance.

pathways available to the principal *maqam* of the family—with each different branch exploring a different subset. Example 17 is a partial graph of the most important ajnas within *Maqam Rast*:

Example 17: *Maqam Rast*



In comparison with other music traditions, it should come as no surprise that the *maqamat* each contain a finite number of frequent modulations that can be named and catalogued; with rarer modulations either being repeated, and therefore also catalogable, or being unique occurrences (which then give rise to an analytical choice as to whether to view them as fundamental to the *maqam*, or explainable via some series of other common modulations several steps away, or completely unique and original). We could say the same about the common modulations, the significant and the minor tonicizations, in late 18th century tonal music, in Schubert's vocabulary, in American Blues music, in Broadway musicals of the 1940's, or in any temporally and geographically limited repertory. In Arabic music, as in most of the other traditions I mentioned, the collection of common modulations becomes the unconscious knowledge of both practitioners and listeners in the tradition (the more so the more the tradition is oral rather than written), and that is in large part what generates the senses of expectation and surprise. When Arab musicians improvise in *Maqam Rast*, they move almost instinctually to *ajnas* such as Hijaz and Bayati on the 5th scale degree; if a typical modulation is delayed long enough it can cause expectation and suspense in the listeners simply by its non-occurrence. In the opposite direction, that common acquired knowledge is also part of what contributes to a listener's feelings of stability and tonicization; for my own part I notice when tonicizations occur within a note or two at the most, because those few notes fulfill my unconscious expectations built from similar tonicizations I have previously heard. Other experienced listeners to the tradition also hear those tonicizations very quickly, a phenomenon that can be observed first-hand at a live performance, when listeners react verbally to a modulation or tonicization they like, within a second or two; they need not be able to identify those modulations by name, or have any understanding of theory, to be able to react thus, because they have stored all of these *jins* modulations unconsciously in memory over the course of years of listening.

It is on the basis of my observation of the frequent reoccurrence of many *ajnas* in specific contexts within different *maqamat*, that I insist that a theory accounting for them must be based first and foremost on a catalogue, or lexicon. It is on the basis of observing the instinctiveness and ease of the most common of those modulations, that I insist that we must view those catalogued as being part of our understanding of the fundamental structure of the *maqamat*, rather than something extra, or something that moves us away from a given *maqam*; this is perhaps the biggest gap I feel between conventional theory, which describes a *maqam* only in terms of a one- or two-octave scale (occasionally with one different version), and actual practice, where pieces in the repertory of a given *maqam* move through many more *ajnas* than that abstracted scale represents. And, as I will discuss in detail below, because these modulations are arbitrary—not in the sense of an individual musician’s actions, which are heavily determined by the repertory he or she has absorbed—but in the sense of being determined in the community at large by the conventions of a culture rather than by absolute underlying principles of melody or intervallic relations—they must each be understood on their own terms and learned one-by-one. (See <http://www.maqamlessons.com/analysis/commonpaths.html> for more examples and audio for this section)

Alternate Pathways

Sometimes we find that a given *maqam* has distinct alternate pathways, either the result of regional differences, or of change over time. Let us compare three examples illustrating *Maqam Bayati Shuri* (also known as *Maqam Qarjighar*), one of the branches of the Bayati family of *maqamat*. The first example, the *muwashshah* “Hibbi da3ani lil-wisaal,” illustrates the path of Bayati Shuri most present-day musicians are familiar with:

Example 18

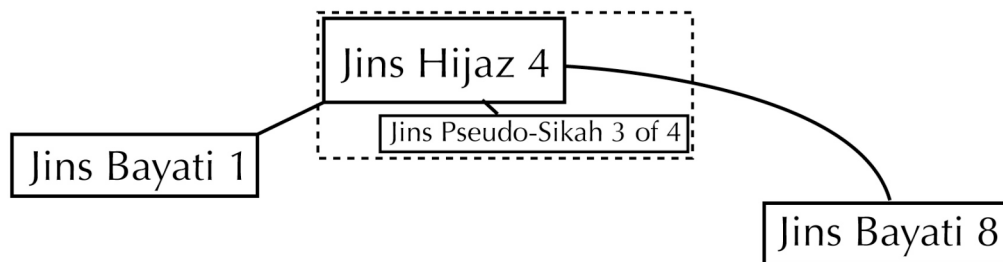
The musical notation for Example 18 consists of two staves in 4/4 time. The first staff is labeled "Jins Hijaz G" and "Jins Bayati D octave". The second staff is labeled "Jins Pseudo-Sikah B" and "Jins Bayati D". The lyrics are: Hu-b - bi - i da - 3a - a - ni a - h lil-wi - sa - l mim ba - 3a-di dhu - ul - li.

As you can see, the tonicization opening the piece is *Jins Hijaz* on the 4th scale degree above the tonic (D in this case). A brief foray into *Jins Bayati* on the octave tonic¹⁷

¹⁷ We should note that in the case of Bayati Shuri, the expected 6th scale degree under *Jins Bayati*—B-half-flat—does not occur in the upper part of the *maqam*, and instead the B-natural from *Jins Hijaz* remains even when the tonic emphasis is on the Bayati above. This is one example in which the strength of one *jins* can affect part of the *jins* baggage of another *jins*. However, if the melody dipped below the root tonic (admittedly a rare occurrence in this *maqam*—although it

leads back to the emphasis on *Jins Hijaz* on the 4th, with a brief passage at the beginning of bar 3 I refer to as “*Jins Pseudo-Sikah*” (another unnamed *jins*), because of its melodic motion that resembles *Jins Sikah* despite not being based on a quarter-tone pitch. Pseudo-Sikah frequently occurs in two principal instances: either tonicizing/emphasizing the third scale degree of *Jins Hijaz*, or tonicizing/emphasizing the third scale degree of *Jins Ajam*. Because that tonicization is usually brief and unstable, some might wish to consider this simply a part of *Jins Hijaz* (or *Jins Ajam* as the case may be), as a subsidiary tonicization within the *jins*, or as an accidental/chromatic passage.¹⁸ In any case, the remainder of bar 3 and the opening of bar 4 are in *Jins Hijaz*, with the root *Jins Bayati* of the *maqam* occurring at the end of the fourth and final bar of the piece, almost as a cadential afterthought. Ignoring for a moment the brief Pseudo-Sikah passage (which intensifies *Jins Hijaz* in any case), we can summarize the pathway as follows: from *Jins Hijaz* on the fourth scale degree, up to *Jins Bayati* on the octave tonic, back to *Jins Hijaz* on the fourth scale degree, and finally with a brief cadential phrase to the root *Jins Bayati*. We could illustrate this with a graph that looks like this (this graph is intended to be read from top to bottom, with the *jins* at the top being the leading and most prominent *jins* in the piece, and the left-to-right axis representing pitch register; the number following the *jins* name represents the scale degree of the *jins* tonic relative to the root tonic of the *maqam*):

Example 19



happens in instrumental improvisations), we would expect the B-half-flat in the lower octave to be present.

¹⁸ In *Jins Nahawand*, for example, a common melody using accidentals involves the raising of the minor third to a major third as a leading tone to the 4th scale degree, before descending through the minor third again to the tonic. But this melody doesn't in fact tonicize that 4th scale degree, and certainly not to the degree that Pseudo-Sikah tonicizes the third scale degrees of *Ajam* and *Hijaz*, so I treat it as a melody within *Jins Nahawand* rather than a distinct *jins*.

My second example (Example 20) is the 1931 song “Mihtaar Ya Naas” composed by Mohamed al-Qassabgi for Umm Kulthum:

Example 20

The musical score for "Mihtaar Ya Naas" is presented in two parts: Chorus and Verse. The Chorus consists of two lines of music. The first line is labeled "Chorus" and "Jins Hijaz G". The second line is labeled "Jins Bayati D". The Verse consists of two lines of music. The first line is labeled "Jins Nahawand C" and "Verse". The second line is labeled "Jins Nahawand C" and "Jins Hijaz G". The lyrics are written below the notes.

Chorus

Mih- taar ya naa - - - as fi di- l- gha- ra - - - a - m bay-n- n- ir- ri -

daak wu bay - n il- khi - sa - - - am mih - ta - ar ya na - as

Verse

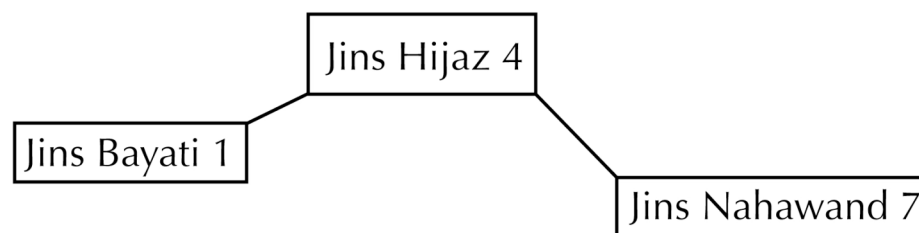
daak

mih - ta - ar ya - a na - as

bay - n ir- ri -

As you can see, *Jins* Hijaz on the 4th scale degree is still the opening and most prominent *jins* of this piece, and *Jins* bayati on the root tonic occurs, once again, only in a cadential motion at the end of the chorus and the verse. The chorus of the piece includes only these two *ajnas*: a long emphasis of *Jins* Hijaz followed by a cadence to *Jins* Bayati. The verse, however, introduces a very different *jins* than in example 14: *Jins* Nahawand on the 7th scale degree. This *jins* lasts for most of the verse, before the melody descends back to *Jins* Hijaz on the 4th scale degree, followed by the same melody from the end of the chorus (which uses *Jins* Hijaz on the 4th and *Jins* Bayati on the root) to end the verse. We could represent this pathway using the following graph:

Example 21



This pathway may seem very unusual to those familiar with the first version of *Maqam Bayati Shuri*, in part because of its disregard for the octave tonic of Bayati, and its tonicization of the 7th scale degree. However, it is a pathway that can be found in other pieces of the time period (the first few decades of the 20th century), and it may even have been more common at that time than the version of Bayati Shuri that eventually became the standard, that shown in example 18.¹⁹ The apparent strangeness of this pathway actually reveals an important principle of the *maqam* system, once we understand it in relation to *Jins Hijaz*. Hijaz is a 4-note *jins*, like Bayati, in that its most common modulations occur on its 4th scale degree, and those modulations are to *Jins Nahawand* on the 4th and also to *Jins Rast* on the 4th. When Hijaz occurs as a secondary *jins* in *Maqamat* such as Rast / Suznak, Nahawand, and Ajam / Shawq Afza, it tonicizes the 5th scale degree above the root, and as a result its own secondary tonic, on its 4th scale degree, is also the octave tonic above the root *jins* of the *maqam*. This combination of a *jins* spanning a fifth with a *jins* spanning a fourth, resulting in an octave, is the most frequent, but not the only, type of *jins* combination that occurs in the *maqam* system. Bayati Shuri is a good counter-example, combining a two *ajnas* each spanning a 4th, with the result that the secondary tonic above the second *jins* is a 7th above the root tonic. (See <http://www.maqamlessons.com/analysis/alternatepaths.html> for audio, as well as for another example of alternate pathways within *Maqam Ajam*.)

The manifestation of this secondary pathway suggests several important principles of modulation within *maqamat*: first, *ajnas* have a tendency to carry their typical relationships to other *ajnas* with them, even when they occur as secondary *ajnas* in other *maqamat*—as Hijaz carried its relation to *Jins Nahawand* on its 4th scale degree into its secondary tonic relation within *Maqam Bayati Shuri*. This could be viewed as a more extended form of the “*jins* baggage” described above: not only do *ajnas* tend to preserve their usual relationships with surrounding notes and intervals, they also preserve their usual relationships to other *ajnas*. This tendency is not as apparent to observe when the secondary tonic of a particular secondary *jins* agrees with the octave tonic above the root *jins* (as when a *jins* spanning a 4th links to a *jins* spanning a 5th), leading us to surmise in those cases, possibly incorrectly, that the *jins* appearing on the octave tonic does so because of a relationship to the root *jins*. In fact, some such occurrences are better explained in terms of a relation to the strong secondary *jins* in the middle, such as when *Jins Nahawand* occurs on the octave tonic above *Maqam Rast* in conjunction with *Jins Hijaz* or *Jins Bayati* on the 5th scale degree. When we encounter such passages, a careful listening will often reveal a stronger relationship between that *Jins Nahawand* on the octave and the *jins* tonicizing the 5th scale degree, as the 4th above it, rather than between it and the 1st scale degree (incidentally, the appearance of *Jins Pseudo-Sikah* in its typical relationship with the secondary *Jins Hijaz*, in Example 18, illustrates the same principle).

There are several other points suggested by the comparison of these two pathways:

- A *maqam* derives its character and shape from its pathways among *ajnas*, rather than from any abstracted scale or collection of scale fragments—the tonal character

¹⁹ A more comprehensive survey of the repertory is needed to establish the frequency of both pathways at different time periods.

and feel of these different versions of Bayati Shuri is quite distinct in these examples.

- Two *ajnas* are rarely sufficient to characterize a *maqam*, whose total pathway frequently spans more than an octave, and whose typical motion usually goes through at least three different *ajnas*, and in many cases more.
- The path that defines the shape of any given *maqam* is arbitrary, in the sense intended by Saussure:²⁰ it is the result of convention, developed by a community, rather than the result of some absolute principle. As we can see, the pairing of *Jins* Hijaz on the 4th scale degree of *Jins* Bayati opens up two equally valid pathways, each of which may be the result of tendencies in each *jins*, some of which contradict and some of which complement each other.²¹ So the choice of which pathway to use is arbitrary rather than determined.

The tendencies within each *jins* are also arbitrary, in the same sense: they are the result of cultural habits and conventions rather than some ideal rule about the behavior of intervals. It is easy to imagine the possibility of Hijaz or Bayati having morphed into 5-note *ajnas* rather than 4-note *ajnas*, if more musicians and composers had emphasized modulations on their 5th rather than 4th scale degrees. (As an analogue to the arbitrariness of pathways among *ajnas*, consider the fact that the V→IV chordal motion so common to 20th Century American popular music was not a common or accepted part of the vocabulary of Baroque music, which almost always progressed IV→V.)

It is worth dwelling for a moment on the importance of comprehending the idea of arbitrariness for music theory. Some seeking to understand the *maqamat* hope that a few, simple, deterministic principles or rules can be discovered that will unlock the secrets of the *maqam* system. The ancients (both Greek and Arab) believed in some kind of absolute “harmoniousness” that determined musical relations, and medieval Arab theorists such as Al-Farabi echoed Plato’s statements placing different values on certain musical modes (see Maalouf 2002, for the categorization of scales according to which are more harmonious). I recognize that I am setting up a straw man here, but I have encountered many questions from students, unfamiliar with Arabic music, reflecting this rule-based approach; and I feel that a leaning toward this belief is present as an unstated philosophical assumption behind some of Western music theory. If there were absolute rules governing music, music would never change. The parsing of tendencies and operations in music into “rules” and “exceptions” is actually at the whim of the analyst; the underlying reality is one of a

²⁰ Saussure ([1916] 2011). For a discussion of the relevance of Saussure to contemporary linguistics see Pinker (2000:74-5). Even though music does not have a correspondence to meaning as words do, it is still functionally a signal system, based on units that are not absolutely but rather culturally and contextually determined. I will devote more time to this important point in later writings.

²¹ We could advance the hypothesis that that octave equivalence became more important in Arabic music after the 1930’s, because we see more examples of non-octave equivalence before the 30’s than after. *Maqam* Hijazkar is another revealing example: many early-20th century examples use *Jins* Nahawand rather than *Jins* Hijazkar on the octave tonic to open the *maqam*, with the *Jins* Hijaz on the root only manifesting at the end of melodies. This pathway dwindled to insignificance by the mid-to-late 20th century. Historical change is one of the things made possible by arbitrariness.

plethora of tendencies, some of which are more common than others, and repeated habitually enough to be worth mentioning as a tendency to expect. “Harmoniousness” is, I would argue, determined by context: the frequent occurrence is harmonious **because it is expected**, and therefore does not create as much tension when it occurs as the less frequent occurrence does.²² (The second version of Bayati Shuri was more dissonant to me when I first encountered it simply because I was accustomed to the first version.)

We can see this arbitrariness easily in the tone systems: the Arabic *maqamat* appear tremendously disharmonious to Western ears unused to listening to them, while they are very harmonious to Arab ears; whereas the equal-tempered scale of Western music is disharmonious to those used to the intervals of the Arabic *maqamat* (just as it would be if played to a European of the 16th century used to music built from Just, Pythagorean, and Mean-Tone intervallic relationships), but modern Western musicians have become so used to it that they don’t even notice that every interval is out of tune except the octave. Hence the tone systems of music are arbitrary, changeable, and adaptable to different conventions.²³

Those who hope to describe an arbitrary system like the *maqamat* by finding absolute principles underlying it are engaged in a logical fallacy—the consequence of an arbitrary system is that each piece of content has to be learned one-by-one, like the words of a spoken language, which cannot be predicted from rules about phoneme combinations, even though broad statistical tendencies for phoneme usage can be found (Pierce 1980)—, but to my mind it also reflects an intellectual laziness: the unwillingness to learn all of the different kinds of musical motion that occur, because of a preconceived belief that they can be predicted by applying derived rules to those few instances encountered initially.²⁴ On the contrary, I have found that every new piece or song I encounter reveals new information about the *maqam* system—whether that is the confirmation of a common pathway, or the revelation of a new pathway that manifests a less-common tendency among *ajnas*, or (very rarely) appears to be completely unique. To grasp the principles of the *maqam* system, analysts and theorists will have to learn and then catalogue the majority of its *content*. I am not suggesting that theory should amount to mere cataloguing, but that cataloguing is a necessary first step to enable the evaluation of which are more and which less common tendencies, and to put those tendencies into context. An arbitrary system is large and contains a great deal of information—

²² It is worth noting the similarity of this statement to the mathematical principle in Information Theory that the less common, and hence less-expected, signals carry more information than the more common and expected ones (Pierce 1980, Shannon and Weaver 1949). This is an argument I will develop further in future papers.

²³ Those who attempt to mold Arabic music—and for that matter, most of the rest of the music of the world—to the procrustean bed of Equal Temperament are basing their arguments on the unstated assumption that there is no arbitrariness in the tone system, that one system is superior to all others because of some objective inner qualities, and that other tone systems represent deviations or degradations of that perfect ideal. Such an attitude displays no historical consciousness even of Western music.

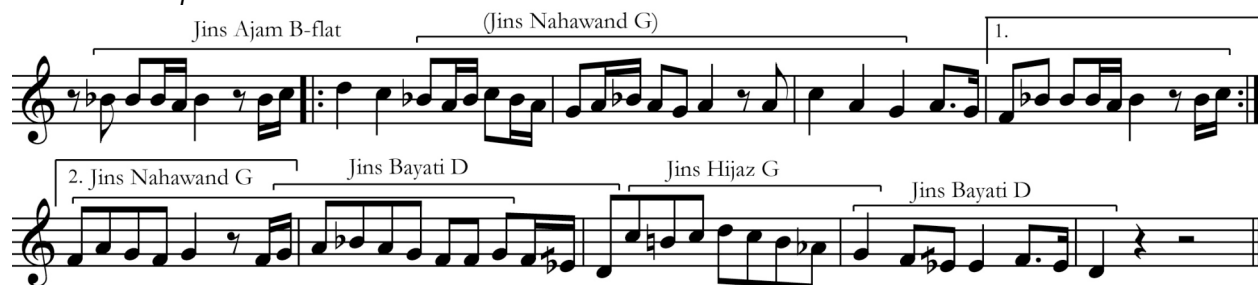
²⁴ This brings to mind the story about the five blind men each with their own conflicting descriptions of an elephant, based on what part of the elephant they are standing near and able to touch—“it is flexible and rubbery” (the trunk), “it is smooth and hard” (the tusks), etc.

information that is stored in memory by practitioners in the case of oral musical traditions such as the Arab one—whereas a hypothetical rule-based system would be small because every new instance would simply be the result of the replication of a rule. The most interesting theoretical question for me becomes: “How is such an arbitrary system cognitively instantiated?” as opposed to the fallacy-based theoretical question “Can we derive fundamental or universal rules to account for the *maqamat*?”

Multiple Common Pathways in *Maqam Bayati*

My final example illustrating *Maqam Bayati Shuri* shows the use of a Bayati Shuri pathway within *Maqam Bayati*. This is the well-known Syrian/Palestinian folkloric song (often used at weddings) “Ah Ya Hilu, Yamsallini.”

Example 22



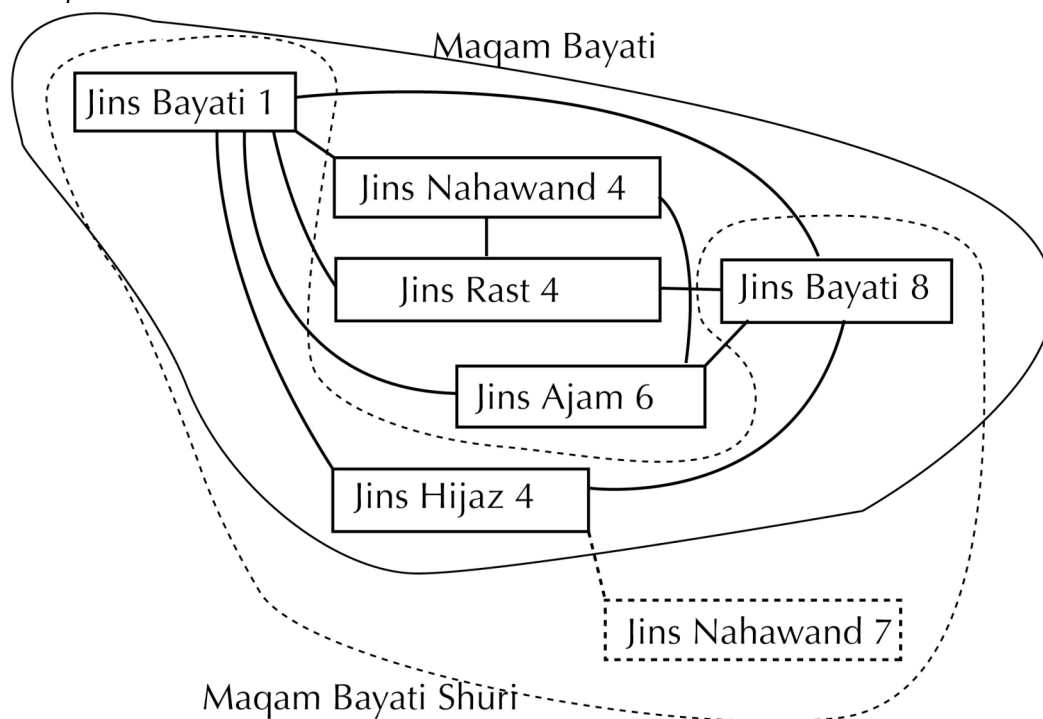
The opening *jins* of the song is Ajam on the flat 6th scale degree, another quite common *jins* used in *Maqam Bayati*. My opening examples in *Maqam Bayati* didn’t show it, but this *jins* is in fact present in two of those three pieces: in the Sama3i Bayati, *Jins Ajam* on the 6th forms a major part of the third *khana*, while in the dance piece for Taheya Carioca, Ajam appears after the passage I transcribed in example 6; and in both of those cases, it appears in the same way: via a descent from the octave after the appearance of *Jins Bayati* on the octave tonic, then leading down to Nahawand on the 4th scale degree. In our example here, “Ah Ya Hilu,” the opening *Jins Ajam* is similarly followed by a descent to *Jins Nahawand* on the 4th scale degree.²⁵ The line repeats, followed by a brief dip to the root *Jins Bayati* (its first appearance in the song), which is then followed a cadential melody using *Jins Hijaz* on the 4th scale degree, reaching up to the octave tonic and then descending down to end on the root *Jins Bayati*. This cadential melody is more or less identical to the first pathway we discussed for *Maqam Bayati Shuri*, shown in Example 18 and figure 19.

²⁵ Readers may notice that the relationship between Ajam and Nahawand here is identical to the relationship between relative major and minor keys in Western tonal music. This relationship, which is commonplace between the 4th and 6th scale degrees of both *Maqam Bayati* and *Maqam Kurd*, does not occur frequently (if at all) when either *jins* is the root *jins* of a *maqam*, in *Maqam Ajam* or *Maqam Nahawand* respectively. So it appears that the relation between them here is actually more the result of a strong relationship between Bayati and its flat-6.

The analytical question here becomes: should we say that we have modulated from *Maqam Bayati* to *Maqam Bayati Shuri* in this piece? I would argue that the answer is no: because the modulation is brief, and especially because it occurs cadentially, we should say that we have modulated to *Jins Hijaz* within *Maqam Bayati*, or that *Maqam Bayati* has borrowed a pathway from *Maqam Bayati Shuri*. This Hijaz-on-the-4th pathway down to the root bayati *jins* is in fact quite common in pieces in *Maqam Bayati* (it also occurs, after the Ajam passage, in the Taheya Carioca dance piece of example 6), common enough that musicians and listeners feel that it is a fundamental part of the *maqam*, rather than a departure from it—in the same way that the use of Ajam on the 6th scale degree, or Rast on the 4th scale degree, are also fundamental expected *jins* modulations within *Maqam Bayati*. It is worth noting that *Maqam Bayati* is the major *maqam* of its family, with Bayati Shuri being one of its branch *maqamat*. A tendency across the repertory as a whole is for the principal *maqam* of a family to include the melodies and *ajnas* of its branch *maqamat*, a point we illustrated earlier in *Maqam Rast*.

If we allow *Jins Ajam* and *Jins Hijaz* a place within the overall structure of *Maqam Bayati*, we can then represent that *maqam* with the following graph (Example 23); which, as we can see, includes *Maqam Bayati Shuri* as a sub-graph (or an overlapping graph if we include *Jins Nahawand* on the 7th scale degree within the Bayati Shuri graph).

Example 23



The lines in the graph represent acceptable pathways, or *jins* modulations, within the *maqam*. Not every *jins* within the structure connects to every other; for example: *Jins Bayati 8* doesn't connect to *Jins Nahawand 4*, and *Jins Rast 4* doesn't connect to *Jins Ajam 6*. The root *Jins Bayati 1* has the greatest number of connections to other *ajnas* within the structure. (Audio examples along with a summary of the common paths within *Maqam*

Bayati, including the Shuri Pathway, can be found at <http://www.maqamlessons.com/analysis/commonpaths.html>.)

Rare and Unique Pathways

So far, all of the *jins* modulations discussed above are quite common within the Arabic *maqam* tradition, and analysts, musicians, and listeners should expect to encounter them frequently. To round out the picture, I would like to examine a *jins* that is rarer in contemporary practice (one that was previously unnamed, or improperly named), along with some quite original usages of that *jins*, in two *mawawil*²⁶ sung by Mohamed Abdel-Wahab in the early 1930's. The *jins* in question I refer to as "*Jins Secondary Saba*," because it is intervallically equivalent to *Jins Saba*, but tonally and melodically distinct. Its tonal center is its third rather than its first note.²⁷ We can represent it as follows:

Example 24



The use of two tonics in naming the *jins* indicates the conventional theoretical tonic (A of Jins Saba on A), followed by the actual tonic in practice (C). This *jins* has three main uses within the *maqam* system. The first and second (examples 25a-b) take the octave tonics of *Maqam Rast* and *Maqam Ajam Ushayran*, respectively, as a common tone to modulate to the primary tonic of *Jins Secondary Saba* (that third scale degree above the usual Saba tonic):

Example 25a: Maqam Rast



²⁶ The *mawwal* is a genre of vocal improvisation that sets a poem, usually in the colloquial language. It is typical for the *mawwal* to open with a *layali*, an improvisation on the syllables "ya layli" ("oh my night").

²⁷ *Jins Saba*'s third note is a secondary, but not a primary, tonal center—and in fact I would argue that in *Maqam Saba*, the most prominent secondary tonal center for actual modulation is the 6th scale degree, rather than the 3rd scale degree, above the root tonic. See <http://www.maqamlessons.com/analysis/jins2ndsaba.html> for audio examples and more discussion of Secondary Saba.


Jins Ajam B-flat

Jins Secondary Ajam F / B-flat


Jins Saba / Secondary Saba G / B-flat

Example 26: Maqam Ajam

Jins Ajam C



Jins Secondary Saba E / G



In the mawwal “Kull illy habb itnasaf” (see <http://www.maqamlessons.com/analysis/uniquepaths.html> for audio and more discussion),

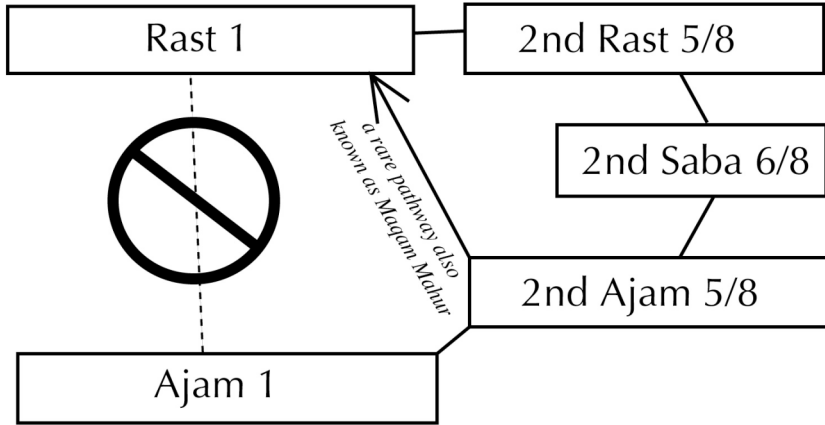
²⁹ I have observed two distinct versions of Ajam in the repertory, one that behaves much like *Maqam Rast* and *Maqam Nahawand*, in that its principal secondary tonic is its 5th scale degree, on which it modulates to many of the same *ajnas*, such as Hijaz, Nahawand, and Bayati. The second version of Ajam, on the other hand, has its principal secondary tonics on its 3rd and 6th scale degrees, rather than on its 5th, and it appears to borrow some of its structure from its position as a secondary *jins* on the 6th scale degree of the *maqamat* Bayati, Kurd, and Saba (as shown above in the discussion of *Maqam Bayati*). This version of Ajam can be referred to as Ajam Ushayran (Ajam on B-flat), as it is in the compendium *Min Kunuuzina* (Darwish 1955), which includes several *muwashshahat* using it. This version does not seem to manifest in Egypt past the 1940's, having been replaced by the 5th-scale-degree-leaning Ajam. For discussion of these alternate versions of Ajam, see <http://www.maqamlessons.com/analysis/ajampaths.html>.

Abdel-Wahab starts in *Maqam Rast*, in the *layali*³⁰ preceding the poem. This opening passage is quite typical, starting in *Jins Rast* on the root tonic, moving through *Jins Nahawand* and *Jins Secondary Rast* on the 5th, and briefly reaching *Jins Rast* on the octave tonic (with a fleeting reference to *Jins Sikah/Mustaar* on the 3rd degree, embedded as a momentary cadence between phrases in *Nahawand*). The section of *layali* ends with a cadential return to the root *Jins Rast*. The first line of the poem coincides with the rather dramatic introduction of *Jins Secondary Saba* at the octave tonic; followed by a descent back down, through *Jins Secondary Rast*, to the root *Jins Rast*. After several more passages following this pathway—using *Secondary Saba* at the octave and descending to *Rast* on the root (including restatements of the same pathway by the qanun and the violin)—Abdel-Wahab sings another passage dwelling heavily on this *jins*, this time without a resolution down the octave to *Rast*, at the end of which the upper-octave tonic is still emphasized. After a brief pause, the qanun introduces the truly novel modulation of this *mawwal*: transforming the octave tonic into the octave tonic of *Maqam Ajam*, using *Jins Secondary Ajam*. Abdel-Wahab picks this modulation up, and sings several more passages descending to the root tonic that has now been transformed to *Jins Ajam*.

The novelty of this modulation must be appreciated in context: though both *Ajam* and *Rast* modulate fluidly to *Nahawand* on the same tonic, whether they appear as primary or as secondary *ajnas*, they never modulate to each other on the same tonic. This is another excellent example of the arbitrariness within the *maqam* system, because observing the functionality of *Rast* and *Ajam*—their respective modulations on their 5th scale degrees to many of the same secondary *ajnas*, such as *Nahawand* and *Hijaz*—one might assume that modulations between them on the same tonic would be commonplace. In fact, the opposite is true: this particular *mawwal* is the only instance I have encountered in the repertory of this modulation. As a consequence, the modulation can seem distant and jarring (again, not for structural intervallic reasons, but because of arbitrary convention). Abdel-Wahab accomplishes it in this *mawwal* via a secondary *jins* that is distant to both *maqamat*—*Secondary Saba*. It is as though he could establish a connection between *Rast* and *Ajam* on the same tonic only by going as far away from each *jins* as possible, and playing with the dramatic shifts in mood engendered by the juxtaposition of these *ajnas*. *Ajam* seems particularly bright and sweet, in a very intense otherworldly and nostalgic way, when it first appears, transforming the intense dark and unresolved quality of the *Saba*. Abdel-Wahab's eventual return to *Rast* at the end of the *mawwal*—by descending from the octave of *Ajam*, and then surprising us by lowering the 3rd scale degree to that of *Rast*—seems somewhat jarring and unsatisfactory to me, as though the tensions opened up in the rest of the piece needed something more than what he offers here, for a complete resolution. But that doesn't take away from the masterful and ingenious pathway that Abdel-Wahhab used to forge a connection between distant parts of the *Maqam* system. Here is a graph of the pathways used in this *mawwal*:

³⁰ *Layali* are vocal improvisatory phrases using the syllables “*Ya layli*” (“Oh, my night”) and “*Ya 3eini*” (“Oh, my eye”)

Example 27



The second *mawwal* I'd like to discuss, "Amana Ya Leil," is in *Maqam Zanjaran* (also known as *Maqam Zankulah*), a rare *maqam* to begin with. A member of the Hijaz Family, Zanjaran's secondary *jins* is Ajam on its 4th scale degree—in place of the Nahawand and Rast that would normally occur there in *Maqam Hijaz*. The common *sayir* of Zanjaran starts with *Jins Hijaz* on the upper-octave tonic, and descends through *Jins Ajam* on the 4th, resolving to *Jins Hijaz* on the root. Abdel-Wahab follows this conventional pathway through more than half of the *mawwal*, including all of the opening *layali* and the first few lines of the poem; the short qanun and violin solos in between vocal phrases follow the same path. Only two things are worth noting here: the brief emphasis on *Jins Pseudo-Sikah* on the 6th degree (created by a raised 5th scale degree—G#; this *jins* appears in its typical place on the 3rd scale degree of *Jins Ajam*), and the use of the lowered 6th scale degree (A-flat) on the descent, which is part of the upper baggage of *Jins Hijaz* on the root. Both of these accidental changes are fully within the typical structures of *Jins Ajam* and *Jins Hijaz*, respectively, so that we should consider them fundamental to *Maqam Zanjaran*. Here, then, are the core *ajnas* of *Maqam Zanjaran*:

Example 28: Maqam Zanjaran

Jins Hijaz C high



Jins Pseudo-Sikah A



Jins Ajam F



Jins Hijaz C low



Abdel-Wahab gradually begins to expand *Jins* Ajam into *Maqam* Ajam by dwelling on *its* octave tonic, the 4th above the octave tonic of Hijaz (hence the 11th scale degree above the root). Brief passages through *Jins* Secondary Ajam C/F (8/11), *Jins* Ajam F (11),

Jins Nahawand C (8), and *Jins Nahawand F* (11)³¹ solidify this tonic emphasis. Then Abdel-Wahab introduces Secondary Saba descending from that octave-and-a-fourth tonic (similar to the descent from the octave tonic of Rast in the *mawwal* “Kull illy habb itnasaf”). This particular *jins*, as I noted before, is quite intense and dissonant, and creates a moment of tension and drama that, instead of resolving, intensifies further on the descent, by the introduction of yet another *Jins* Secondary Saba, a fourth below the first, between the 3rd and 5th scale degrees of *Jins Ajam F* (hence the 6th and 8th scale degrees of Zanjara). This astonishing modulation then resolves back to Ajam before descending finally to the root *Jins Hijaz*. The one long melodic phrase that starts with the modulation to the second Secondary Saba, and ends with the resolution down to the root of Zanjara, is to me one of the most masterful and ingenious single phrases I’ve encountered in the repertory, because of its combination of distant modulations and complete coherence within the *maqam*. For the purposes of analysis, this passage demonstrates how a secondary *jins* (in this case Ajam) can be expanded into a full *maqam* of its own, yet still fit within the base *Maqam*—by carrying with it its own secondary *ajnas* pathways. It also demonstrates how a rich knowledge of the many various secondary pathways within the *maqam* system can allow a master like Abdel-Wahab to create ingenious and original combinations. Here, Abdel-Wahab is showing off his knowledge of two different versions of *Maqam Ajam*—*Ajam Ushayran* and “Egyptian” *Ajam*—and juxtaposing them side-by-side using a distinctive secondary modulation within each. I should also note that the second Secondary Saba modulation—the one between the 3rd and 5th scale degrees of *Jins Ajam*—also occurs in several muwashshahat in *Maqam Zanjara* included in *Min Kunuuzina*; therefore it has a double interpretation, as a secondary pathway within *Maqam Ajam*, and a secondary pathway within *Maqam Zanjara*—we can thus surmise that it is that double meaning of the *jins* that in part allows the resolution back to Zanjara.

³¹ *Jins* Secondary Ajam is, like *Jins* Secondary Rast, a *jins* that tonicizes the note a 4th above the conventionally-defined tonic. In *Maqam Ajam* on F, the *Jins* that occurs between the 5th scale degree and the octave is: [C D E F]. The conventional definition would call this “*Ajam C*”, but, while it shares the same notes as that *jins*, it actually tonicizes F. In my reference to this *jins* I have chosen to refer both to the conventional tonic and to the actual tonic—hence “*Jins* Secondary Ajam C/F” or “*Jins* Secondary Ajam 5/8.” Within the overall context of *Maqam Zanjara*, where *Maqam Ajam* occurs on its fourth scale degree, this becomes “*Jins* Secondary Ajam 8/11” relative to the Zanjara tonic of C (1).

Here is a transcription of the phrases in question (Example 29), followed by a graph of the *maqam* structure manifested in “Amana Ya leil” (Example 30):

Example 29

The musical score for "Amana Ya leil" consists of six staves of music in treble clef. The lyrics are written below the notes. Above the notes, various *maqam* structure labels are indicated with brackets:

- Staff 1: Jins Ajam F octave, (Jins 2nd Ajam C/F), Jins Ajam F
- Staff 2: Jins Ajam F octave, Jins Secondary Saba D/F
- Staff 3: Jins Secondary Saba A/C
- Staff 4: Jins Hijaz C octave (Nahawand F emphasis)
- Staff 5: Jins Nahawand C, Jins Ajam F, Jins Hijaz C

The lyrics are as follows:

A-ma - na ya lei - - - l ti u - l - li - l - fa - g - ri - i is - ta - an - n -

na A-ma-na ya - lei - - - l ti - u - l - li - il - fa - g - ri - - -

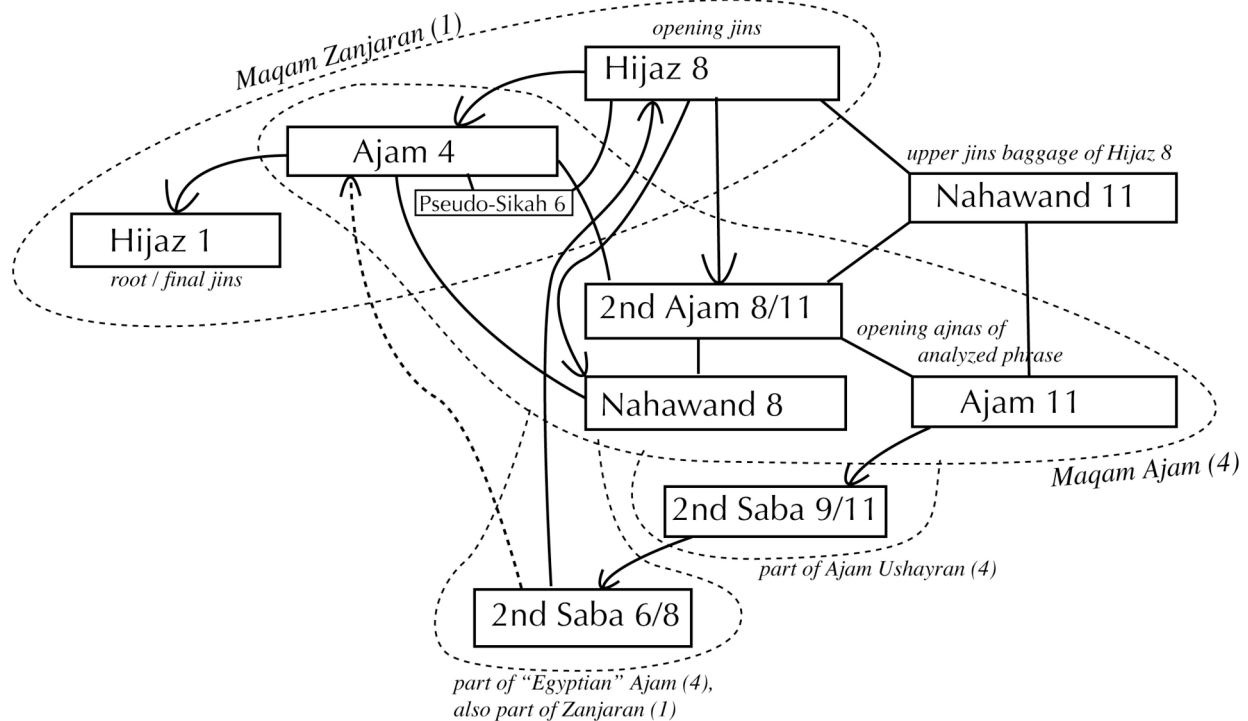
Is - ta - n - na - khal - li - - - ni bil - uw - wa - as - l - - -

Af - r - r - ra - - - ah l - lei - (ei) - - - - - - -

- - la wa - t - ha - n - na - - - - da - l - 3o - m - r - ri ku - l - lu -

un - ka - sab - (b) lil - l - lei - la - fi - l - - - (il) - ga - an - n - a

Example 30: Maqam Zanjaran with an expanded Ajam



And, just to be sure you heard him right the first time (which on a first listening may have been jarring and disorienting), Abdel-Wahab repeats the same sequence of modulations in the final line of the *mawwal*. He is clearly emphasizing the intentionality of this unique sequence of two linked Sabas a fourth apart, making sure that we hear his virtuosity within the *maqam* system, and possibly learn something from it! (Audio for these examples, as well as more discussion, can be found at

<http://www.maqamlessons.com/analysis/uniquepaths.html>.)

Conclusions

The aim of this presentation has been to demonstrate how the abstract descriptions of the *maqamat* from previous theories can be applied to actual musical examples, and the modifications of theory required by that application. I am in agreement with the majority of information available about the classification and naming of *ajnas* and *maqamat*, but that information becomes confusing and contradictory when we attempt to use it to account for real musical examples, which has been one of the significant obstacles to analysis for those outside of the tradition. The major analytical problems I find are: 1. the potential misattribution of *ajnas* when scale fragments are given prominence above tonicization; 2. the failure to note distinct categories of melodic movement and tonicization because of similar intervallic structure; 3. the appearance of excessive modulation created by the naming of separate *maqamat* each time a different *jins* occurs (it is important to recognize when a *jins* modulation is small enough, and typical enough, to be considered part of the base *maqam*, and when, on the other hand,

the modulation is significant enough to warrant the naming of a new *maqam*); and 4. the lack of a canonical catalogue accounting for common and uncommon *jins* modulations that would enable analysts to base their claims within the context of the *maqam* system as a whole.

The melodic subtleties appearing in the repertory suggest to me three levels or categories of modulatory motion:

1. The use of quickly-passing accidentals within a *jins*, or of melodic motion outside of the central 3-5 notes of the *jins*, which doesn't destabilize the *jins* tonicization, and hence could be characterized as a melody within the *jins* itself, rather than a true modulation (some might make this argument about my use of "Jins Pseudo-Sikah").
2. The tonicization of a new area, or the shifting of intervallic relations around a tonic, in a way that is typical and expected within the repertory of a given *maqam*, and hence should not be considered a change of *maqam* but rather an internal move from *jins* to *jins* within the *maqam*. The cataloguing of these would give a fuller and more accurate representation of each *maqam* than the single scalar representation of conventional theory; this article has focused on the description of this category.
3. A significant modulation that destabilizes the original root *jins* enough, and/or builds a large enough structure of multiple linked *ajnas* outside of the original *maqam*, to be considered a true modulation from *maqam* to *maqam*. For the most part, these moves are accomplished by a series of individual steps, each one of which can be found in category 2; but the combination of them goes outside the bounds of a *maqam* as typically used.

It should be noted that this third kind of motion is quite rare in the music composed before 1950, except in the compositions and improvisations of Mohamed Abdel-Wahab. The folk traditions of the Arab world apparently do not use it at all, sticking instead to the traditional motions among *ajnas* (category 2), which are as instinctively understood by native musicians as are the typical Blues progressions to Blues musicians in the U.S., as I noted above. Zakaria Ahmed, one of the major early composers for Umm Kulthum, uses these category 2 modulations—and the song "Ghannili Shwayya" is a perfect example of this use of multiple category 2 modulations—but he has a very large vocabulary of such, using all of the different possible *ajnas* available to him, rather than simply sticking to the most common ones. He arguably therefore gives the fullest expression to the *maqam* system in its traditional form, and the body of his compositional work could be taken as a canonical representation of the Egyptian *Maqam* in the first half of the 20th century.

On the other hand, with the development of the long-song genre for Umm Kulthum and other singers such as Warda and Abdel-Halim Hafez in the the 1950s-70s, composers such as Riyad is-Sunbati, Mohamed Abdel-Wahhab, and Baligh Hamdy began to give a more symphonic form to their 30-to-45-minute-long compositions, necessitating an expansion of the *maqam* system, especially in the direction of the hitherto less-explored category 3 of modulation. Sunbati feels to me the most traditional of the three, because his modulations among *maqamat* usually follow the typical, traditional modulations

among *ajnas* within the base *maqam*, but expand them by developing each new *jins* into a full *maqam* of its own (See “Al-Atlal” for a good example; this type of move is equivalent to the treatment of *Jins Ajam* in “Amana Ya Leil” from Examples 29 & 30). Baligh Hamdy frequently doesn’t obey the traditional modulations, although he does respect the tonal differences between the 4- and 5-note *ajnas*, and so his modulations proceed by semi-typical sounding steps to modulate to various and distant *maqamat*; he gives up the feeling of rooted-ness in a single *maqam* that defined earlier compositions, in favor of drowning us in a sea of endlessly-varying catchy melody (see his compositions for Warda such as “Ihdounou-l-ayyam”). Abdel-Wahab, the oldest of these three major composers of mid-20th century long songs, is the most grounded in the traditional, typical, modulations, but that also means that his vocabulary of unusual modulations is very large (like Zakaria Ahmed’s), and he stretches the traditional boundaries as far as he can without breaking them.

My own as-yet-unpublished attempts develop a complete catalogue of all of the typical *jins-to-jins* modulations within the *maqamat* (from above, category 2) have led me to the following conclusions:

- The *maqam* system is best viewed as a network of *ajnas* and the traditionally-accepted pathways among them (as opposed to a linear list of distinct scales). This network is completely (and densely) connected from one end to the other—in other words, given enough steps, one can get from one *jins* or *maqam* to any other.
- Some *ajnas*, like Rast, Nahawand, Hijaz, and Bayati, are very common, occurring in many different *maqamat*, and linked via many pathways to other *ajnas*; while other *ajnas* (such as Mustaar, Pseudo-Sikah, and Athar Kurd) are quite rare and have fewer links to other *ajnas*. The common *ajnas* can be viewed as central, while the less-common *ajnas* can be viewed as peripheral, within the total network.
- From a finite collection of possibilities (in terms of *ajnas* and links among them) the network is capable of generating an infinite number of pathways. While the majority of songs follow well-trodden pathways, many songs explore rare or unique pathways. Because a pathway can be made from many steps, a song can follow a total pathway not taken by any other song, while still remaining within the bounds of the network, because each individual step of that larger unique path is by itself a conventional one. In other words, the *maqam* system is another example of a *discrete combinatorial system*, like spoken language (Pinker 2000).
- The network can change, and it has changed observably in recorded music of the 20th century. Change happens in ways that some might describe as “organic” to the original structure of the network: rarer pathways become more common; common pathways fall out of use; links are extended to other parts of the network; new links are formed by connecting *ajnas* that were previously two or three steps apart (by skipping traditionally intervening *ajnas*). Only very occasionally is a completely new pathway or link invented. These types of change happen gradually and leave different versions of the *maqam* system recognizable to each other, preserving its overall generalized structure across history and geography. The type of change I am describing is more or less identical to the way spoken language evolves over time.

- As a result of the preceding point, there can be no single “canonical” version of the *maqam* system—only versions particular to specific regions at specific points in time, or particular to individual singers or composers. The version used by a very famous and influential singer or composer (such as Umm Kulthum, Mohamed Abdel-Wahhab, Farid el-Atrashe, Riyad is-Sunbati, or Zakaria Ahmed) is likely to be close to the version of the *maqam* system of the region at the time of that individual’s prominence—in other words it is likely to be a central, rather than peripheral, version. In some sense, because the total system is so large—too large, really, to be grasped fully by any one individual—there are as many distinct versions of the *maqam* system as there are practitioners.

The shape of the network of *ajnas* that makes up the *maqam* system, as described in the above points, appears to me to resemble what mathematician Steven Strogatz calls a “Small-World Network” (Watts and Strogatz 1998, Strogatz 2004). Small-World Networks have many interesting properties, one of the most important being a short average path length from any two nodes within the network. Such networks have hubs (nodes which are connected to many other nodes) as well as less-connected nodes. Because of the overall well-connectedness of the network, these networks are robust, in other words: a change or loss of part of the network doesn’t result in the destruction of the network as a whole. Small-world networks have been shown to exist in many naturally-arising (and self-organizing) domains, such as social networks (where this type of network is known colloquially as “six degrees of separation”), the spread of disease, neurons in the brain, links on the internet, and among words in spoken languages (Strogatz 2004). The most interesting potential connection for me is the linguistic one, because if the organization of content in memory can be shown to be similar between music and language, then we may be able to draw other interesting conclusions about the cognitive functioning of both human skills.

Much statistical work will have to be done to test these hypotheses, specifically to answer some of the following questions: What are the statistical occurrences of each *jins* in particular repertoires? Of links among *ajnas*? Where those statistics change, how much is the network affected as a whole? How much difference is there in use of *ajnas* between practitioners in the same time and place? In different times and places? How slowly or quickly does the system change as a whole, and is the rate of change stable, or has it accelerated or slowed at any point in time? By examining these questions it may be possible to quantify the spread of information in oral music traditions, and to get a clearer sense of how such traditions function—how the complex interaction of human memory and shared community experience can sustain a music tradition, while allowing it to grow and change. Aesthetics and the subject of individual creativity can similarly be addressed with reference to a picture of the overall network structure of the *maqam* system. In terms of aesthetics: how does a network of modulations, stored in the memory of listeners, create a sense of expectation and surprise? In terms of individual creativity, we can ask to what extent a particular artist follows typical vs. atypical pathways, and how he or she uses them for particular effects. How often do artists invent completely new pathways, and how influential are those new pathways, especially in terms of shifting the system as a whole?

Two major subjects have been left out of this study: the subject of intonation in the *maqamat*, and the subject of melodic vocabulary. I cover the subject of intonation in a preliminary fashion at http://www.maqamlessons.com/analysis/FuzzyBoundaries_MaqamIntonation2009.pdf (and I also recommend Marcus 1993). My next study (the audio samples and preliminary analysis for which are on display at www.maqamlessons.com) will cover melodic vocabulary within the scope of one *maqam* (Rast) from one practice (early 20th century Egypt). Nonetheless, I hope that the current study can provide a fertile ground for more in-depth analyses of Arabic repertory. I also hope that analysts interested in other *maqam*-based musics, whether from Turkey, North Africa, Iraq, the Gulf states, Iran, Azerbaijan, or Central Asia, can find points of comparison and contrast with the principles I have laid out here, in order for us to develop a clearer sense of how *maqam* traditions are related to each other.

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